Climate Change and Development Programming

- a social learning and knowledge management perspective

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Abstract

This thesis discusses climate change and development from the perspective of social learning theory.

The research objective is to shed light of the implications of climate change for development programming, and the problem statement is: ”How does climate change modify development programming, and what implications does this have for knowledge management and learning in development organisations?”

Looking into CARE Denmark as a case of climate change integration into development programming, the thesis is based of a single, theory-based case study. The thesis argues that this is the most appropriate method for a exploratory study focusing on questions of *how* a process goes on rather than *whether* or *to what extend*. The empirical material of the thesis stems from six key informant interviews with staff members at CARE in the fall of 2010.

The case study is theory based in the sense that it is structured by an analytical framework, which is based on the research objective but derived from theory. The analytical framework structures the gathering and treatment of empirical material as well as the analysis of results.

The theoretical basis for the analytical framework is primarily the work of Flyvbjerg (2001) and Wenger (1998) on knowledge, learning and social theory. However, contributions of other authors are discussed and included as well.

Analysing the results of the interviews, it is concluded that the theories of Flyvbjerg and Wenger – and the analytical framework built upon them – are useful for understanding and analysing the learning and knowledge management that is observed in the CARE case.

As for CARE, the results show that climate change is perceived as a major part of the organisation’s future activities, and that experience sharing and knowledge management are already integral parts of these activities. In addition, the findings point to a diversity and complexity of learning and knowledge sharing strategies in use within the organisation. Some problems and tentative solutions are pointed out.

Finally, the thesis concludes that viewing learning and knowledge management as important aspects of future attempts to grapple with climate change is warranted, that social learning theory – and to some extend Flyvbjerg’s Dreyfuss model-based thinking – are useful tools for understanding these processes, but that some of them can much better be studied using more participatory or ethnographic methods of research.

Contents

1. Introduction

The Earth's climate system is intricately linked with human lives and activities. It shapes the conditions under which human societies forms – especially through the accessibility or lack of fresh water. (Holden 2005) Human societies include important elements that can be seen merely as adaptation to the local climate – such as settlement patterns. But humans also shape the climate: Locally, by cutting trees and building cities that impact local or regional climate, and globally through the emission of greenhouse gases.

For more than twenty years, scientists have been sounding the warning bell on climate change. The models and calculations carried out in research institutions and universities are repeatedly showing that the implications of rising CO2 emissions and increasing amounts of greenhouse gasses in the atmosphere may be very serious indeed – for ecosystems, plants, animals, and for human beings.

The projections of the IPCC point to a future with much less benign conditions for agriculture, for biodiversity and for human health. But not only are conditions foreseen to be deteriorating. Variability of weather and climate conditions is going to increase, with heavier rains, more severe dry spells, and more violent storms in the future. In such a future, more humans and societies will be hit, and hit repeatedly, by disasters, crop failure, and hunger. As a result, more people will be exposed to the ills of poverty. Countries that are already plagued by poverty and diseases, and low agricultural productivity will be hit hardest by these impacts. Both because their systems of production are most vulnerable and because a large proportion of the population of these countries make their living in exactly those primary sectors that are going to be hit the hardest. In a context of climate change, these countries are burdened with an urgent need to adapt to the new climatic conditions – on top of their existing challenges with creating development and fighting poverty.

Even more damaging for any attempt to plan, to predict and to prioritise investment, is the prospect of changing patterns of weather and climate. Accurate predictions of future weather and climate patterns at geographical scales below eco-region level are still faulty – if at all existing. The reason for this is that the known dynamics of local weather systems may be fundamentally altered, and that we do not have enough insight into these systems to predict how they will behave. In addition, because of inertia in the climate systems, change will unravel only gradually over the next a hundred years at least.

The challenge of adapting to climate change is thus extremely complicated: Poor countries and poor people need to adapt – while keeping up progress toward poverty reduction and development – to changing external conditions that have implications for almost every aspect of society. But they cannot know exactly what the coming state of affairs is going to be – and change will keep happening for longer than any current planning horizon.

While the predictions and scientists' predictions have grown progressively more alarming – and the calls of alarm from environmentalists and development activists progressively more urgent – decision makers in international climate negotiations have been struggling to find a solution. Anthropogenic greenhouse gas emissions have been identified as a – if not the – main cause of observed and projected change in the climate system. But greenhouse gasses are the by-products of almost any economic activity in our societies. Economic growth, human

development and progress in general have hitherto been intrinsically linked to emission of large amounts of greenhouse gasses. Not only the energy sector, but also transport, agricultural intensification, and the cutting down of forests are very important emitters of greenhouse gases. Therefore it is costly to commit to reducing emissions. Both for those developed countries that have already attained a high standard of living that is entrenched in a pattern of high emissions – and for those developing countries that see energy consumption and other emissions-related activities as crucial pavement stone on their road to a better future. Most actors involved can agree that the answer to the challenge is 'sustainable, low-carbon development' – but this also comes with a price tag, and at the expense of the ability of some actors to exercise power. In addition, there are thorny issues of human rights, development rights, historical responsibility, and the interests of future generations, which are not easily fit into a high-level political and economic power struggle.

Such conflict of interests has led to a stalemate in negotiations. After the complete breakdown of UNFCCC negotiations in Copenhagen, even the small achievements at Cancun in December 2010 are hailed as longed-for successes. Private actors are beginning to take steps not only to push the political process, but also to set their own agendas, and explore the implications of climate change on their own activities – in business, and in development and emergency assistance. The latest high-profile example of this tendency was the world business leaders' parallel conference in Cancun 2010.

With climate change already beginning to be felt in developing countries, scientific projections and scenarios for impacts on human development becoming direr by the day, stalemate in the international negotiations, and private initiative beginning to mushroom, climate change is higher on the agenda than ever before. This is true also of the development agenda.

1.1 Problem statement

As outlined above – and as opposed to other issues high on the development agenda – climate change not only puts new burdens on developing societies and decreases the effectiveness of development assistance. It also has profound implications for planning of the development process and for the programming that development organisations base their work on: It introduces a new level of risk into planning, it reduces predictability, and introduces constant change as a permanent condition for planning in the foreseeable future.

This thesis does not look at the implications of climate change for poor people. It does not investigate the consequences and solutions for rain-fed agriculture – nor does it analyze the power struggles and political negotiations around international negotiation tables. All these issues are of crucial importance for human development, human lives – for humanity as a whole, but they are not dealt with here.

Instead, the focus of this thesis has been turned to the subject of development programming. The subject is important because it can be viewed as a micro-cosmos of the processes of change whose necessity can be foreseen in a future of climate change: In order to learn how to do effective programming and thereby do effective development assistance under conditions of climate change, development organisations now have to learn – not only to do new things and to do them in new ways, but also to use new kinds of knowledge, as information from global-level climate projections has to be made to work together with local wisdom about weather patterns and their implications. And all this has to be nested in a process of constant learning and adjustment, as the climate will keep changing gradually.

Understanding these processes of change and learning is one essential element in strengthening ability to cope with climate change. This is the objective to which this thesis seeks to contribute.

This study focuses on one Danish development NGO – CARE Denmark – and applies social learning theory to understand and analyse the processes of change and learning that working with climate change demands.

Box 1.1 – Problem statement

How does climate change modify development programming, and what implications does this have for knowledge management and learning in development organisations?

1.2 Report overview

1.2.a Methodology - section 2

In section 2, the methodological considerations behind the approach are laid out. The thesis is a study of a single case, and the value of such a design is discussed, referring to methodological discussions in the social sciences on case vs. large-N studies.

The strategy of choice of case is argued, and reasons for the choice of CARE Denmark as a case given. The method of gathering empirical information through key informant interviews is also discussed, and the approach chosen described.

Lastly, George & Bennett's method of structured, focused case study is discussed, and its application in this thesis is discussed. It is concluded that an analytical framework – founded in the problem statement, but derived from theory – is needed to produce a useful case study of climate change, development programming and learning.

1.2.b Theory - section 3

The goal pursued in section 3 is to construct such an analytical framework. Firstly, the context of change is defined in two short sections on climate change and current development challenges respectively. These sections point out the challenges and impetus for change that face development organisations like CARE. Some implications are drawn about the expected kinds of change – and the way they are perceived in development forums – is presented that go into the analytical framework.

The next step is to look into the connections between change, knowledge management and learning. A separate sub-section discusses how some mainstream, systemic theories of organisational change fail to capture all the aspects of change and learning that we expect to find in the case of climate change and development planning. Thus, using these theories as the backbone of the analytical framework might obscure important aspects of the case. A few implications of the theories reviewed are drawn, however, which go into the analytical framework.

In order to find a broader base for the theoretical framework we turn to social learning theory. The theories of Flyvbjerg and of Wenger are reviewed and discussed, and it is shown

that they offer important theoretical perspectives on the subject of learning and dealing with change. The analytical framework is completed on the basis of these theories.

1.2.c Results - section 4

The empirical work for this thesis consists of six key informant interviews with CARE staff members, complemented with written material from CARE. This material is presented in the results section.

First, all six interview persons are introduced, in anonymous form: The central messages that each respondent conveyed is presented in their own words, and in summary.

Afterwards, the answers to the questions of the analytical framework are presented. These are summaries of the respondents' answers, complemented with information from written material.

1.2.d Analysis and conclusion – sections 5 and 6

The analysis in section 5 discusses the empirical finding from section 4 in relation to the theories on which the analytical framework rests. The aim is to give a coherent description of the change and learning processes going on in CARE's programming in connection with climate change – and if possible to point out strong and weak sides of the process currently going on.

Further, the analysis discusses what theoretical considerations the case of CARE may lead to. Did the theories capture the salient points? Did their expectations hold? Does the case point to directions in which theory development might be fruitful?

The conclusion, finally, summarizes findings and perspectives of the thesis.

2. Methodology

The present study is an exploratory case study of the integration of climate change concerns into the work of development practitioners, and of the implications of such a process in terms of learning and knowledge. In this section, the method applied in the study is laid out and discussed in the light of current methodological discussions in social science and development studies.

2.1 The case study method

The method followed in this thesis was designed with the problem statement presented in section 1 as a point of departure. It reads:

How does climate change modify development programming, and what implications does this have for knowledge management and learning in development organisations?

When studying practice and social learning, the case study is the all-dominating method applied, because studying a single – or a few – cases allows for detailed, in-depth research into what people do and why.

The qualitative study of a single or a few cases is usually compared to quantitative studies of large samples, when the appropriateness of method is assessed. One common view is that qualitative studies are mainly useful for exploring 'outliers' in quantitative data sets, or as precursors for quantitative studies, exploring relevant categories and possible causal relationships so that these can then be tested in quantitative studies. (Esaiasson et al. 2004 p. 179; Teorell & Svensson 2007, chapter 9)

Another common view attaches more weight to qualitative or case studies, stating that while quantitative studies are often more reliable – and have the advantage of measurable reliability, qualitative studies give the opportunity to perform conceptually valid studies of complex issues such as 'democracy' and 'power'. These are concepts that in many cases change meaning depending on the context, which makes quantitative inquiry difficult. (George & Bennett 2004)

Flyvbjerg (2001) – to whom we will return in chapter – takes the argument a step further. Based on a reading of Aristotle, and on the Dreyfuss model of learning (see section 3.3), Flyvbjerg argues that case studies are well suited – and has been used – for even the kind of scientific enquiry that some authors reserve for quantitative inquiry: Generalization to a wider population. Flyvbjerg also argues that case studies do not display the bias toward hypothesis confirmation that some of its critics attach to it. (Flyvbjerg, 2001)

For the present study, it is sufficient to note that authors agree that case studies have the following advantages when it comes to study complex social interactions and change in them:

- Using a case enables us to capture nuances of *how* things are done
- Using a case enables us to explore unexpected aspects – to capture things that we do not have a hypothesis about beforehand

- Using a case enables valid study of complex concepts and relations (in this case, social learning in the field of development programming) in the context that we wish to know about

As this is an exploratory study of a complex social issue, then, using a case study is the obvious choice, according to the following reasoning:

If we are able to show clearly – through a review of climate change and development documents and arguments – that climate change is already widely seen as an important issue for development aid, but that the question of *how* it should be treated, conceptualized and reacted to is not clearly settled, then the question of *how* things are done, and what is thought about how is should be done, becomes pertinent.

Drawbacks of the single case study method
Studying a single case – as opposed to a comparative study of two cases – has the drawback that it significantly reduces the scope for theory development, as comparison can yield much information about what is general and what idiosyncratic to a case. Comparison is especially fruitful if cases are strategically chosen and the comparison is carefully structured. (Teorell & Svensson 2007, chapter 6; George & Bennett 2004, chapter 3)

The current study is designed as a single case study in spite of this drawback. The reason is partly time and resource constraints, partly the need for depth. The purpose of this study is to explore change and learning processes in development. In the introduction it was argued that the kind of processes studied here will become more relevant as climate change impacts become felt more widely. The quality of such exploration is determined mainly by the ability of the study to draw the full picture of the case. Therefore – as time and resource restrictions forced a choice between coverage and depth – depth was chosen, at the cost of the ability to generalize.

2.2 The choice of case

Teorell & Svensson list four strategies for selecting cases:

1. Selecting cases that are important or relevant
2. Selecting cases for variation
3. Selecting cases for generalization
4. Selecting cases to supplement extensive studies

The third criterion is most debated in case methodology literature (Esaiasson et al. 2004; Flyvbjerg 2001; George & Bennett 2004). The discussion revolves about the questions of how, and to what degree, one can select cases that by their inherent properties enables generalization, such as the 'black swan' method (Flyvbjerg 2001, p. 73-74), Mills' method of difference and method of agreement (Teorell & Svensson 2007, p. 226-227), and most-likely or least-likely cases (George & Bennett 2004, p. 120 ff.).

Selection of cases for variation aims at selecting cases that defines the ends of a spectrum of options (e.g. poorest and richest countries on Earth). The fourth strategy is used to explain or draw inferences from outliers in a quantitative study, or to describe the 'typical case' in more detail. (Teorell & Svensson, 2007)

The current case study does not aspire to broad generalization, and is not connected to existing quantitative studies. Rather, it belongs to Teorell & Svensson's first category.

CARE International is a leader in the field of integrating climate change into development assistance[1], and the Danish branch is leading this development within CARE, aspiring to become CARE's 'Centre of Expertise' on climate change and development. CARE Denmark can therefore be expected to set precedence for others in the field, and it is therefore an important case to study.[2]

This study, therefore, focuses on CARE Denmark. But as CARE Denmark plays an important role in the climate change work of CARE International, and as some of the important people and activities of CARE International are placed in CARE Denmark, keeping the two completely apart is neither practicable nor desirable. A more precise delimitation of the case would therefore be: CARE Denmark, with some aspects of the climate change work of CARE International.

2.3 Means of gathering information

In the present study, the main source of information on CARE is interviews with CARE employees. The interviews are supplemented with material for CARE publications and CARE websites, as well as statements by CARE staff members at two conferences: Teknologirådet 2008 and DDRN 2010.

In studies of social learning, participatory observation is the method generally used to gather information. This is so, as participant observation is the method that gives the researcher the most direct access to information about the issue studied (behaviour, practice, decision making etc.) – the information is mediated 'only' by the researcher's own senses, interpretation and reasoning. (Teorell & Svensson 2007, p. 87-89)

There are two important problems with participatory observation: Replicability and 'interviewer effect':

1. Participatory observation cannot easily be replicated. If a researcher participates in practice at the secretariat of an NGO for three months, another researcher who attends the same office for three months a year later will not be likely to experience the same things: Employees may have quit or be employed, projects started up or closed down etc. Thus, we cannot replicate the results to check whether the researcher's interpretations were reasonable.

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[1] The European Commission mentions CARE's climate change analysis tool (CVCA) as one of three recommended tools to be used in projects that apply for grants from the Commission. The other two tools are developed by the British government's aid agency, DFID, and an independent research institution (IISD) – in cooperation with CARE International. (CARE, 2010)

[2] This impression was confirmed at a conference on climate change and development assistance held by DDRN on the 22-23 November 2010. CARE Denmark was one of the few Danish NGOs present, and the only one to supply a speaker. (DDRN, 2010)

2. When the researcher enters the office, he cannot but affect the social relations there. If he is not careful – or if he is simply unlucky – he may end up studying the effects of his own presence rather than the relations that he meant to study.

Interviews are less direct sources of information. The information about social relations or processes that we receive through an interview is mediated through the respondent: He sees only part of the picture, and we do not know what he does not see. In addition, he may be holding back some information for different reasons.[3]

But because interviews are less direct sources of information, they suffer less from the two problems of participatory observation mentioned above:

1. Interviews can be recorded, and interview guides kept for later use, so that interviews can be carried out again, or the old ones reinterpreted by other researchers. Asking the same questions again of the same respondent is not perfect replication, however. Even if the same person is available, and the context hasn't changed significantly, the simple fact that the respondent knows what she answered last time the questions were asked, and how the other researcher reacted to that may distort results.
2. Interviews also suffer from 'interviewer effects' – the term originates from discussions of interview methodology – but in some ways they are more visible in the interview, a situation clearly demarcated from 'normal life' and therefore easier to take into account in interpretation and analysis.

A third option would have been to study documents about and produced by CARE. This would have made replication much more viable, and all but removed the interviewer effect. But professionals (in any organisation) rarely put their learning and other practices on paper, and probably not at all if these are problematic for them. Therefore, such a method would hardly have been valid.

Participatory observation and interviews in combination are probably the most informative way to study practice of social learning – but the time frame and resource constraints did not allow for participatory observation to be undertaken. Therefore, interviews alone – complemented with information from documents – have been utilized. This is acceptable, because interviews are – as discussed above – quite valid and useful sources of information.

2.3.a Key informant interviews

The interviews performed for this thesis are key informant interviews. This means that they are less structured than 'semi-structured' interviews[4]: The questions asked and the order they are asked in vary slightly from interview to interview. This form of interview is particularly useful when the purpose is to capture the respondent's perspective on the issue at hand as thoroughly as possible, rather than uncovering facts. That is exactly the case for this thesis: The purpose of the interviews is to try to reveal the social learning that is going on

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[3] He may do so for opportunistic reasons (he may not want the truth to be known) – but he may also not understand the question the way the researcher means it – thus, a situation may arise where the respondent answers another question than the researcher is asking.

[4] The advantage of semi-structured interviews is that anwers can be compared, and thus differences and similarities between statements can be found and analysed. This advantage is foregone here, in exchange of depth and nuance.

in CARE with relation to climate change, and this – as will be argued later on – is very closely linked to relations inside the community that is CARE.

The interviews were conducted with five members of staff at the Copenhagen office, and one CARE international climate change expert. All respondents have at some point been working with programme development and implementation in CARE. Those respondents, who are not currently programme coordinators, are climate change experts, working with implementing the climate change-specific projects that are currently going on in CARE Denmark and CARE International. The main criterion for selection of respondents was the content of their work, but care was taken to include different experience and both sexes. Thus, the sample includes three men and three women, and respondents with work experience in CARE ranging from the foundation of the Danish branch, to having been employed less than a year.

2.4 Structured case method – the need for an analytical framework

In their discussion of how cases can contribute to scientific advances in political science, George & Bennett (2004) argue that it is important that cases are 'structured' and 'focused' in order to facilitate comparison. The current study is not an attempt to construct or test variables for the testing of hypotheses, such as George & Bennett proposes, and a comparison is not instituted. Yet, even in these circumstances, the authors point out that case study designs can be improved by being 'structured and focused'. (George & Bennett 2004, chapter 3)

A case study is 'structured' – according to George & Bennett – when it asks a number of questions of its material. The questions should be founded in the research objective, and should guide the gathering and analysis of empirical material. (George & Bennett 2004, p. 69)

The 'focus' of a case study is achieved through founding the work in theory, and considering only those facets of the case that are relevant within the theoretical perspective. Thus, George & Bennett write, a case can conceivably be studied from many different theoretical angles, each revealing different aspects. Being clear about theory, and staying loyal to the theoretical perspective is important therefore, in order to achieve clarity and focus. (George & Bennett, p. 70)

The current thesis applies George & Bennett's advice about structured, focused comparison in the following way:

In section 3, several theoretical approaches to change and learning will be discussed, and the need to base the study on social learning theory will be argued. Then, an 'analytical framework' will be constructed, based on the theory, as well as on the problem statement.

The analytical framework has the form of a number of questions derived from theory, that the empirical work is designed to answer. Thus, the interview guides for the key informant interviews are designed on the basis of the analytical framework. The questions of the analytical framework cannot be posed directly to respondents, as these will not know the theories to which the questions are tightly linked. A sample interview guide with indication of how the questions asked link to the analytical framework is presented in the appendixes. See section 3 for more information on the analytical framework.

In section 4 – the results section – the empirical material will be summarized into attempts at answering the questions of the analytical framework.

The analysis provided in section 5 discusses salient points in the results, and compares these with the expectations of theory. The analytical framework also structures this discussion.

3. Theory

In this section, the analytical framework for the thesis will be developed. This analytical framework will then be the basis for the empirical material and analysis carried out in the following sections.

The structure of this section is as follows: First, the contexts of climate change and development will be reviewed, and the connections between them explored. The purpose of this exercise is to make clear what implications working with climate change can be expected to have for development programming.

The next step taken is to discuss the kinds of learning and knowledge management that can be expected in a situation where a development organisation integrates climate change into its activities, and which tools are available for analysing this kind of learning processes. It is concluded that the models provided for the analysis and promotion of change in business organisations are not broad enough to enable comprehensive analysis of all the aspects of learning that the case of climate change and development programming is expected to contain.

We therefore move on to explore the theories of knowing, learning and organisation proposed by Flyvbjerg and Wenger. These two theories are presented and discussed in some detail, though neither of them belongs to a development research tradition. But this emphasis is justified, as the authors offer important theoretical perspectives, which supply the main part of the basis for the analytical framework presented.

The chapter ends by describing the analytical framework, and discussing how it will be used in the results and analysis sections.

3.1 The climate change – development nexus

In the following, climate change, development, and the interrelations between them will be reviewed. A special focus will be awarded to ways in which climate change alters – or is perceived to alter – development programming.

3.1.a Climate change

This sub-section describes the context of climate change. It aims is to give the reader an overview over the current state of the climate change debate and policy, and those consequences that can reasonably be expected of climate change with regard to development programming.

The reality of climate change
During the last ten to twenty years, human-induced climate change has moved up the agenda of international and national politics. The 'greenhouse effect'[5] was advanced as a scientific theory more than a hundred years ago, but has only recently come to be widely accepted as a scientific fact.

That the observed climatic changes – e.g. an average of about 0,75 degrees Celsius rise in temperature since pre-industrial time – are caused by human emissions of greenhouse gasses is only slightly more controversial. A vast majority of scientists in the field agree that the current accelerated climate change is – at least to a very large extent – man-made. (IPCC 2007: 4AR Summary for policy makers, p. 5)

Currently, the IPCC's Fourth Assessment Report (4AR) forms the basis for much decision-making and climate change debate. Since this report was published, many more scientific results on climate change projections have been published. These results have almost exclusively indicated that more severe impacts than predicted by the IPCC are to be expected. (University of Copenhagen 2009, p. 8)

Given this general direction of discovery in climate change science, it is safe to take the conclusions of the 4AR as read – it seems to be much more likely that these conclusions underestimate the consequences of current carbon emissions than that they overestimate them. This means that the picture of climate change painted here represents what one can reasonably expect will *at least* happen, and we can therefore be rather certain that we are at least going to have to alter practices according to these changes.

The policy context
Even with effective mitigation[6] measures that succeeds in stalling and, in the longer run, reversing the current rise in emissions and stocks of greenhouse gasses, it is likely that the global mean temperature will have risen 2 degrees Celsius compared to pre-industrial times by the end of the 21st century. For an example, the EU has the 2 degrees target as the aim of its climate policy, and it has been accepted as the target for an international agreement (European Commission 2010; UNFCCC 2010)

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[5] A clarification for those who are not familiar with the greenhouse effect: This effect occurs because greenhouse gasses such as carbon dioxide have a particular effect in the atmosphere: Greenhouse gasses reflect heat, while they let energy in the form of visible light pass. The earth receives energy from the sun in the form of light (short wave length). When this light hits the dark surface of the earth, some of it is transformed to heat. Some of the heat is reflected back into space, through the atmosphere. But in the atmosphere, some of the heat is reflected back to earth by greenhouse gasses. This effect is natural, and functions much like the glass panes in a greenhouse (hence the term 'greenhouse effect'). The ability of the atmosphere to retain heat is essential for life on Earth as we know it. But human activities are causing increasing emissions carbon dioxide and other greenhouse gasses, and as these gasses remain a long time in the atmosphere, (carbon dioxide lasts about 100 years on average). This equals to putting thermo panes in your greenhouse, and gradually increasing their insulation effect over time. The temperature in the greenhouse rises, and in the end this may very well damage the very plants you wished to grow there. In the same way, increasing emissions, leading to increasing stocks of greenhouse gasses in the atmosphere threatens life conditions on earth in the long run. (See e.g. IPCC 2007 for more details on climate change and its effects)

[6] In climate change jargon, 'mitigation' is used to denote attempts to remove the problem – that is, reduce greenhouse gas emissions. 'Adaptation' is used about efforts to cushion societies against the impact.

The reason for the adoption of the 2 degrees target is that the IPCC has concluded that temperature rise above this level greatly increases the risk of dangerous, non-reversible impacts and positive feedback loops in the climate system. (IPCC 2007 WG II Summary for policy makers, p. 17) But an increase in global temperature of 2 degrees – even if it does not trigger irreversible processes – will impact development efforts and results in different ways.

Climate change predictions
In short, a rise in global mean temperature of 2 degrees is expected to impact weather patterns across the globe, shifting climatic regimes, increasing variability, and decreasing predictability:

Some regions are expected to become drier, while others are expected to experience increasing rainfall. The dryer climate is expected to hit particularly hard in the already water stressed areas of Sahel and Southern Africa. Increasing precipitation in South-East Asia and central Africa may cause problems in these already-wet areas. Changes in temperature and precipitation may be positive or negative for ecosystems and primary production in any given area. But in developing countries, the overall impact of climate change on food production is predicted to be overwhelmingly negative. (IPCC 2007 WGII, p. 284)

In some instances, the new climate may resemble the historic climate of other regions, and experience from some areas may therefore be useful for others. In other instances, the coming climate may be entirely new, and new livelihoods may have to be based on research and innovation entirely. (DDRN 2010)[7]

Even more severe, perhaps, than the absolute changes in temperature and precipitation, is the expected increase in variability. Variability should be understood in two ways: Firstly, the variation between years is expected to increase, or – in other words – extreme weather events and conditions are expected to become more numerous. Secondly, extreme conditions are expected to become more extreme: Storms are expected to become stronger, dry spells drier, and so on. (IPCC 2007 WGII, p. 284)

The third problem arises from the other two. Changed conditions and increased variation leads to decreasing predictability of weather patterns in the middle and long term forecasts: When investing in infrastructure, policy makers and engineers can no longer assume that climatic conditions will be the same in twenty years, and often they cannot get forecasts that are anywhere near precise – this is especially a problem in Africa and other under-developed regions, where weather observations and regional models do not have time series of more than a hundred years, such as is the case in Europe and North America. Similarly, local knowledge on when to plant what may become misleading as patterns change, and farmers may be left without seasonal forecasts, and therefore unable to plan, and to take appropriate precautions. (Ziervogel & Opere 2010, p.1)

All in all, climate change poses a range of different challenges to humans and their livelihoods. The magnitude of these challenges depends very much on which greenhouse gas emission

[7] DDRN is a Danish research network on development. Together with Danish Water Forum, DDRN hosted a conference on climate change and development policy for DANIDA in November 2010. The reference links to the conference website, but the author's own notes of the conference were also basis for some of the statements made.

scenario we choose to realize: If emissions are curbed fast, and stores of greenhouse gasses in the atmosphere are kept modest, impacts are expected to be modest too. If we fail to reduce emissions, and concentrations therefore rise dramatically, the impacts are expected to be dramatic. (IPCC 2007 WGI Summary for policymakers, p. 12-13)

3.1.b Development

The sub-section on development is included to outline the current mainstream development practice. It gives a general overview over:

- The current goals of development assistance as formulated by the actors involved
- The current status of fulfilment of these goals
- Some of the current challenges in development assistance

It is not the ambition here to give a complete picture, including all nuances available – that would be well beyond the scope of this report. Instead, the aim is to provide the context for the discussion of the climate change – development nexus discussed below.

Current development objectives

In 2000, world leaders endorsed the Millennium Development Goals (MDGs), which encompass the development objectives of most programmes and projects at present (UN-GA 2010; Easterly 2009, p. 26). The MDGs are formulated as global targets, but have to some degree also been transferred to regional and national levels. The eight MDGs encompass most issues usually connected to development (UNDP 2010):

1. Eradicate poverty and hunger
2. Achieve universal education
3. Promote gender equality
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV / AIDS, malaria and other diseases
7. Ensure environmental sustainability
8. Develop a Global Partnership for Development

Different donors emphasise some aspects, or include some aspects that are not part of the MDGs. Some criticise the MDGs, saying that they cannot be met in certain regions, e.g. that they are heavily skewed against Africa, and that they thereby risk reducing hope and enthusiasm, as failure is ensured by design (Easterly 2009). Yet, the MDGs can still be said to set the agenda for development aid objectives today.

A new Danish development aid policy was passed in June 2010. The new policy has a particular focus on growth, freedom and human rights. But it refers specifically to the MDGs as the framework within which it operates, and it has several of the MDGs as specific target

areas and objectives (Poverty reduction, gender equality, sustainability and international cooperation). (DANIDA 2010b)[8]

This strategy is a good example of how the MDGs are used to gain common focus in the development assistance, but that they do not determine donors' focus and perspectives.

Current development challenges
Three current challenges to development assistance will be reviewed here: Aid effectiveness, aid commitments and interrelated crises.

In 2005 an international agenda for development aid effectiveness was adopted: The Paris Declaration. The declaration answered to growing calls for harmonization of aid, and a reduction of the bureaucratic rules surrounding it. As is said in the Paris Declaration: "aid effectiveness must increase significantly as well to support partner country efforts to strengthen governance and improve development performance." (OECD 2008b).

The Accra Agenda for Action in 2008 followed up on the Paris Declaration, and also stressing the need for harmonization of rules and regulations instituted by donor organizations as well as receiving countries. Harmonization efforts and aid effectiveness is high on the agenda of donors and implementing agencies, as reflected for example by the 'One UN' approach being pursued in the UN system (UNDG 2010). Harmonization is also pursued in DANIDA, where common OECD guidelines are prominent in climate work (DANIDA 2010a, personal communication).[9]

During the last 20 years, many pledges, commitments and targets for ODA and other forms of assistance have been abundant. Not many of them have been fulfilled – be it the overall 0,7 % of GDP target for ODA or pledges for assistance in connection with specific catastrophes or issues. Sometimes this shortfall has been defended with reference to the problems with aid effectiveness mentioned above: 'What is really needed is not more aid, but better aid.' Or it has been argued that the capacity for processing large amounts of resources is not present in recipient countries, so that capacity building has to be carried out first. Each of these arguments can be challenged, and they may hold some truth. But it is doubtlessly true that the unfulfilled promises have left a 'trust gap' between donor and recipient countries, which has had an impact on international cooperation also in other fields. (CCD 2009, p. 8-11)

Mobilizing the funds pledged has been made more difficult by the financial crisis. Some ODA has been supplemented by the mobilization of private funds, but this may reinforce the problems of harmonization and aid effectiveness touched upon above.

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[8] One might argue that DANIDA would have been an even more central and important case in the Danish context than is CARE. But DANIDA has only just begun formulating the strategic plans on climate change after the new development aid policy mentioned was adopted. DANIDA may therefore be a very interesting case to investigate in order to compare the processes with those found in CARE, but at present less material is available for DANIDA than for CARE, making CARE the best suited case for exploration of the topic. (DANIDA 2010, personal communication)

[9] There are other aspects of the Paris Declaration and Accra Agenda for Action, including ownership and 'mutual accountability' but all the elements of these papers focus on aid effectiveness, governance (in countries and organisations) and some form of alignment of approaches, priorities and purposes. (OECD 2008b)

The concept of interrelated crises has been recurrent in the past few years. The dynamics of food prices, climate change, economic crisis, energy prices and ecosystems degradation has been portrayed as at once the most daunting task that humankind has ever faced, and a window of opportunity for the rethinking of entire systems and a change in the direction of sustainable development at many different levels. (Mandag Morgen 2009)

3.1.c The climate change – development nexus

In the final sub-section on climate change and development, an attempt is made to give an overview of the interconnections between climate change and development, based on the previous two sub-sections.

Climate change has many – and very different – implications for our ability to reach the development objectives and deal with the challenges outlined above. The connections between climate change and development have been formulated in many different ways in policy statements and analyses. Based on a review of several of the most central of these reports, it is possible to group the connections under six headings. With each heading is listed a couple of references that make this particular type of connection, by way of example:

- Climate change undermines current and future development achievements, by eroding ecosystems upon which livelihoods of the poor are based. (OECD 2008a, p. 11; DANIDA 2010b, p. 29)
- Climate change alters the ways in which development assistance can and should operate – e.g. new forms of assistance, new solutions, higher demand for coordination and planning. (Stern 2006, p. 92; OECD 2008a, p. 56; DDRN 2010)
- Climate change politics has made international relations even more complex – e.g. by introducing new dimensions of historical debt and responsibility, and raising demands for 'additional' funds. (CCD 2009, p. XIII; Teknologirådet 2008, p. 60)
- Climate change may open new options for sustainable development – e.g. the rising demand for 'low carbon development paths'. (Athanasiou, Kartha & Kemp-Benedict 2008, p. 26; Teknologirådet 2008, p. 50; CCD 2009, p. 4)
- Climate change adaptation (and mitigation) activities may – if designed well – contribute to reaching development targets. (OECD 2008a, p. 44; CCD 2009, p. 5; DDRN 2010)

It is perfectly possible for one person or political actor to hold more than one kind of conception of climate change

All of these types of connections include some element of need for change in development practice – some more than others. Particularly the second, fourth and fifth points are ripe with issues of new or altered practices, need for new knowledge or the application of knowledge in new ways: New development paths need to be crafted. Development and other actors need to learn how to steer adaptation into a course that also supports fulfilment of development objectives. And knowledge management, long-term planning, cross-sectoral integration etc. become central activities in 'good development programming'.

One would expect that the kind of connection that is made between climate change and development will affect the solutions that are proposed: If climate change is seen mainly as eroding the livelihood options of the poor, the remedy would logically be one of improving or changing livelihood options. If, on the other hand, climate change were seen primarily as a

problem of historical debt that developed countries owe to developing countries, the solution would probably take the form of transfer of funds between countries. The current thesis does not have a comparative format that would allow for investigating this hypothesis, so it is left for other research to take up. Further, as is discussed in section 3.3 below, the relation between new ideas or meaning forming and new directions of action cannot assumed to be quite as simple as all that.

For the analytical framework of this thesis, therefore, the five types of connections are used only to categorize the view(s) of the climate change – development nexus that are encountered in the interviews. This will help understand which new elements and changes to practice climate change are perceived to create for CARE's development assistance.

This thesis aims at understanding how development organisations may cope with all these dimensions of change, and how their coping can be described and analysed.[10] From the above discussion it is clear that coping with change – in many dimensions and directions at once –is going to be a fundamental condition under which development assistance (and all other human activities) is going to be performed under in the years to come. Therefore, the following sub-section discusses how change, knowledge and learning are linked and how they can be understood and analyzed.

3.2 Dealing with Change

Development organisations are not the only ones that have to deal with rapid change in the age of globalization. Dealing with change is a recurrent theme in literature on most parts of society – business not least. And in business literature we find many guides on how to understand and analyse organisational change.

In this section, the findings in the first section about climate change, change and learning are first revisited. Then, some business literature models of change and learning are discussed. In the conclusion, the need for a broader theory on learning and change is discussed, in order to find what role the theories of change and learning in business can contribute to the analytical framework.

3.2.a Climate of change in the development sector

In section 3.1.3 it was argued that climate change may imply a number of different kinds of change for development organisations: More work, new kinds of work, new ways of working, new targets and political context, new opportunities to pursue the 'old' agenda of sustainable development. It was also argued that most of these kinds of change are directly connected to learning, in the sense that they raise need for new kinds of knowing and new knowledge.

At present, the contours of the answers to these challenges of change and learning are only just emerging. This was the clear impression left by a number of the most knowledgeable

[10] One might just as well have studied how local communities, local governments or national governments in developing countries cope with this environment of change, and I know that that this kind of work is being carried out by others (see e.g. IDRC 2010). Understanding the role of the NGOs is important, however, in the perspective of aid efficiency, and as the NGOs often have an advocacy role vis-à-vis local and national governments.

people in the field in a conference on climate change and development in Copenhagen 22-23 November this year (DDRN 2010). The impressions left by speakers from UNDP and the Swedish government's Commission on Climate Change and Development to a project manager from Namibia, was that the problems are real and diverse, that some principles for the solution of them can be identified, but that even the process of finding the solutions themselves is still being designed.[11]

The principles identified by the speakers of the conference were that:

- Adaptation must be closely integrated into development aid, despite the political imperatives of keeping the two funding channels apart.
- The answers to the climate change challenge must be locally tailored, and locally driven.
- Yet, as the challenge is huge and urgent, ways have to be found to scale up policies and practices that work to the national or even regional level. That is the only way we can make it in time.

Most speakers pointed out the need for (social) innovation, for exploration and documentation of practices that work, and for efficient knowledge sharing arrangements in order to spread solutions that work and thereby enabling scaling up. (DDRN 2010)

It is clear then, that the challenge development organisations face is two-fold: On the one hand, a need to integrate climate change considerations into their work, which leads to a need for diverse kinds of change and learning. On the other hand, the concrete forms that these changes are to take are not (yet) well defined. This may of course be an advantage, as it gives the organisations freedom in designing their own solutions – but it adds to the complexity of the change effort – and to the complexity of the task of analysing this change.

3.2.b Organizational change – private sector perspectives

As mentioned above, a whole body of literature exists which concerns change and learning / knowledge – mainly focusing on business organisations, but also to some extend civil society and public administration. Several works from this body have been reviewed (Doppelt 2003, Senge 2007, Beyer & Holtzblatt 1998, Horgen et al. 1999). When it comes to an analytical framework for understanding change and learning (at the theoretical level) the reviewed works present fairly similar arguments and models, all basing their analysis on some variety of 'systemic' thinking. In the following, Doppelt (2003) is presented and discussed, as the theme of his book is the one closest to that of climate change and development. The discussion below could, however, hold for any of the works mentioned.

In his book "Leading change toward sustainability", Bob Doppelt makes an attempt to explain 'what goes wrong' when businesses try to make the change toward sustainability that is more and more demanded by the surrounding society.

Doppelt describes businesses as 'organisations' consisting of 'systems', which are composed of a range of interdependent elements – such as humans, objects, and relationships. These

[11] The remarks here are based on my own notes of the conference. The conference presentations and recommendations of the working groups can be found at the DDRN website. The conference managers promised that proceedings would be published, but these are not available at the time of writing.

systems, Doppelt says, have feedback mechanisms that allow them to remain stable – or to go back to status quo after having been pushed away from it by an impact from outside the system. These feedback mechanisms then, over time, create a culture in the system: Norms and values that shape how people think, and how they see things. This is a very powerful force for stability, as "Cultures are storehouses of organisational information and knowledge". Here, we see that Doppelt very convincingly makes the connection between the 'sociality' of the system, its way of functioning and its knowledge. (Doppelt 2003, p. 70-77)

There is one problem with Doppelt's argument, however. Doppelt just states that the feedback mechanisms in an organisation are always stabilizing, and culture becomes stabilizing and resistant to change by definition as well. From high school biology, though, we know that feedbacks may be either negative or positive. Negative feedback loops are the stabilizing kind that Doppelt describes: They are 'negative' because the act counter to the forcing that the system was exposed to. Positive feedback loops, on the other hand, reinforce the impact of the original forcing. If feedbacks to impacts on an organisations were positive, then the systems and their cultures would be expected to amplify the effect of the impact from outside, and greatly ease the process of change rather than resisting it. Doppelt does not discuss this option, ruling it out by definition. It is possible that this approach is justified in businesses – and it certainly seems to fit well with the wide and varied experience of change that Doppelt draws upon in the book. But when investigating development and climate change, the assumption that organisations are expected to resist change does not seem quite as reasonable as it apparently is in business studies. As we saw in section 3.1.3, climate change integration into development assistance is widely expected within the development community to bring with it potentially significant benefits – such as increased funding for necessary activities, better conditions for integration of activities and renewed focus on sustainability broadly. Hence, it is not reasonable to assume *a priori* that the organisational changes that climate change will force will necessarily be resisted. The direction of cultural feedback must be left open for investigation.

Senge et al. (1998) have a broader agenda of change. In "Forandringens Formationer" their purpose is to teach the reader how to instil and (primarily) maintain processes of learning and change into a (business) organisation. The book is ripe with examples, exercises and tips for reflection and further reading – as an instruction it is very well designed as easy to use. Yet it has a severe shortfall with regards to analysis of organisations in the climate change – development nexus: It assumes willed change. Implicit in Senge's (and the other authors') ideas is that change is willed and directed by someone who is able to strategically manipulate the systems that have to be changed (see e.g. Senge et al. 1998, p. 50-53). Yet, in the climate change – development nexus, change could be going on at very many inter-connected levels at once, driven by outside factors and not necessarily with single actors setting the course. It does not seem reasonable to assume that the change in this case is 'willed' in the way that Senge et al. – and Doppelt as well – assume.

Thus we leave Doppelt with an open question about the direction of cultural feedback to impacts for change, and Senge et al. with some confusion over agency and drivers of change. But we are not much wiser concerning how to analyse change, knowledge and learning in the context of climate change and development.

3.2.c Implications for the analytical framework

The literature that was reviewed above on the themes of organisational change and learning was not well suited for the purpose of analysing what goes on in the climate change – development nexus. The focus was too narrow, and too much was assumed about the nature of the change process as well as about the responses of organisations, for the theories to match the complex, multilevel and differently valued kinds of change that may be perceived as coming with climate change to a development organisation like CARE.

In order to construct an analytical framework suited for the exercise pursued here, we need more fundamental and more open theories that describe processes of change and learning in social systems. For this purpose, we will turn our attention to the answers provided by two other theorists: To Flyvbjerg (2001), who discusses the production of useful knowledge in the social sciences and to Wenger, who describes processes of learning and change in human communities, explicitly leaving the question of resistance or openness to change, open (Wenger 1998, p. 98).

But the excursion into the literature on business and change has not been in vain. We bring with us an open question about resistance or openness to change, and a curiosity about the agency and drivers of change. Both these points will be raised again in section 3.4, when the analytical framework is constructed.

3.3 Social Theory of Learning and Knowledge

We have now arrived at the conclusion that the climate change predicted by scientists will have significant implications for development, and thereby on development programming. We have also found that these changes can be expected to carry with them need for learning and for new kinds of knowledge management in development programming in organisations like CARE.

But we also concluded that systemic thinking-based theories of organisational change and learning are too narrow for our use here – they cannot be expected to capture all pertinent aspects of climate change and programming, which is the theme of this thesis.

We must therefore turn to other theories of change, learning and knowledge: Theories that are broader in their focus and scope. It is not possible to review here the entire body of literature on knowledge and learning in the social sciences. The theme recurs throughout the social sciences, in methodological discussions and philosophy of science debates, and the body of literature is enormous. Instead, two authors' work is reviewed and built upon.

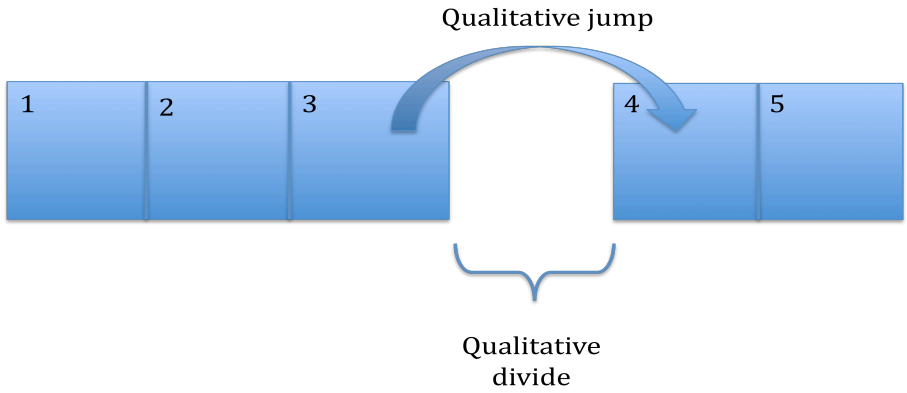
The first is Bent Flyvbjerg's "Making Social Science Matter", is chosen because he begins his argument from the very roots of science and philosophy, and aims to build from these roots a new understanding of the role of the social sciences, that is more useful to itself and its surroundings. As we have seen in the preceding discussion, there is an apparent need for such useful social science in a future of climate change. It is therefore prudent to review Flyvbjerg's arguments here, and see what insights they offer in the context of climate change and development. In addition, the discussion below of Flyvbjerg's argument about learning and knowledge also serves as a foundation for the methodological considerations in chapter 4.

The second is Etienne Wenger's work on 'Communities of Practice'. Wenger begins his investigations into social learning from empirical studies of practices of learning and knowledge – as opposed to Flyvbjerg's philosophical approach. Wenger is one of the most influential theorists of learning and knowledge management in social systems, and the idea of 'Communities of Practice' is widespread. Therefore Wenger is an obvious starting point when the object is to find out how one can understand and analyse social practices of learning and knowledge, such as those expected to go on in an organisation like CARE.

In combining and contrasting the philosophical approach of Flyvbjerg with Wenger's empirically based arguments, this and the following section lay out an analytical framework which will guide the data gathering and analysis carried out in the subsequent chapters.

3.3.a Flyvbjerg

Flyvbjerg proposes a new order for the social sciences, which put 'phronesis' ('prudence' or 'value rationality') on line with episteme as agendas for research. The critical point of departure for this proposition is based on the Dreyfuss model of human performance, which separates performance into two overall types that are qualitatively different The Dreyfuss model is presented in figure 3.3.a:



Level 1-3 of the Dreyfuss model of learning constitutes one type, in which performance is based on more or less internalized, context-independent rules, which guide action. In this type of performance, human agents understand situations and problems through separating them into units that suit the rules in question, and organizing them according to the rule. This is what Flyvbjerg call acting according to 'analytical rationality'.

The second type of performance consists of the two upper levels of the Dreyfuss model – levels 4 and 5. At this level, situations are perceived as a whole, and understanding and problem solving is done through drawing on experience with similar situations in the past. Decision-making and problem solving at this level becomes intuitive and experience based, and cannot be broken down into processes of deduction and analytical rationality.[12]

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[12] It should be noted here, that Flyvbjerg describes the Dreyfuss model in very linear terms – that human learning only or mainly moves more or less progressively from lower to higher levels, and that he seems to imply that knowing things at higher levels is always better than knowing them at lower levels. Flyvbjerg does not discuss the learning aspects or ways of progression in very much detail, but the linear and 'increasing value' conception is clear for an example when he summarizes his discussion of the levels of the model (Flyvbjerg, p. 21). He quotes Dreyfuss for a similar opinion (ibid. p. 10). But this conception seems to be a simplification. For

Flyvbjerg argues that many of the things that humans do, and can be said to do well, are to be found in this category. Not just bodily activities such as riding a bicycle or walking, but also high-level professional performance, especially among highly experienced professionals. Thus, activities carried out at the fourth and fifth level of the Dreyfuss model are among those most central to social science, including kinds of policy making, decision making and social interaction.

Flyvbjerg's entire argument rests on this difference between types of human performance, and ways of knowing / learning things. For, says Flyvbjerg, if we cannot break understanding, knowing, acting and decision making at the higher levels of the Dreyfuss model down into rules and elements of analytical rationality, we must accept that this kind of rationality is a limited kind, which must be complemented with other kinds of understanding.

It is in his search for other kinds of understanding within science that he draws out the Aristolean concept of 'phronesis'. Flyvbjerg spends the remainder of his book investigating the implications of phronesis for contemporary social science, of power on phronesis and on how a phronetic social science may be carried out. This will be discussed further in the chapter on methodology, but for now it will suffice to say that Flyvbjerg ends up by suggesting that case studies are an under-rated and under-used way to create knowledge in the social sciences, and that if many cases exist within a discipline, they form a kind of repertoire from which common experiences can be drawn, and understanding at levels 4 and 5 generated. (Flyvbjerg p. 86)

In connection with his point about the desirability of a sustained production of cases, Flyvbjerg also touches upon the concept of 'paradigmatic cases' or 'exemplars'. These are cases that become central to a discipline: "[A paradigmatic case] operates as a metaphor and may function as a focal point for the founding of schools of thought." (Wenger, p. 80) According to Wenger, cases are paradigmatic if they are saying something general about the societies studied. (Wenger, p. 80)

Finally, Flyvbjerg concludes that: "a discipline without a large number of thoroughly executed case studies is a discipline without systematic production of exemplars, and that a discipline without exemplars is an ineffective one." (Wenger p. 87) As we shall see later, there exists an interesting connection between Flyvbjerg and Wenger on this point.

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some skills – especially those that we learn at pre-school age – we may not pass through levels 1-3 at all. It seems unlikely that an infant who learns to walk is thinking about it in terms of context-independent rules at first. And most of us learn to walk at level 5 – solving problems without ever analyzing them. Yet some people 'progress' to level 1-3 later in life, e.g. getting educated as physiotherapists. They learn all the rules about walking, probably getting a new consciousness about what they do when they walk themselves. These people can be said to have an advantage over the rest of us when it comes to walking, as they, through their schooling at level 1-3, have obtained a common vocabulary, theories and explanations which enables them to formulate different experiences of walking much better than others. In spite of this shortfall in the Dreyfuss / Flyvbjerg conception, I will accept it here, because the kinds of learning that is discussed here is not often 'pre-school-skills' and are therefore more likely to fit in.

For now, we will leave Flyvbjerg's discussion on cases and take a step back and look more closely on the difference that Flyvbjerg points out between the upper and the lower categories of the Dreyfuss model.

In his discussion of the Dreyfuss model, Flyvbjerg emphasises the 'qualitative jump' that a learner has to make between the third and the fourth level of the Dreyfuss model. As noted above, it is on the existence of a divide between the two types that he bases his entire argument. And the existence of such a divide seems very well documented.

But one thing is a divide – another the process of getting across it. Flyvbjerg has an important and interesting point when he uses the word 'jump'; people seem to be crossing the divide. And from Flyvbjerg's examples it seems that being able to cross the divide is an extremely important ability. For schooling – according to Flyvbjerg – usually gets us only to level 3 (at most). Whereas effective, fluent, productive, innovative engagement in our lives seems to be largely going on at levels 4 and 5. (Flyvbjerg 2001, p. 21).

So the process of crossing the divide between performance based on analytical rationality and rules, and that based on intuition and experience seems to be very important. But Flyvbjerg is largely silent on the nature of this process – its preconditions, constituents, and its what, when and where.

This thesis concerns itself with performance, knowledge and change management among professionals that can be assumed to perform largely at level 4 and 5 of the Dreyfuss model when they work with 'business-as-usual' subject matter. But we may expect that when they are learning about climate change, and trying to draw this knowledge into their high-level practice they may have to make this 'qualitative jump'. Therefore, understanding this process of transition is highly relevant in this context.

It is at this point that Etienne Wenger's 'Communities of Practice' become highly interesting. Because, as I will now proceed to show, most of the learning and 'knowing' that Wenger's 'social learning theory' is concerned with is exactly situated in Flyvbjerg's 'qualitative divide' and Wenger's book is very much about describing what happens when humans make the 'qualitative jump'.

The implications of Flyvbjerg for an analytical framework
Before turning to Wenger, however, it is worthwhile to draw out the implications of Flyvbjerg's thought for an analytical framework for this thesis.

Firstly, if Flyvbjerg is correct, we should expect people who do things they are good at, and have experience with to perform them largely without referring to general and context-independent rules (at least so long as we are talking about skills learned after school age). Therefore, when investigating ways in which knowledge is used at CARE, we expect that people will give examples, tell narratives and use cases rather than referring to general rules.

In addition, we can expect that a shared repertoire of cases be in existence: that several people will refer to the same cases to illustrate similar points. Some of these cases may be paradigmatic. The paradigmatic status of a case would be revealed by its being used to illustrate different points or aspects by different people and / or in different connections.

3.3.b Wenger

In this section, I will discuss Etienne Wenger's approach to learning and knowledge. The aim of this discussion is to show that Wenger provides one possible answer to the questions that Flyvbjerg left us with, namely: 'What is the nature of the qualitative divide, and how do humans manage to make the qualitative jump across it?' It is important to point out, that Wenger's conception of knowledge and learning in many ways do not correspond with the Dreyfuss model: Wenger has nothing to say about context-independent rules, and does not depict learning as a progressive process. The interesting point here is, however, that he does seem to have something to say about the qualitative jump, that is, the difference between levels 3 and 4, and how this difference can be transgressed.

In addition, it is important to point out here, that it is not the purpose here to fully investigate every possible way in which the qualitative jump could be made. The point made here is only, that Wenger provides us with one answer, but that this answer is highly relevant to the particular focus of this thesis, namely learning and knowledge *in organizations*.

With these clarifications in order, we can now turn to the discussion of Wenger and his 'Communities of Practice'.

Where Flyvbjerg starts from general, overarching and philosophical considerations about human performance and our understanding of knowledge, Wenger approaches the same problem from another point of view. Wenger criticises contemporary institutions of learning and education, which he sees as building on wrong assumptions about learning: That learning is induced by teaching, that it is an individual process, that it is a self-contained process with a defined beginning and end, and that it is best carried out in isolation from our other activities. Because it builds on such assumptions, Wenger says, institutions of learning today risk producing graduates who imagine that they are bad at learning, who do not like to learn, and are generally discouraged. Instead, Wenger proposes three assumptions about humans and learning:

1. Learning is collective and happens through interaction.
2. Learning is an integral part of our lives. It is "life-sustaining and inevitable."
3. Learning is the result of lived experience.

From these assumptions, Wenger moves on – through a long row of interconnected and sometimes overlapping structures of explanation – to explore the implications of these assumptions when they are combined with social theory. The aim of this exposition is, in Wenger's own words a social theory of learning which: "does constitute a coherent level of analysis; it does yield a conceptual framework from which to derive a consistent set of general principles and recommendations for understanding and enabling learning." (Wenger, p.4)

The framework that Wenger presents is certainly comprehensive, but it sometimes seems to lack some of the consistency set as an aim. Instead, Wenger continually presents the reader with layer upon layer of conceptual models, in which components recur at different levels and relations to each other. Thus, his book cannot be said to present *one* conceptual framework,

but rather a large number of interesting and pertinent observations about the communal and social relations that constitute human learning processes in his view.[13]

This feature makes for highly interesting and thought-provoking reading, but also makes it all but impossible to synthesize and summarize Wenger's findings. Therefore, no attempt to do so will be made here. Instead, a relatively simple conceptual model is displayed in figure 3.3.b. This model provides the structure for the following discussion of those of Wenger's points that are most pertinent to the present discussion of learning and knowledge.

Fig. 3.3.b

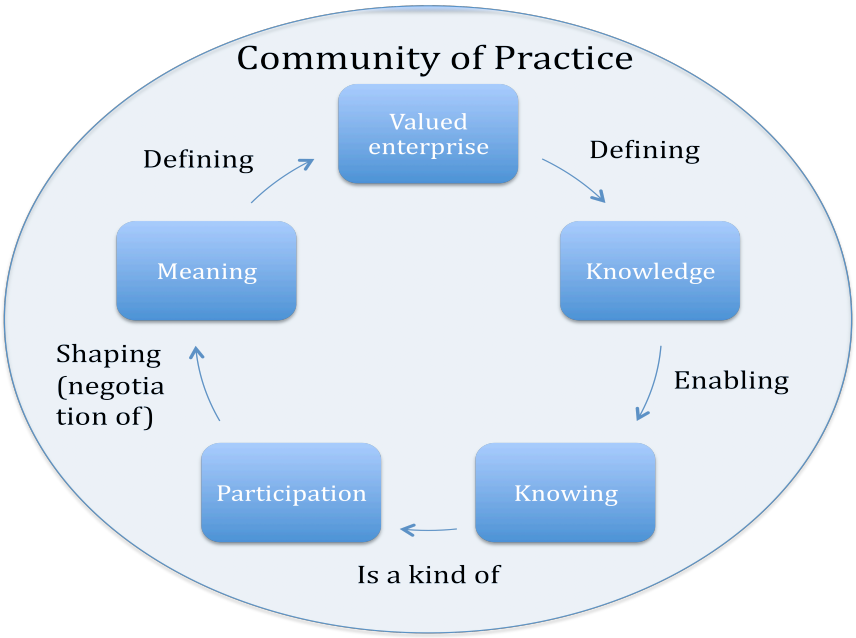

Figure 3.3.b consists of two elements, which I will discuss in the following sub-sections: The first is the light circle that contains all the other elements, and second the five concepts in rectangular boxes and their connecting arrows are the second.

The surrounding circle

The surrounding circle in figure 3.3.b is depicted 'community of practice'. This is Wenger's term for a community that is defined by the fact that its members share a practice (as opposed

[13] One example of this layer-upon-layer problem is Wenger's treatment of the concept of 'meaning', which is central to his thinking. First, Wenger places 'meaning' as central to one of four 'premises' upon which the study is based – here, meaning is depicted as the general 'aim of learning'. (Wenger, p.4) Half a page further down, Wenger presents a model of the social theory of learning in which 'meaning is one of four 'components'. None of the three other components at the same level as meaning in this model (Identity, Practice and Community) recur from the list of premises listed before. (Wenger, p.5) Instead, identity and practice are two overarching concepts, which structure the book (part one of the book is devoted to 'practice', part two to identity) – whereas 'meaning' is delegated to chapter one within the part on practice. This leaves the reader rather confused as to which conceptual level one should place 'meaning' at in the context of a social learning theory, and what its relation to the other central concepts is.

to communities defined in geographical terms and the like). The concept of community of practice is also useful, says Wenger, because it ties practice to community, and thereby makes it more tractable. (Wenger, p. 72) At an earlier stage, Wenger states that experiencing meaning is fundamental to human practice, and that in social settings, meaning is continually negotiated through sustained interaction with others. (Wenger pp. 51-53) Taken together, this shows why communities of practice may be very important in our daily lives: They are settings within which we are able to negotiate and confirm the meaningfulness of our practice together with others. It is reasonable to expect that CARE holds one or more such communities that can be analysed with the tools that Wenger presents.

Before moving along, a few words of caution regarding the interpretation of figure 3.3.b is in order:

In figure 3.3.b, the community of practice is depicted as a large circle, encompassing all the other elements. The model developed here does not – as figure 3.3.b might be understood to convey – include all the aspects that Wenger presents in his discussions of communities of practice. It may be fruitful to imagine that a community of practice as presented by Wenger is best understood as an orange. In figure 3.3.b, I display what is revealed about the orange by cutting it in half at a certain angle. Some things are (partially) revealed, while still others remain obscure. In the following discussion I do not touch upon issues such as identity and locality, which are major issues with Wenger, and I reveal only part of the issues that I touch upon.

Here, I will only touch upon one aspect of Wenger's concept of 'communities of practice' which is not displayed in the model, and therefore not discussed below, and that is the aspect of 'shared repertoire'. Wenger argues that one way in which communities make practice tangible is by providing a shared repertoire for its members, which they can draw on when they negotiate meaning and pursue enterprises (see discussion of enterprises below). The repertoire consists of reifications (see the discussion of participation below) that have been produced during the history of the community. The repertoire therefore has two functions: It embodies the history of learning of the community of practice and makes it available to practice, and it is inherently ambiguous, as reifications need to be interpreted in order for meaning to be produced. (Wenger, p. 83) Later, we shall see that Wenger's concept of 'shared repertoire' has a parallel in Flyvbjerg's thinking, and that this has implications for the analytical framework being developed here. But here it will suffice that we take note of the concept, and then move on to the other elements of figure 3.3.b:

Five interconnected elements

In the prologue to 'Communities of Practice', Wenger presents four 'premises' for his work. (Wenger, p. 4) The five elements in the figure above are developed from these premises, in an attempt to answer the question 'what does Wenger actually say about the sociality of knowledge production?'. The discussion here will start from 'valued enterprise' and work clockwise around the circle.

Valued enterprise

Central to every community of practice is some kind of 'joint enterprise' that its members are engaged in producing or contributing to. The joint enterprise is indeed one of three elements

in the community, which ties it to the concept of practice, and is thus part of what defines it as a ' community of practice'.

In the current context, however, it is sufficient to note that the community defines the enterprise through a continual process of negotiation, and that its value is defined through a common experience of meaning. (Wenger, p. 77-80)

Knowledge
The nature of the valued enterprise has a defining impact on what is accepted as 'knowledge' in a certain context, because Wenger defines knowledge as: "competence with regard to a valued enterprise". (Wenger, p.4)

The implication of this definition is, interestingly, that what counts as knowledge in a community of practice *depends on context.* It is therefore not given, universal or predictable. Instead, it is experiential – that is, it is based on the experience of the individual, as well as what works in the context. (Wenger, p. 138)

If this conception of 'knowledge' were to be transferred to the Dreyfuss model, it would fit in best at level 4 / 5, because it emphasizes the ability to act according to context rather than the ability to apply rules.

Wenger's use of the term 'competence' is rather more fluid than his use of the term 'knowledge'. Thus, there is no formal definition, and the use varies somewhat. But it seems that by 'competence' Wenger means something inherent to the individual – closer to 'skill' than 'knowledge' – that may or may not be brought to bear in the community of practice, depending on the fit between enterprise and competence. Thus, competence can be understood as latent knowledge.

Knowing
According to Wenger's definition, 'knowing' is "a matter of participating in the pursuit of [valued] enterprises". (Wenger, p.4) We may assume that 'knowing' entails participating in a knowledgeable way in a valued enterprise. Thus I will venture to expand the definition to: 'applying one's competence to the participation in the pursuit of a valued enterprise'.

Here again, knowing is context dependent, and what counts as knowing in one context may not count in another, and knowing entails bringing competence to bear on the valued enterprise through the process of participation. In this way, knowing is simply a kind of participation.

Participation
Participation is one of the most important aspects of membership in a community of practice: Being a member of the group is defined by your ability to participate in the pursuit of the joint enterprise.

Participation is particularly interesting with regard to the 'qualitative jump' that Flyvbjerg identifies. As discussed in the previous sections, Wenger's conception of knowledge and competence correspond largely to the higher and lower levels of performance of the Dreyfuss model respectively. And participation – particularly the special form of participation called 'knowing' – enables individuals to transform one into the other. Thus, we see that Wenger can contribute one answer to the question that Flyvbjerg left us with: How do people make the

qualitative jump between the lower and the higher levels of the Dreyfuss model? Based on Wenger, the preliminary answer is, through participation in the pursuit of enterprises which are defined as valuable in a community of practice, or, correspondingly: through participation in communities of practice.

Participation – in Wenger's conception – relates closely to the concept of meaning, as participation by community members is one half of the duality[14] that governs the constant negotiation of meaning that goes on in a community of practice, according to Wenger. The other half of the duality is 'reification' – the process of giving ideas and concepts in the community permanence by attaching them to more or less tangible object. Reification is not considered further in figure 3.3.b, as it is less pertinent when discussing the dynamic processes of learning. But it will be taken up again later in the discussion of boundary objects below.

Meaning
The concept of meaning closes the circle of connected concepts in figure 3.3.b.I. Wenger uses the concept in a large number of senses and contexts, but it is used here in only two:

Meaning is negotiated through a process of participation and reification within the community of practice.

At the same time, meaning is the yardstick by which the 'value' of an enterprise is ascertained in a community of practice – thus, pursuing an enterprise must be experienced as meaningful in order for the enterprise to be accepted in the community as valuable.

3.3.c Wenger on learning as a process

In the section above it was showed that, taking Wenger as point of departure, participation can be seen as one way to make Flyvbjerg's 'qualitative jump'. But Wenger goes further than just showing that participation is important for learning. He also discusses *how* this might happen, and what characterizes a community of practice, which enables this kind of learning process. Two concepts are central to this part of his work:

- 'Legitimate Peripheral Participation' as a mode of participation that allows non-members to become fully engaged and contributing members of a community of practice.
- 'Boundaries' as fields where members may transfer knowledge and experience from one community of practice of which they are member to another.

There are other learning processes that may go on in a community of practice, but these two are particularly relevant.

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[14] Wenger distinguishes very sharply between 'dichotomies' and 'dualities'. Wenger defines a dichotomy as a set of opposites, such as black and white. Black and white are defined as each other's opposites, they can be conceptualized as negating each other (something black cannot be white) or as a scale (of grey-tones that are more or less black or white) and they are classificatory categories. On the contrary, a duality is a set of concepts that can be defined in and by themselves (each independent of the other), but are conceptually tied very closely together in an interplay. They do not define a spectrum, because more of one does not mean less of the other, the interplay is always both-and. Wenger's most central duality is that between participation and reification, which defines the negotiation of meaning. But he operates with several more. See Wenger p. 65-71.

Legitimate Peripheral Participation describes a process through which the individual may learn – a process of *acquisition* of knowledge through alignment with the history of learning of the community of practice. This process is important in the context of organizational learning, because it is central to the inclusion of outsiders into the community.

Boundaries are important ways in which communities of practice can learn and develop – boundaries are places of knowledge generation through development in the negotiations of meaning and enterprise within the community.

Both processes are discussed in greater detail below.

Legitimate Peripheral Participation (LPP)
According to Wenger, non-participation or partial participation can be 'enabling or hindering' depending on the circumstances. 'Marginality' refers to non-participation that is an obstacle to desired participation: a form of exclusion. On the contrary, 'peripherality' refers to a position in which non-participation enables participation. Marginality is not discussed further here, as it is not closely related to issues of learning.

In an earlier work, Wenger coined the term 'legitimate peripheral participation' to denote a kind of non-participation in which individuals are allowed to maintain a peripheral position in a community of practice with a view to becoming a member. Thus, the individual is allowed to participate in a less-than-full way, and his non-participation is accepted, because it enables full participation at a later stage. Legitimate Peripheral Participation enables learning in the sense that the individual is allowed to *acquire* knowledge:

- Through participation he gets access to the negotiation of meaning of the community of practice, and its valued enterprises, enabling him to align his competences to them, and become able to participate fully.
- Through participation, the newcomer gets accustomed to the reifications of the community of practice, and can thereby draw on them at a later stage, when he is to participate in the negotiation of meaning.

Thus, legitimate peripheral participation is a 'social space' in which the 'significant learning' goes on which can help newcomers enter communities of practice, and thereby it can help communities of practice replenish their membership base.

In terms of the Dreyfuss model, legitimate peripheral participation enables one kind of qualitative jump, because it:

- Allows performers to build their own experience.
- Allows performers to access the experience of others' by allowing them to understand a community of practice's reifications and take part in its history of learning.

From this discussion we can conclude that it is important to allow LPP to take place in any community of practice. It may even be advantageous to institutionalize it. The implication for the analytical framework of this thesis is that attention should be paid to the existence and institutionalization of LPP (if any) within CARE's climate change work.

Boundary
From the description of figure 3.3.b, it should be clear that communities of practice are

delineated entities (they include some people and not others), and that there are a large number of them in existence. In the previous section, the concept of periphery was discussed, but communities of practice not only have peripheries, they also have boundaries. The distinction can be understood in the following way: where periphery refers to ways in which communities of practice manages access, boundaries are ways to distinguish between who is inside and who is out (Wenger, p. 120).

In the context of this study, boundary is a helpful concept, because it allows us to see things and ideas that cross boundaries. For this purpose, Wenger uses the concepts of 'boundary object' and 'brokering' respectively (Wenger, 105-106).

Brokering

As any one human is engaged in many practices, each of us may belong to several communities of practice. Wenger calls this state of multiple belonging 'multimembership'. As members of several communities of practice, we may find that it makes sense to try to transfer elements of one community of practice into another. We may find that a report has been interpreted differently in two different settings, and wish to transfer the interpretation of one community of practice into the other. This is kind of activity is termed 'brokering' in Wenger's description. (Wenger, 109)[15]

Brokers can play a very important role for a community of practice. Through brokers, impetus for change can enter a community of practice, and set in motion 'ripple effects' of change in meaning, enterprise and knowledge. In short, brokering can set learning in motion, and keep practice from going stale. (Wenger, 109)

But brokering is not necessarily easy, and not always successful. Wenger underlines that successful brokering often requires significant legitimacy on part of the broker. The broker has to be a full and respected member of the community in order to be able to impact the negotiation of meaning with an alien idea. At the same time, the broker may have to apply significant skill in translation and coordination for his brokering to be successful. For the broker himself, the process of brokering may also be problematic, as brokering works best when he keeps a certain distance from the core – distance enough to keep a different perspective. But he must also retain his legitimacy within the community, and stay a full member. Wenger describes how forces of gravity (pulling in) and centrifuge (pushing out) threaten to inhibit the success of brokering. In the worst case, the broker risks being marginalized in his community, experiencing uprootedness and sometimes interpreting it as personal inadequacy. This is what Wenger calls the 'occupational hazard' of brokering. (Wenger, p. 109-110)

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[15] Wenger's conception of brokering is different from e.g. Senge's descriptions of how change in an organisation can be initiated. Wenger's 'brokering' is broader than willed change, because the broker may not want to change anything at all, only to use concepts, ideas etc. that she got from an other community of practice – because they seem useful, because they are known ways to solve problems for him etc. The broker *may* wish to instigate change, but brokering is not limited to this. In addition, it is integral to Wenger's theory that change cannot be instigated by any one member of a community of practice unilaterally – there is *always* a negotiation of meaning, however skewed the relations of power. Therefore, Wenger's brokering is neither as narrow nor as unilateral as the process described by Senge.

Finally, brokering cannot give the full picture of what is going on in another community of practice. Any picture of what goes on in a community of practice given by any one member alone will be partial, because people have their own (limited) perception of what is going on, among other things. Thus there are limits to what a given person in a given situation will be in a position to broker between communities of practice of which he is member.

Recognizing the activities of brokers as important (even when they are not successful) may be important to a community of practice that wishes to facilitate brokering, and thereby keeping its boundaries porous to some extend. Similarly, it may be helpful for brokers to recognize their own brokering as a kind of practice, which has an occupational hazard of marginalization. Thus, they may be able to forestall marginalization – but they may also be able to recognize other brokers around them, and support each other. (Wenger, p. 110)

For this theoretical framework, the implications of this is that practices of brokering should be looked for, that problems of brokering should be identified, as should attempts to facilitate brokering.

Boundary objects
A boundary object is defined as: "objects that serve to coordinate the perspectives of the various constituencies for some purpose" (Leigh Star, quoted in Wenger, 106). In terms of Wenger's own work, a boundary object is an object that exists in different communities of practice.

Some objects are designed to be boundary objects, others become so because they are available for different communities (a memo may be written explicitly to impact the practices of groups other than the one which produced it, an article may be written with the aim to enhance the knowledge of a scientific community of practice but be picked up by outsiders and have an impact on their practice, and thereby serve as a boundary object).

Boundary objects may be a very effective way of crossing borders between communities, as they have an aspect of permanence which enables them to be moved over distances, to cross physical boundaries between communities, and to last through time. These are properties shared by all reifications (see the sub-section on participation on page 34). The problem is that a reification cannot carry with it all the meaning it represents in its community of practice 'of origin'. It will be reinterpreted in the encounter with the practices of other communities, as new meanings are negotiated. Thus, important aspects may be lost on the way.

Complementary crossing of boundaries
As can be seen, both boundary objects and brokering may be effective ways to bring elements of one community of practice into another, and thereby induce learning and development. But each has limitations and shortfall. Saying that a combination of the two may be even more effective, and that they may complement each other is almost trivial. Yet, it is not so trivial that it always happens: Sending out a memo (boundary object) by email as a way to tell others about the brilliant idea that your group just agreed to propose for a company policy may be very much less effective in terms of uptake of the idea, than sending someone from the group – who is also member of another group - to present the idea at a meeting with the other group, and then handing out the memo at the meeting. In this case, the other groups receive

not just the boundary object, but also the meanings and interpretations that it carried in its community of origin: Brokering and boundary object complement one another.

For the framework to be constructed here, the implication is that it should be able to track boundary movements (boundary objects and brokering) and how these are coordinated. We would expect that they each work, but that they work better in combination.

3.3.d Implications for the analytical framework

In section 3.3.b we have seen that learning (development of the knowledge and knowing in the community of practice) happens when there is development in any of the other three elements, which impacts knowledge and knowing. For our particular purpose, this leads to the following expectations regarding climate change knowledge in CARE:

Some years back, the issue of climate change was introduced in some of the communities of practice that CARE is connected to through boundary objects and brokers. It is natural to expect that the idea that climate change is relevant to development assistance has entered CARE across a boundary from another community of practice, through brokering and / or boundary objects. This can be verified by identifying these processes, if possible.

Once the idea has successfully entered the negotiation of meaning inside CARE, it would lead to either the negotiation of a new enterprise, or renegotiation of the enterprise of development assistance taking place. E.g.: How should we change development practice? How should we develop climate change programmes?

Once the enterprise has changed, other competencies become relevant. These competencies will be brought to bear on the enterprise through new forms of participation, which may change the negotiation of meaning that goes on in the community of practice. This may then have an effect on any renegotiation that goes on of this and other valued enterprises in the organization, and so on.

From the discussion in section 3.3.c it is clear that there are only few parallel features in Wenger and Flyvbjerg's thinking. Still, combining them seems to yield interesting results. In this section, the implications of the two authors' thinking for the analytical framework are explored.

In section 3.3.a it was concluded that based on the Dreyfuss model and Flyvbjerg's development of it, we expect to find:

- That cases, experience(s) and narratives are central to the way that professionals think about their work.
- That practical experience is valued as a way of learning – at least complementary to schooling – because it supports ways of knowing that work in practice.
- That a number of these cases are shared, as Flyvbjerg found that this would be an efficient way to produce knowledge.
- Finally, that we may encounter some cases which are continually referred to in different connections in order to support different points or show different aspects

In section 3.3.b, it was shown that – following Wenger, we may expect to find:

- That some process of boundary crossing – brokering and / or boundary object – introduced the concept of climate change.
- That a negotiation took place over its relevance when it was introduced.
- That once it was accepted, it caused new enterprises to be adopted and / or old ones to be renegotiated.
- That this made new kinds of competence relevant and valued as such.
- That this new competence was brought to bear on the new enterprise(s) through new kinds of practice.
- That this shifted the negotiation of meaning.
- And that all of this has lead to learning in the organization.

In section 3.3.c we were able to develop even more specific expectations as regards the processes of learning:

- We expect that significant learning may go on through legitimate peripheral participation. Therefore, any person in such a position should be questioned about the experience, and any institutionalization of legitimate peripheral participation should be charted and investigated.
- We expect that brokers and boundary objects are involved in boundary crossing, and that these are more effective when they accompany each other.
- We expect that boundary objects may be effective by themselves, but that they risk running into problems of renegotiation – that they are not understood in the same way as they were meant.
- We expect that some problems may occur for people who function as brokers, both in terms of getting enough 'space to think out of the box' and of marginalization. These problems may be diminished if the value of brokering is openly recognized in the organization, and if brokers are aware that they are playing this role (with the dangers that entails).

With these implications of theory for the analytical framework clarified, we can now move on to construct this framework in section 3.4

3.4 Analytical Framework

In the preceding three sections, a number of elements for an analytical framework were identified and discussed. It is now time to draw all of this together into a coherent tool for analysis that can be used in the present analysis of CARE. As mentioned in the methodology section, the purpose of the questions is to guide the case study, so that it remains structured and focused.

Deriving the questions of the analytical framework from theory does not imply that the case study can only say something about the theories. On the contrary, it is the purpose of this thesis to make conclusions about CARE Denmark's programming activity and the impacts of climate change on it, much more than to say something about social learning theory. But basing the analysis firmly in theory provides – and brings to the fore – the 'lens' through which the case is viewed. A theory-based study of CARE Denmark will bring to the fore some things, and obscure others. This is why it is important to carefully choose the theories applied,

and articulating expectation about what these theories will highlight clearly. That has been the purpose of the present section.

The analytical framework, then, takes the form of a number of questions that we ask of the empirical material. In this way, we ensure that the theoretical 'lens' chosen is applied in a systematic way throughout the empirical work, so that focus is actually put on those things that the theory aims to describe.

In Appendix A, a full list of the questions for an analytical framework raised in the literature, and which are of relevance in the present study. But this list is long and unwieldy. It is not possible to cover all these questions in empirical work short of a full-blown ethnographic study, lasting several months. Such a study is not feasible within the context of a Master thesis. Therefore, we will have to prioritize the list and reduce it to practicable size. The questions that are removed will not be asked in the interviews, and analysis of written material will not focus on them.

First of all, those questions that refer to things that happened in the past will be put aside. They are difficult to handle, as some of the people who participated then will probably not be present at CARE today, and therefore their perspectives cannot be captured. Therefore, the history of the introduction of climate change into the practice at CARE in the first place is not extensively investigated.

Another interesting point that we have to leave aside is that of legitimate peripheral participation. Leaving the point aside is painful, as it is highly interesting and relevant, but it is done for two reasons:

- Leaving it aside allows us to focus the interviews on full participants, and thereby focusing on the practices 'at the core'. Thus, the scope of the study is reduced, allowing us to dig deeper into that which is covered.
- To the extend that it is institutionalized, legitimate peripheral participation is not likely to be in any way special to CARE's climate work – the way that this is structured is probably a broader trait of the organization as such. It is unlikely that such structures are closely linked to climate change. Thus, we can probably leave it aside without missing important points about climate change.

Some of the questions are of an analytical rather than a truly empirical nature – questions such as "Do the conceptions identified fit into the categorisation made under 3.1?" These questions will not guide the empirical work, but will be part of the Results and Analysis chapters. These questions are in italics in the list.

The list of questions for the analytical framework is as follows:

3.1

i. Which conception(s) of the climate change – development nexus exist in CARE?
ii. Do the conceptions identified fit into the categorisation made under 3.1?

3.2

i. Are the systems in CARE resisting or open to change?
ii. Is change driven by identifiable agents or drivers of change?[16]

3.3.a

i. How do people formulate answers about their work? Do the use narratives and examples, or do they use context-independent rules? (The answer to this question may tell us at what level of the Dreyfuss model they perform, and thus which kinds of learning they can fruitfully engage in.)
ii. How is experience-based learning and knowledge valued and shared in the organisation? Do people talk about practical experience or formal teaching when they are asked about learning?
iii. Are there any cases or narratives that are shared broadly – and are any of them of paradigmatic character?

3.3.b

i. How does it climate change enter programmes / projects in CARE?
ii. Are existing enterprises changed when climate change are integrated into practice? Did new ones come into existence?
iii. Have new kinds of competencies have become needed and valued? Which?
iv. In what ways have practice (the way things are done) changed?
v. Has the inclusion of climate change also changed the way that other aspects of development aid are perceived as meaningful?
vi. Have people been learning during this process?

3.3.c

i. Do we encounter people who are engaged in boundary practices, or boundary object?
ii. How do border practices work in CARE?
iii. Are boundary objectives perceived as effective?
iv. Is brokering successful? If not, why not?
v. Do objects and brokers work better in collusion?
vi. Do brokers encounter problems of marginalization or inclusion, as described by Wenger?

[16] As noted in Appendix A, the reading of Wenger causes us to expect that the answer to this question to be, that change may be initiated by any person in the system (many initiators) but mediated through negotiation of meaning and enterprise, rather than something that is willed, planned, and strategically carried out.

These questions have formed the backbone of the formulation of questions in the interview guides, and guided the reading of texts on CARE's climate change work – in all, the questions formulated here have been the structure of the empirical work performed for this thesis. The result of this empirical work is presented in section 4. A sample interview guide is displayed in Appendix B, to show how the questions of the analytical framework were.

4. Results of the empirical work

From the interviews it is clear that CARE consists of a myriad of communities of practice. One respondent made this surprisingly clear when he talked of having been 'away from the network here in the office in Copenhagen' – and was therefore a little out of touch with what goes on there. He had been working in the country for which he was now programme officer. Three communities of practice will be distinguished here:

- The programme staff at the office in Copenhagen: This study does not cover other staff groups in the Copenhagen office, but respondents did use terms such as 'people in marketing' to distinguish, so these groups are held to separate and kept out of the analysis.
- The Poverty, Environment and Climate Change Network (PECCN) – a network of CARE International staff who has support for and development of climate change related activities in CARE as part of their job description. Several respondents belong to PECCN. Other respondents continually referred to PECCN in connection with experience sharing and learning – a point which will be touched upon several times throughout section 4.
- Country Offices in developing countries (COs). Each CO can reasonably be assumed to contain one or more community of practice (just as the one in Copenhagen does) – but they are included here as a group, as they are often referred to in this way by respondents. Respondents are expected to hold valid information about what goes on in COs, as they are all in close and regular contact with one or more as part of their work. In addition, most respondents have worked in a CO during their career.

Reading section 4

In this section, the information obtained through the interviews – complemented with information from written CARE documents – is supplied in the form of answers to the questions in the analytical framework constructed in section 3. Full transcripts of the interviews are not included here, as that format is unmanageable and would not make much sense to the reader. Instead, the gist of the respondents' statements has been distilled into answers to the questions of the analytical framework. The process used to arrive at the answers delivered here is as follows:

For each question in the analytical framework, the content of all the different statements made by respondents relating to that question were put together, and statements were classified by content. This provided a picture of what respondents had said, where they were in agreement and where they differed. These insights are reproduced in this results section.

Accompanying the 'distilled' content of the interviews in this section is a number of boxes with small excerpts of interviews that illustrate the points being made, and give the reader the opportunity to see some of the statements that the text is based on.

The interviews were carried out in confidentiality, and therefore the identities of specific respondents are veiled in the following discussion. Respondents have been assigned a

number (and gender) at random. The number of the respondent is shown in brackets after the sentence or paragraph to which the respondent is linked, the same way as actual quotations.[17]

4.1 Conceptions of climate change

First of all, nobody among the CARE employees interviewed doubted the reality and the severity of future climate change. All respondents emphasised the importance of understanding and acting on climate change and its implications for development assistance. In answering direct questions about the connection between climate change and development, and in discussing other points, respondents among them covered all the conceptions proposed in section 3.1. In addition, some comments were made that fit neither category – these will be discussed at the end of this sub-section.

Conception 1

Climate change was portrayed as damaging to people's livelihoods and livelihood security of the rural poor that CARE works to protect and enhance. (1) This will mean a net increase in demand for development funds and projects in the future. (4)

Conception 2

This is the most predominant conception in the answers given in the interviews:[18] The perspective of longer-term climatic change, the increased variability and dramatic changes of climate, and the demand for more integrated planning that all this raises has, will or should cause change in the way that development is designed, planned and carried out. See the excerpt from the interview with respondent no. 5 in box 4.1 below.

The changes mentioned vary greatly in range and kind:

- From change in the scope of current activities e.g. that the advice given in agricultural extension programmes may have to be revised on the basis that what was before 10-year events are now recurring every second or third year. (6)
- Via discussions of the new role that CARE is getting in the area of generating and communicating climate change knowledge· (5)
- To changes in the whole way that development aid is delivered. (5)

But several respondents doubted – for different reasons – that climate change was really driving change in the development sector, and in the way things are done. One pointed to other driving forces as more important for the way that development aid is designed, such as the shift from needs-based to rights-based approach (4). Another voiced a doubt that – in the broader development context – climate change was something of a fashion phenomenon. He did not doubt that climate change was important to the people that development aid is designed to help, only that it was going to have lasting influence on development discourse or

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[17] In case of doubt about the interpretations that the author has performed of the respondents' statments, the author is in possesion of the key to the respondents' identity and of recordings of all interviews for reference.

[18] The reason that this conception dominates so much may very well be that the interviews centered on learning, knowledge and exchange of experience. As the aspects of organisational change and learning are to a great extend covered by the second conception of the climate change – development nexus, this conception will naturally dominate the answers.

strategy. It is also important that the respondent did not doubt that climate change is going to stay important in the work of CARE – only that it may 'pass away after some time' in other development organisations to whom it is less central (2).

Box 4.1

Asked about the difference between poverty reduction and adaptation, respondent 5 said:

I would say that adaptation is more *future-oriented*: it takes into account projections, so it's looking at a longer-term perspective. It is more *process oriented*: it's emphasising empowerment and capacity building, because we can't exactly predict the future, so we need to give people the knowledge, skills, tools and rights they need to manage uncertainty. (...)

Also, the science element: In development work we tend to – from a participatory perspective – say that people have all the knowledge, we just need to empower them to use their knowledge to solve the problems, and we're helping them doing that. With climate change, people are being pushed beyond their traditional knowledge, and it's unlikely that all of the answers are available locally. We find that the ways that they are coping are not sustainable, and not really working. They need new ideas, innovation and to be able to understand that things are changing, and that some behaviour changes are going to be needed to manage that. And that requires that we find ways to bring science into dialogue with communities – link local knowledge and scientific information and making them able analyse the context and to make decisions. That is quite different from poverty reduction, and probably the most difficult part of adaptation.

Conception 3

The policy dimension was important to some respondents and not to others. And it was important in unexpected ways. One respondent explained that in many instances, it was not very important to distinguish between climate *change* and climate *variability* – but in the case of (international) policy this was very important indeed; in that context the problem is 'about causes, responsibility and mitigation'. (6) Another respondent touched on the same point, and added the aspects of payment and debt. (3)

A third respondent added an interesting point when he pointed out that one should be cautious when using the climate change explanation, as this might become an excuse for national policy makers for the effect of unsustainable management, e.g. mountain forest loss that aggravates the effects of erratic but heavy rainfall. In this instance, it may be tempting to blame far away rich countries and their climate change – rather than unsustainable natural resource management in one's own country. (2)

A fourth comment made a similar point, but with even wider implications: A respondent said that climate change adaptation is linked to development assistance, as it draws on the same human resources and sources of funding. If bad governance or other of the problems that have made development aid less efficient over the years are allowed to make adaptation ineffective, this may be the last time humanity is willing to invest so much money, time, and hope in a common project. (3) This means that the respondent feared that the problems of development aid would undermine adaptation to such a degree that the failure could undermine faith and willingness to invest in future, large-scale development efforts.

Conception 4
Several respondents commented that there is potential for increased focus on sustainable development as a result of the emphasis on climate change. And though the interviews focused on the adaptation side of CARE's activities, one respondent mentioned particularly 'low carbon development' and the potential of mixing mitigation and adaptation efforts to get development onto a sustainable track. (4)

Conception 5
One respondent said: "Climate change adaptation is development – though maybe with a longer time perspective." (1) Other respondents agreed with this line of arguing, saying that to a large extend, climate change adaptation and development assistance are the same things, though with slightly other focus and / or priorities.

Other comments / perspectives
One respondent turned the first conception on its head, saying that 'If we had done a better job at development, there would not be so great a need for adaptation now.' (5). Meaning that adaptation is more problematic for the poor than for the rich, and that the need for adaptation is desperate mainly because poverty is still as widespread as it is.

The same respondent also said that the most sensible way to distinguish between development aid on one hand and climate change adaptation on the other (if this distinction is necessary) is to look at the objective of the programme or project: If the objective is to increase access to clean water, then the project is a development project – the quality of which can be improved by taking different projections into account, including future climate change. If the objective of the programme is to decrease vulnerability to climate change, then it is an adaptation programme, which may often include projects that increase access to water.

Finally, two points were raised by several respondents: Firstly, the problem of terminology: Several respondents pointed out that while climate change is a 'new' aspect of development assistance, climate variability, unstable weather conditions and 'harsh climate' are problems – and always have been – facing poor people in poor countries. These problems are not new, and 'adaptation' to these conditions has long been part of CARE's work. Only, it was not called 'climate' then. As one respondent put, '"Climate" was not invented back then.' (1, 4, 6)

Secondly, some disagreement occurred between respondents on whether all development aid should be adjusted to climate change. Some held that climate change is relevant everywhere, as it alters social and economic patterns (example: 6 gave a compelling argument about how even raising school attendance among minority groups could be made more difficult by climate change). Others took the view that 'some things are good development assistance, yet has nothing to do with climate change – these things we should just keep doing.' (3). An example given in connection with this argument was that of HIV / AIDS prevention. One respondent said that this is a point that has been debated in CARE. (4)

Conclusion – answer to 3.1.c
In short, most of the statements made in the interviews about the nature of the climate change development nexus fit nicely into the categorization constructed in 3.1. Some of the remarks were surprising, in the sense that they did not correspond to points made in the literature that was used when the categories were constructed. But they did still fit into the categorization. Some remarks were made that did not easily fit into the categorization,

showing the immense complexity of the interaction. As is apparent from the references in the text, all respondents make comments that fall into more than one category of conceptions. This should be taken as a token that CARE DK is integrating climate change perspectives into its work a many levels, and that its employees hold multifaceted views of how and when climate change is relevant to their work.

4.2 Resistance or openness to change

Generally, the interviews give an impression of CARE (worldwide) as an organisation that has been very open to the integration of climate change in its work. Respondents see how 'people are seeing climate change on the ground, and therefore demanding tools to handle it' (4) – and of climate change advisors that barely have time give all the help that people are asking for when the country offices around the world wish to start working with climate change. (5)

Box 4.2

On whether the priority on climate change met with any resistance, respondent 4 said:

No. On the contrary. There is no resistance as such – there have been some movements inside CARE that has driven the focus on climate change issues, and that has come from the [developing] country level. In some cases, the [developing] country level had campaigns with letters and so on, saying: we should be working more with climate change. You could call that resistance, but I think it was more some kind of inertia in the CARE system.

Now, there is a discussion about focus, in which many are talking about putting more focus on women. In the US they are now working with a new slogan called 'I'm powerful'. We are a tarrying a bit here. But there is no contradiction between working with climate change and working with women: In all the things we do on climate change, we also have a lot of focus on women: Women as a particularly vulnerable group.

Yet this is not the entire picture being painted. Several respondents described some resistance and inertia in the organisation, which is depicted as responsible that not all countries are on board, and that not all relevant policies have been agreed on (3, 4).

Another aspect of resistance came to the surface as one respondent described how some country branches – and some people within CARE DK wish to place relatively more emphasis on women-related issues – and another respondent admitted to have been sceptic herself when the decision to focus on climate change was made – though she is now very much pro this decision, and proud that CARE DK has 'taken the lead in this area in Denmark'. (1, 4)

We see that there are aspects of resistance, as well as aspects of openness, to change in this context. This is no different from what was expected.

4.3 Agents and drivers of change

Most respondents mention more than one impetus, agent or driver of the implementation of climate change into CARE's work. Most describe how it is partly a result of a strategic decision from 'above' in the organisation – as well a decision in CARE international to put focus on climate change, as the decision to make it a strategic priority in CARE DK. But all (except one) the respondents who give this description also emphasise that integrating climate change in programmes and projects comes from country offices and the field, where employees, partners and stakeholders experience problems caused by climate change, and raise a demand for tools to address them.

In total, the respondents mention six 'agents' which may drive the integration of climate change into programs and projects in CARE, in one way or the other:

- Pressure from the 'centre' (policies, strategic decisions etc.)
- CARE employees in country offices or attached to programs and projects in the field
- Partner organisations and stakeholders
- Programme coordinators, e.g. in CARE DK
- Donors

Taken together, the respondents paint a very diverse picture of where the drive for change comes from – very far from that implicit in Senge et. al. Yet, some of the traits described do correspond: CARE does have central strategic decisions that drive the change process to some degree, and there is a small group of dedicated employees who play a central role in driving and directing the process (the PECCN, which is continually referred to by all respondents). These traits just do not capture the full picture.

4.4 Modes of explanation (narratives or rules)

The short answer is – perhaps not surprisingly – that all respondents use both rules-based modes and more narrative ways when they describe what they do, and why. The interesting point here is that they do not do so in the same way: Respondents differ markedly in how much they depend on either mode, and responses also vary over the course of the interview for each participant. Here, the variations will be sketched – the discussion about them will be carried out in much more detail in the analysis section.

Some general patterns

Respondents generally use examples more than rules when:

- They are talking about things that they have done themselves – here they use concrete examples that they have experienced first-hand. For an example, one respondent – who did not generally use examples as much as his colleagues – was asked how he was made aware of the results of a CVCA once it was conducted. He responded by giving a vivid description of how he had been to a remote village and seen the results: colourful drawings with trees and houses. These drawings were the local adaptation plans that had resulted from the CVCA process. (2)

- They are asked about something they have not explained or described before. When asked to explain something, it was clear that those respondents whose job description contains disseminating knowledge about that particular subject used concrete examples less – and rules-based ways of explaining more. This became clear particularly in the interviews with those respondents who had tasks both within programme coordination and implementation of broader thematic climate projects of some kind. When asked about their thematic work area, they used examples and narratives less than when talking about their programme activities. The impression was that – having had to explain about their thematic work many times before, they had generalized, rules-based explanations ready at hand. When asked about things they were not used to explaining, they used examples (e.g. 4).

Box 4.4

Respondent 2 answering the question of how the CVCA is introduced and used:

I have not had training in the new toolkit myself, but there are trainings in the country offices. They know how to use the toolkits, for they had concrete training in using them.

Do they report the results back to you?

They report back every year, as part of the normal reporting. But if I want more detailed information, I will have to get it on a monitoring visit. Concretely, if I go to the other end of nowhere to visit a village, then they will be able to present a plan to me, with lots of drawings and colours and trees and all that kind of things. That is their adaptation plan.

Respondents use rules-based statements less when talking about fields where they self-identify as non-experts (e.g. 6). An interesting pattern that seems to be emerging is that respondents seem to be supporting examples with rules when examples are dominant, and rules with examples when rules are dominant.

A third category of the Dreyfuss model?
A pattern seems to be forthcoming from the interviews, in which three modes of explanation can be identified:[19]

The first mode corresponds to the third level of the Dreyfuss model. The person using this mode has been introduced to the subject, but does not have personal experience enough with it to be able to draw directly on her own or other people's experience when explaining it. In this mode, rules-based explanations are dominant.

[19] It is important to point out that any one person may be in any one mode of explanation, depending on the relation between experience and competence of the person, and the concrete subject; a disaster risk reduction expert who is doubling as a programme manager and spending a small fraction of his time on climate change integration would be expected to be in the first mode when asked about climate change, the second when talking about his programme, and the third when talking about disaster risk reduction.

The second corresponds to level 4 or 5 of the Dreyfuss model: In this mode, people are drawing on their own (and other people's) experience when explaining – sometimes they have problems explaining or at least formulating their points in general terms.

Thirdly, some respondents that have very great experience in the field that they explain about use rules-based explanations extensively. They do not seem to fit the Dreyfuss model at all. As mentioned above, this applies especially to people who have 'taught' the issue before. One may be tempted to add a category to the Dreyfuss model for these people. This point will be taken up again and discussed further in the analysis.

4.5 Experience-based learning and knowledge

Experience, learning and training were central themes in the interviews. All respondents covered several themes or aspects of this question. Therefore, this sub-section is organized in five parts, covering the different aspects raised in the interview.

4.5.a Use of experience-based knowledge and learning in CARE

The value of experienced-based knowledge is recognized in the practice in CARE in several different ways:

Individual use of experience-based knowledge

Respondents often referred to situations where solutions to problems were 'just known' to themselves or more broadly in the organisations. These were instances when the kind of explanation given was 'we know what works, as we've worked in the area for 10 years', or 'CARE has long experience with that kind of work, so people know what works and what doesn't'. (E.g. 1, 4, 6)

In addition, two respondents explained how they, personally, had been able to solve problems or doing their work better by drawing on experience from one country or area, and then applying it in another setting. (1, 4, 6)

Box 4.5.a

Asked how they know what to teach peasants when conditions change, respondent 1 said:

Well, for example, we work with some agricultural systems in country X and country Y, where we now teach them to change crops. We teach both which crops to grow, and new methods of growing them... You know, we know a lot about these things. We have decades of experience. I usually say: It's all just gotten a bit worse with climate change in the picture as well – it hasn't changed character. It's just some new large challenges that we are now also facing – on top of the others.

CVCAs production as training

One respondent said that some CVCA's were carried out with training of the staff, partners and stakeholders involved as the main purpose. Thus, the CVCA – apart from being a tool for analysis – becomes a vehicle for learning about climate change for those involved in carrying out the analysis. That stakeholders (and to some extend also partners) learn about climate

change, and how it affects them is an explicit aim of the CVCA, as described in the CVCA Handbook – learning on part of the CARE staff members involved is not (CARE, 2009).

The 'learning-by-doing' element for the CARE employees involved may not be intended, but - according to the respondent – it is effective. This is not surprising, considering that it fits well with the theories of learning discussed in section 3.

Evidence-based approach to advocacy
Several respondents referred to CARE's 'evidence-based approach to advocacy' when explaining what they do, and how experience is used in the organisation (e.g. 3). This approach emphasises the use of field-based knowledge and narratives – 'stories from the ground' – when doing advocacy at the national (and international) level. According to these respondents, this has been found a much more convincing mode of argument than that of organisations that base campaigns on 'secondary research'. CARE carries out 'research at the local level for this purpose alone' – and trains partner organisations in country to work in this way as well. (4)

Programmes and projects aimed at generating and sharing experience
The respondents described three programmes / projects in relation to climate change that are currently – or will soon be – being rolled out, and that have experience generation and sharing as core components: The Adaptation Learning Programme for Africa (ALP), which is being rolled out, the Community of Practice on Climate Change Adaptation, which will be started next year, and the Centre of Expertise on Climate Change, for which money is being raised.

The ALP is the only one of these with an experience-generating component: Within this programme, a large number of CVCA studies will be carried out in four countries from different regions of Africa. The intention is that these CVCA's will:

- Generate project ideas that can then be implemented, mainly with funding from other sources than the programme itself.
- Generate cost-benefit analysis of adaptation to climate change (if possible).
- Generate inputs into national politics (evidence-based advocacy).
- Generate knowledge when experience is gathered and compared across the countries.
- Generate inputs to international policymaking in Africa.

In addition, experience in using the CVCA tool will be generated, and the project will serve as a vehicle for coordination of climate change adaptation programmes and projects in the countries in question. Through documenting all these activities, the ALP will also enable to share the experience generated with a wider circle

The Community of Practice is still in the process of being designed, but the idea is to have an online platform for the sharing of experience and relevant documents for CARE employees that work with – or are interested in – climate change adaptation. A central point for the Community of Practice is that participation is voluntary, and potential members self-identify. In the longer run, the Community of Practice will be open also to practitioners outside CARE, potentially bringing together experience – and enabling learning – across the development community.

Meetings and workshops
Most respondents valued meetings, workshops and other events where practitioners meet to

discuss issues related to their work as important and effective ways of learning. Such events were depicted as occasions for achieving new perspectives on problems in one's practice.

Problems in sharing experience
But this kind of informal forum for experience sharing and learning is not unproblematic. Several respondents touched upon the problem that even good experience sharing initiatives do take up the time of those participating. And that the participants' time is VERY limited – they barely have time for the daily tasks. One respondent put it like this: "There are so many knowledge sharing mechanisms in CARE that it is not a question of whether we are doing it, but of prioritizing the most important ones." (3) So that, while meetings and workshops was widely appreciated the respondents, they were also problematic for several respondents because they 'eat time' (3, 4). Some respondents also described how attempts were made to limit the amount of mails and reports circulated by using briefs and summaries (3) – which were highly valued by some respondents (2) – while others still said that one risked 'drowning' in information (4). The point was made several times that it is important to 'make relevant information available so people can access it when needed', rather than telling them or sending it out at the convenience of those that produced the knowledge (1, 3).

4.5.b Formal training
Formal training – courses and training events – seems to play a surprisingly large role in CARE as an organisation. All respondents – even those that emphasise the importance of experience and informal learning in their own learning process – talk about training as something important: Whether they themselves or their colleagues in the country offices have received it, how it works and doesn't work, and how it could be improved.

CVCA training takes a central role here, maybe mainly because of the study design (putting focus on concrete learning-related events) and because it is an ongoing process that is therefore present in the minds of the respondents. But training also seems to be somewhat problematic for most respondents – those who train, those who have recieved training, and those who have not.

The purpose of the CVCA training is to 'help country offices to understand climate change and how it relates to their work' (5). The programme officers who are based in Denmark play a somewhat ambiguous role in this connection, as they use the outcomes of the CVCA's in their planning activities, and sometimes also take the initiative to have the CVCAs carried out, but they do not actually do the CVCA's themselves. This is probably one reason why the issue of training is problematic to the respondents: Those who have not received training may feel badly equipped to thoroughly understand the process and its results – and badly placed to advocate for its use. And those who have received the training do not feel that they 'do not know the tool very well' because they have not used it themselves, and therefore do not have first-hand experience (e.g. 6).

Those who also work with training others, designing training, and so on have other problems. They feel that – though training is meant to enable country office staff to work with climate change – it does not get people quite that far. This is corroborated by comments from other respondents that point to a disconnect between the training (and the CVCA analysis) and the problem solving and project design that they and their colleagues in country offices are expected to perform. (E.g. 4, 5)

Box 4.5.b

Respondent 4 ends an answer to the question of global and local climate knowledge gets connected like this:

Well, the CVCA-method is *good* – but it is primarily good for gathering knowledge. It does not give very many hints when we are going out to communicate climate change knowledge at the local and national level, and to NGOs. No method is included for doing that – we have to invent our own method.

How far are you in the process in country Y?

In country Y we have completed the CVCA analysis: We have made a background analysis that gathers the climate knowledge about Y. And now it is up to us to design the next phase of the programme, and get climate in there – including mechanisms for feeding back climate knowledge to communities.

Two kinds of solutions are proposed to these problems of disconnect: Some emphasise that the training should be improved, and that the CVCA has now been incorporated in broader toolkit that covers the entire project cycle. (2, 5) But 'handholding', increased guidance and cooperation with in-country experts (that is, less formal kinds of knowledge sharing) are ways to complement the existing training that are also proposed (e.g. 3). These solutions are not mutually exclusive.

Finally, one respondent emphasised the need for more formalized training and experience sharing to support his own learning and increase his knowledge about climate change adaptation, while other respondents emphasised contact with personal networks of colleagues around CARE to increase knowledge or share experience – these participants also belong to the group of people who emphasised that formalised training takes too much of the experts' time (see 4.5.1). (E.g. 2, 6)

4.5.c Summary

Experience-based knowledge and experience sharing are themes that all respondents contribute substantial points about, and considerable effort is put into developing and improving experience generating and sharing mechanisms within CARE. Yet there are inherent problems and some conflicting views about what works and which course should be followed concerning experience generation and sharing.

4.6 Shared narratives

No narratives or examples are shared broadly among respondents. Generally, the examples used stem from the respondent's own work, and the only overlaps that exist can be explained by the respondents having worked in the same countries.

4.7 Integrating climate change into projects and programmes

The question of 'How does climate change enter programmes and projects' was all but answered in the discussion of drivers and agents of change in section 4.3. Just to recapitulate: Respondents point out a variety of ways in which the inclusion of climate change into programmes and projects can take place, with two main drivers: Policy priority to the issue in CARE, and demand from 'the field', where climate-related problems are encountered.

4.8 Change in enterprises

As discussed under 4.1, the respondents expressed many and varied conceptions of climate change. This is mirrored in the many ways that climate change is impacting their own work. Respondents describe new enterprises, changed enterprises, and instances of no change.

4.8.a New enterprises

The climate change work is to some degree being carried out as independent tasks, such as the CVCAs and connected training sessions. These are not yet fully integrated with other programming and analysis, though the expectation is that they can and will be, as the CVCA is very similar to other PRA-based tools that are or have been used in CARE. (4, 6)

Other new enterprises are the new ways of generating and sharing knowledge and experience discussed under 4.5, especially the Community of Practice. According to one respondent, initiating communities of practice have been tried before in CARE, but never made to work particularly well. But this time the design has been changed, learning from previous errors. (5) In addition, a new format of cooperation has been devised within the context of climate change, namely the 'theme team model', in which all those CARE employees that work with climate change are attached to one or more theme teams depending on their area of work (the theme teams mentioned by respondents were: Adaptation, Mitigation / low carbon development, and Advocacy). These theme teams are a new way to connect employees in CARE. One respondent explained that a certain amount of innovation within the work on climate change had been spurred simply by the fact that the original group working with the issue was very small, and the scope of the problem very big. (3, 5)

Box 4.8.a

Respondent 5 on knowledge exchange mechanisms in CARE:

I think that having a very small team with a very big challenge is obviously really difficult, but I think it has forced us to be really creative about how we're tackling it and how we're working with it. The climate change team is unique in CARE International: I don't think we have tackled an issue in quite this way, and that's something that makes it cool to work with climate change in CARE: The work pressure has led to some interesting models: The theme-team model, and then the communities of practice... That's the upside of not having enough people: We're coming up with some interesting things.

4.8.b Change in existing enterprises and changing priorities

In section 4.1, many examples were given of how development activities are changing as a result of the focus on climate change. A recurring themes in the interviews is that of a longer time perspective for activities and plans: one respondent described how in one of his programme countries they were now changing from Disaster Risk Reduction plans to climate change adaptation. Many of the activities were the same, but they are now looking somewhat further ahead in time. (2)

Another respondent focused on agricultural extension to give examples of how the activities are changing under climate change. She described how climate change has brought (back) focus on the agricultural sector, which has not been on the top of the agenda for many years. But also the kind of advise given has changed – from advising on how to best grow the crops in use locally, the advise now must also consider crop change, as the old crops may not be viable under future climate conditions. (1)

All in all, significant parts of the current enterprises are changing – to some degree. In addition, priorities are also changing, bringing back sectors such as agriculture and forestry into the mainstream of development assistance.

4.8.c Actors involved

Respondents point out four groups of actors involved in the change processes described above:

- The programme managers (based in Denmark) and also CARE DK more generally.
- The country office staff and the country offices as entities.
- Partner organisations in-country.
- The climate change network in CARE (PECCN)

The change processes – in the respondents' view – seems to encompass all programming entities in CARE. It is possible that marketing and other departments would have been included in the list, if any person from such groups had been interviewed.

4.8.d Things unchanged

Though climate change opens the avenue for change in many ways, many things also remain constant. This was emphasised by all respondents in one way or the other:

- Some emphasised the similarity of the CVCA method with other assessment tools in CARE, something also emphasised in the CVCA Handbook. (E.g. 3; CARE 2009 p. 8)
- Some drew strong parallels between the activities carried out before and those carried out now under the heading 'climate change adaptation'. (E.g. 4, 6)
- Some underscore that it is important to be able to make the connection between the new climate change activities and the existing ones: 'It is important to integrate well, so that we don't show up with an entirely new agenda.' The point here is, that separate agendas generate confusion, while integration yields synergies. (2)
- One respondent answered a question about how climate change integration was changing development assistance by pointing out that some things have nothing to do with climate change, and that it is important to keep doing these things, even while implementing climate change into practice. (3)

Box 4.8.d

When asked to describe his work, and the relation to climate, respondent 6 tells this story:
In country V, we carry out a long-term programme, and I participated in the formulation of the current programme description. Climate variability plays an important role in that, and the population of U are very, very dependent on natural resources, and particularly water is an issue. Repeated droughts and food security problems are major issues.

So when you ask 'What role does climate play?' – well, adaptation to great variability in rainfall is an important part of our programme in V. We just didn't call it 'climate' adaptation: we talked of 'strategies for coping with climate variability and harsh conditions'.

Many of the variations we see now are the same as those we expect to be the result of climate change, only in increased numbers. Take V again: If before they had a 10-year drought cycle – they may now have a 'three times in five years' cycle –it's quite extreme. And when the climate events come more often it creates extra problems: Even if people had quite effective coping strategies before, to deal with the climate they live in, they run out of options. They simply do not have time to recover between these events.

4.8.e Conclusion

While all respondents recognize that climate change is important, and is significantly changing some aspects of work in CARE, it is also plain that some things are not changed, that climate change can and should be integrated with these, and that this is generally viewed as a good and necessary state of affairs.

4.9 New competencies and knowledge

When new enterprises are undertaken, we expect that new competencies are needed, and that some competencies increase in value. This is seemingly true in this case, but only to some extend. Respondents point out that scientific climate knowledge – the ability analyse and interpret climate projections – is needed, and to some extend acquired outside the CARE, through cooperation with environmental or research organisations. (4, 5) But it is also underlined that CARE – through long experience with environmental considerations in development assistance – has some of the expertise for handling climate change in-house, and that this is one reason why CARE is at the forefront when it comes to integrating climate change into development aid. (1)

Box 4.9

Respondent 1 – explaining about the position of CARE in the Danish development sector
CARE Denmark has always made projects that were about helping poor people in the countryside get a better life, through sustainable agriculture and forestry systems. And in relation to the climate change issue that you ask about – this means that we have long experience with adapting agricultural systems to the climate. (...)

What was the rationale behind the decision to work specifically with climate change?
That it was a large task. And that as we work with poor people in the countryside, it was natural for CARE to say; 'We know something about this – we can contribute something' and take on the task.

Finally, two respondents answer that – though they were not themselves climate or environmental specialists – they spend some time and effort on keeping up to date with relevant climate science and reports – as a direct consequence of climate change being a strategic priority for CARE DK.

4.10 Changes in practice and in meaning

When asked more generally how the climate change integration process has impacted their work, and whether it has changed the thinking about development assistance and programming, the respondents talk of permanence as well as change – as also discussed in section 4.8.

Concerning changes in practice, the 'theme team model' and the centre of expertise were emphasised as important 'new ways of doing things' and 'unique in CARE'. (4, 5)

When asked about the change in meaning – how climate change has changed the conceptualization of 'good development assistance', respondents differed greatly.

- Some did not think it had had an impact – they pointed to other drivers of change in development thinking, such as a focus on human rights. Some also doubted that climate change would have lasting effects, and likened it with a 'passing fancy'. But this was not so much directed at CARE, but rather at other players in the field, who were perceived as not having integrated climate change quite as deeply in their work as had CARE (E.g. 2, 4)
- Others said that it had not changed – yet. But that it had the potential to do so, and that the process had started. These respondents pointed to a turn towards sustainable development as a change that is underway, and which the focus on climate change has contributed to pushing forward. (E.g. 5)
- Still others thought that change had already happened. These respondents also emphasised the 'comeback' of sustainable development, but also to a longer time perspective in development programming, and an increased consciousness about risk and risk management. As one respondent put it: 'we have more focus on the far right column of the log-frame...'[20] (6)

Most respondents were somewhat ambiguous, in that they expressed more than one of these views at different times during the interview. That is not surprising, as all the views above can be true, depending on the issue or the perspective that people take.

4.11 Learning in the process of climate change integration

Question 3.3.2.f of the analytical framework concerned what learning (if any) is going on in CARE as a result or corollary of the integration of climate change into development assistance. As could be seen in section 4.5, experience sharing and generation of experience-based knowledge are important aspects of several of the new enterprises that go on in CARE in connection to climate change. In addition, some of these enterprises have not yet been started

[20] A log-frame is a planning tool, that has 'risks and threats to project success' as its far right-hand column.

in earnest, or so new that they have not yet created results. Therefore, the respondents also talked a great deal about *expected learning* that these enterprises are meant to generate.

In order to give structure to the rather large amount of information on realised and expected learning, by many categories of people, from several other categories of sources, about a long list of issues, a matrix is drawn up here, and explained below. It is important to remember that the matrix shows only the learning that respondents mentioned in the interviews. It is not necessarily the full picture of 'who learns what in CARE' – rather, it is likely that some learning goes on that is not captured here.

Note to table 4.10 – understanding the matrix

The left column shows the theme that somebody has to learn or acquire information about. The midle and right column show who learns what from who. The middle column shows learning that is described as already going on, and the right column shows learning that is expected to happen in the future. The learning is depicted as two entities with an arrow depicting direction of knowledge flow: The entity that 'teaches' something => the entity that is supposed to learn something. When the entity that is learning is termed 'broadly' this means that the knowledge is supposed to be disemminated widely both within CARE and to other organisations.

Table 4.11

Issue	Learning now	Future learning
To carry out Community Based Adaptation in developing countries.	PECCN => Country office staff	Centre of Expertise => broadly
To use the CVCA toolkit	PECCN => CARE staff	PECCN => CARE staff
To know the CVCA and related tools well enough to spread the word	PECCN => CARE DK staff	PECCN => CARE DK staff
To understand adaptation-related problems and how they relate to activities	CARE staff => partners & media in-country	ALP =>partners & media in-country
To support civil society in developing countries on climate change		ALP => CARE staff
To design CO_2 credits benefitting the poor		ALP / Centre of Expertise => broadly
To integrate climate change effectively into local official plans		ALP => Country office staff and partners
Keeping updated on climate change and adaptation knowledge	Personal network => Programme Coordinators Reports / briefs => Programme Coordinators PECCN => Programme Coordinators	Community of Practice[21]
To find ways to connect local and scientific knowledge in the area of climate change		Centre of Expertise => broadly
To use knowledge from climate change science in CARE's work	Research and environment org. => CARE staff	Centre of Expertise => CARE staff

[21] The learning is expected to go on between members of the community of practice

4.11.a Points of interest in the matrix

The role of PECCN
As can be seen in table 4.10, PECCN – the climate change network in CARE – plays an important role in the present system of disseminating knowledge and driving learning in CARE (2, 3, 4). It is perceived as central to the current system as well by those respondents who belong to PECCN, and those who receive guidance and advise from it. But in the future, PECCN is expected to play a less dominant role. Partly because the Centre of Expertise will supersede PECCN, partly because new activities will begin to take effect leaving PECCN less alone on the scene, and partly because some of the capacity building of CARE staff is expected to move into the Community of Practice (1).

Box 4.11.a

How did you learn about the CVCA toolkit? Respondent 2:

I don't know it very well – I haven't been trained. But it's a part of the CARE toolbox so to speak, so I've always had it handy. And colleagues here at the office introduced me to it, so I could pass on that knowledge to colleagues at the country offices out there.

How were you introduced to it at the office?

Well... I've got some real experts sitting just next door, right? And I follow the things that are going on. Then we get briefs from PECCN, and that way you also get information about new things, new toolkits coming up.

An array of learners and teachers
A large number of different kinds of entities are present in the matrix, and the variety is considerable, both among 'learners' and among 'teachers'. Some entities are present as both learners and teachers, and this may be conceived of as a chain of learning: For an example, PECCN is depicted as those that 'teach' the use of the CVCA tool to staff members at the office in Copenhagen. But respondents also describe how they act as ambassadors for the tool and spread the knowledge and understanding of it – and of climate change – wider in (and outside) CARE.

A number of ways to learning
As has also been described in section 4.5, there are many different ways that respondents access and use information. This can be seen in the slot that describes how programme coordinators keep themselves updated on climate change adaptation at present. Here, four different sources of knowledge are listed. It is envisioned that all of these are going to be superseded by the Community of Practice as the main source of information for CARE staff working on climate change adaptation.

4.12 Boundary practices

As discussed in the introduction to section 4, three communities of practice are considered in this results section: Programme officers in Copenhagen, PECCN and Country Offices. Including also the boundaries that these have to the outside world, this results in four sets of boundary that are discussed here:

Table 4.12

Programme officers in Copenhagen	<=> PECCN
Programme officers in Copenhagen	<=> Country Offices
PECCN	<=> Country Offices
Outside world	<=> All of the above

This section discusses boundary objects and brokering that crosses these borders described by respondents.

4.12.a Boundary objects

As discussed in section 3.3, a boundary object is a reification that travels across borders. Two kinds of boundary objects recur in the interview answers, and these will be discussed here: The CVCA and reports or briefs containing climate change information.

The CVCA

One respondent described the function of the CVCA in the following way: 'What people need is often a concrete tool that can help them structure their thoughts. The CVCA has served that objective – for everyone involved, I believe.' The respondent maintained that he had not read Wenger, which makes it the more remarkable, that he comes close to defining a reification in his description of the function of the CVCA. Other respondents describe the role of the CVCA in more concrete terms, such as: 'It is a useful tool – I have a stack of them on my desk right now.' It is therefore reasonable to treat the CVCA as a reification.[22]

Respondents describe the CVCA and its function as a boundary object in slightly different ways. One respondent describes how the CVCA can function as a vehicle for creating climate change knowledge about a certain area, and then passing this knowledge on to local population, authorities, NGOs etc. (1) Others describe how they use the CVCA as a means to open up the discussion of climate change with colleagues in country offices (3), and how CVCA analysis results are communicated back to the office in Copenhagen, informing him of climate change related problems and conditions in the area investigated (2).

CVCAs are important boundary objects that bring climate change information back and forth between different parts of CARE, and which facilitates learning and thinking about climate change. But it is not without limitation or problems.

The CVCA has the problem that Wenger pointed out about reifications in general: they are all, to some extend, open to interpretations. The CVCA is perceived by one respondent as a tool that is used to produce knowledge, which can then be disseminated (3) – and by others as a device that can help users learn about how to perform climate change adaptation (4). There is a risk, therefore, that people mean different things when they emphasise the CVCA as an important tool.

[22] In other connections, the CVCA can be treated as a process, an analysis, a learning opportunity and so on.

The CVCA is limited in the sense that it begs to be accompanied by brokering. Respondents repeatedly emphasise the importance of CVCA training, but they also stress that the CVCA and training in using it cannot alone supply the climate change knowledge needed: They say that 'interpretation of climate change knowledge is needed to make it understandable on the ground' and that 'handholding is needed'. (2, 3)

Box 4.12.a

On how the CVCA works, respondent 3 said:

It is my general impression that the training most of all gets people 'tuned in' on climate change and how to get started. It's like that in all big processes: When you are about to climb a mountain, you must start with the first step. If you are to go through a very complicated process, then you have to break it down into smaller parts and activities, in order to reach smaller goals on the way. It is the same way in this case: How to tackle climate change is a huge question. What people generally need is a concrete tool to structure their thoughts with. Actually, I think it is justified to say that the CVCA has served that goal for everybody.

It is not always so that people go home from the CVCA training and redesign their projects in one go, and then that's that. On the contrary, it is a lot more complicated than that. There's some degree of awe towards using new tools, and some handholding is needed. Beginning is difficult – also in this case.

Climate change reports and briefs
As described previously, respondents receive knowledge on climate change and adaptation through two kinds of channels: Contact with others who know more (PECCN, personal networks) or by reading reports and briefs on the subject. These reports and briefs are also boundary objects.

This kind of boundary object travels mainly from PECCN to the other communities, or between CARE and the outer world. PECCN sends out briefs and information about relevant reports etc. both to all of CARE (yearly) and to especially interested staff members in the theme teams. This information is valued (2, 6), though some respondents warn that there is a risk of 'drowning in information' when reports are actively disseminated (1, 4).

Information from outside sources is 'sought for' by respondents in some instances – especially when information relevant to a specific country or problem is needed (6).

4.12.b Brokering
All respondents are engaged in brokering in one way or the other. Some even have brokering as their main area of work.

Box 4.12.b

Concerning knowledge exchange systems, respondent 3 explained:

Clearly, we do have knowledge exchange. There are some key people, those who make the CVCA trainings for an example – if they make one training in country V and then afterwards in country X, this person becomes a walking resource on those things. Then she can carry information about how thins worked in V to people in X.

If I were to make a project about conservation agriculture in X, I would send round a mail saying 'does anyone know something about this?'. In that way, knowledge gets around. But we don't send out everything – people would drown in it. (...)

There are so many knowledge sharing events, meetings, ambitions in an organisation like CARE that it is not a question of whether we do it, but of prioritizing and setting aside time for the most important ones.

This is something that I had to deal with when I was in X: That there were such a demand for my project managers' time that we sometimes did not have time for the most essential stuff. They want people to participate, to be involved with decision-making.

It is not always the wisest idea to have the ambition that learning should happen by everybody sharing everything. You have to be specific about what knowledge we are going to share with whom. People in W do not need to know everything that goes on in X – but they need access to the information that they need, when they need it, and our system has to be able to capture that. (...)

We have an ambition to do even better is the 'community of practice'. It is going to be a kind of intranet where we are going to have to find out how to share information in a good way, but it's not easy .The idea is that we should find a way to structure it all, so that it is easy to access – also for outsiders – so that people can get access to the information that they are interested in.

Some brokering goes on in formalized ways – PECCN coming out to train staff in Copenhagen or country offices on using the CVCA is the most cited example. But other examples also exist – such as workshops arranged to exchange experience between staff members from different country offices who work on the same issue, or a yearly programme coordinator workshop with inputs from PECCN and others. Such events are viewed as valuable – to some degree –by all respondents. But they are also problematic, as they take up time of those engaged in brokering, as well as the participants in the events. This time pressure is portrayed by some respondents as significant (e.g. 3).

Informal brokering is also significant in the interviews. When asked from where they get information on different subjects, respondents repeatedly us phrases like 'Well, I sat next to X for 6 months while I was out in the Country Office' or 'I just catch hold of Y, and he'll tell me'. Being physically close to someone on the PECCN team, for an example, seems to play an important role for respondents. (4, 6)

But all respondents have tasks that could be understood as brokering. They describe how they 'bring the CVCA tool out to the Country Office' or 'try to put climate change on the local agenda' and so on.

Wenger describes how brokers may encounter problems as a result of their brokering. This does not seem to be the case in CARE, from the information available here. The reason may be that respondents did not want to talk about such problems in their personal work life to an interviewer. But it is also possible that such problems may be limited by the fact that respondents can be said to 'communities of brokering' – as both PECCN and the Copenhagen office can be seen as such.

4.13 Summary

Answers to all the questions asked in the analytical framework could be given on the basis of the interviews carried out. The answers revealed much complexity and ambiguity, some of which will be discussed further in the analysis section below.

5. Analysis

Having answered the questions in the analytical framework, we can go on to analyse the implications of these results. The analysis provided in this section will cover two 'directions'.

It will look 'up' at theory to see how the results fit the expectations of the theories (as derived in the analytical framework), to discuss which aspects of the case that the theoretical approach embedded in the analytical framework allow us to see and understand, and which shortfalls, problems and new perspectives the case points to in the theories – if any.

But the analysis will also look 'down' into the case, pointing out what CARE may learn from the study, and what implications can justifiably be drawn for others working with development programming in a context of climate change.

5.1 Climate change and development programming

All the kinds of conceptions of the link between climate change and development identified in section 3.1 were present. A very broad spectrum of conceptions were reflected in the respondents' answers, reflecting that:

- CARE Denmark is an organisation that works with climate change at many levels and in many different ways. This confirms that the choice of case was well founded.
- The climate change – development nexus is very complex, and can have implications for development organisations' work.

Some of the conceptions used by respondents were not used in the literature, such as the problem quoted by one respondent that national decision makers in developing countries may use the climate change (which is coming from outside and is not their fault) as an excuse for environmental problems that may actually be the result of much more proximate activities such as deforestation. Most of these conceptions fit nicely into the categorization presented in section 3.1, which confirms the usefulness of this analytical tool.

Yet the categorization into kinds of conceptions had its limits: Come of the conceptions used by the respondents did not fit the categories identified in section 3.1 – e.g. the issue of terminology, that some activities that were earlier understood as part of a 'fight against desertification' or 'watershed management' are now viewed as 'climate change'. This view might fit into several different categories, or it may fit into another, not yet formulated category.

It is probably not profitable to try to establish static categorization systems that encompass all conceptions of the climate change – development nexus. At least not yet. The nexus is still being struggled over and defined, and new aspects become pertinent as the political agenda, situation on the ground, and the things that go on in between, change over time. Yet the categorization established for the purpose of this thesis fulfilled its goal of helping to clarify which conceptualizations of the climate change – development nexus are present in CARE Denmark.

5.2 Change – resistance and drivers

In the discussion in section 3.2 of Doppelt and Senge et al., it was concluded that their approach was too limited for the current study. Especially, two assumptions underlying that approach were questioned: That the driver(s) of change could be meaningfully identified as single units, persons or levels of the organisation, and that the internal dynamics of organisations yield resistance to change. It was argued that these assumptions could not be expected to hold in the context of climate change, development programming and social learning, and that keeping them would unduly limit the scope of the study.

The results of the empirical work showed that this reservation against the systemic theory-based theories of learning and change was well-founded:

When asked for examples of resistance in the organisation against setting climate change as a priority, the respondents were able to point to some examples. One even admitted having been sceptic of the idea herself. But there was also of evidence that the climate change priority was welcome – even demanded – and that focusing on climate change made sense for many people, both in their current situation, and as a complementary to past activities. So the picture of resistance was mixed: Resistance is a feature of CARE as an organisation, but saying that it is the predominant characteristic of the reaction to change is misleading.

Concerning drivers of change, the answers to the interview questions gave a very mixed picture. Some of the respondents emphasised top-down pressure, others bottom-up. Most respondents described aspects of both, in different connections. The full list of drivers of change identified by respondents is long. PECCN, demand from individuals at country offices or partners in the field, and policy decisions were the drivers most commonly pointed out. But seeing one of these as *the* agent that is strategically acting to induce change in other parts of CARE would miss an important part of the picture.

The assumptions of the systemic theories did not fit the impetus for change in CARE, nor its response to the change. One reason is that there is a marked drive for change from 'below' in the organisation. Respondents describe how the fact that climate change is already eroding livelihoods and disrupting development programmes is part of the reason for this 'bottom-up' pressure.

Others point out that is was 'natural' and politically opportune for CARE Denmark to prioritize the issue of climate change (implying a top-down pressure). Also, the hopefully coming funding opportunities for climate change are mentioned as drivers for the integration of climate change into development programmes: Donors have political goals and obligations concerning climate change, carbon markets may bring funds for climate change projects in developing countries – and a deal in the international climate change negotiations may bring even more funds to the table.

For all of these reasons, CARE Denmark's climate change integration into development programming was much more complex than implied in the systemic theory. These are all factors that are not limited to CARE Denmark, or CARE International for that matter. Pressure from below – as the impacts of climate change begins to show – combined with pressure from outside, and from the organisations' strategic decision makers may combine to move many organisations to embrace climate change in ways that cannot easily be captured within the assumptions of systemic theory.

5.3 Narratives, rules and the Dreyfuss model

In the theory section we derived from Flyvbjerg's discussion of knowledge and performance – based on the Dreyfuss model of learning – an expectation that people with experience within a field would talk about their work in narratives, whereas those with only scholastic training in it would talk about it in rules.

In the results section, we looked at the way CARE employees used rules or narratives when they talked about climate change integration. It was noted that people – as a general rule – did talk in narratives about things that they had themselves experienced, or worked with. And they used rules when talking about things that they had 'only' been taught, read or heard of.

It is important to note here, that respondents do not statically 'belong' to either group. Rather, depending on the concrete question and topic, they shifted between them. Even those who spoke mainly in rules gave examples and narratives when they were asked about something that they had not thought of, or explained, before.

There are, of course, some personal variations regarding how much people speak in pictures and figures of speech, but so far, the expectations of the Flyvbjerg and the Dreyfuss model hold.

Yet for one or two persons the pattern was slightly different: When people were asked about something that they did have personal experience with, but that they had taught or communicated many times, they also used rules – not narratives – for explaining. Especially one person – one of CARE's climate experts with long experience – broke the pattern of the Dreyfuss model by explaining almost exclusively in terms of rules during the interview. This person's job is, among other things, to communicate about climate change, and CARE's climate change activities.

This points to a point where Flyvbjerg's knowledge / performance may need to be expanded. Flyvbjerg does not distinguish between those level 4 and 5 performers who 'just know' by experience, and those who have the tools to talk about and explain their own (and other people's) level 4 and 5 performance. If this is not just an idiosyncracy of the present case, it may make sense to add a sixth category to Flyvbjerg's and Dreyfuss' model. In the case of CARE, the categories would look like this:

1. Competent performer: The person who is not working very much with climate change. These persons use rules-based thinking, ask for concrete guidelines of what one should do in concrete situations – they encounter a barrier when a tool deliver an analysis but not a guideline on what one should do about it.
2. Proficient performer / master: people who have wide experience with development assistance, and who are able to connect the climate change problematics directly to this experience. They provide solutions to the problems that they find caused by climate change within their experience, and thus CC fits in with their production of meaning in both fields. They do not place very much emphasis on the distinction between CC problems and development problems.
3. Reflective performer: Those people who spend very much time with CC-related issues, dealing with these from all kinds of angles and perspectives. These people are – by

education and/or experience – able to provide intuitive solutions to problems, based on their experience, and able to explain why / how they arrive at these conclusions, how they fit in larger conceptual frames, and how they relate to the rules used by 1. This enables them to reflect on their own and others' practice.

Distinguishing the sixth level becomes important, because the ability to discuss and reflect upon practice *together* – as a way to develop practice and share experience – depends upon the ability to formulate what it is one does, and relate it to common conceptual frameworks and rules. Flybjerg does mention that some level 4 and 5 performers are able to formulate rules about their practice, or at least relate their practice to rules, and that some are not. But he does not discuss the implications.

This study cannot say anything general about the importance or value of distinguishing another category in the Dreyfuss model – only suggest it as a field of further inquiry. If one does not add a sixth category, Flyvbjerg's Dreyfuss model based understanding of knowledge and learning cannot account for the pattern in the respondents' use of narratives and examples.

But it is clear that the distinction between people who describe what they know about dealing with climate change, and people who describe how and why they know what they know has implications in CARE. For the experience and knowledge of people who do not formulate it is inaccessible to others – and therefore others cannot learn from it. Therefore, it may be worthwhile for CARE to look into ways of systematically sharing experience by formulating it – so that those who have it may become (even) better at formulating it, and those who do not have it (yet) may get access to it.

One respondent mentioned that the weekly staff meetings were important vehicles for his learning. It is remarkable that he was the only one mentioning these meeting in any connection during the interviews. As respondents were not explicitly asked about these meetings, it is possible that they were just overlooked. But *if* the fact that the weekly meetings were not mentioned is a sign that they are important vehicles of learning only for a few staff members, it may be worthwhile to consider revising their form. It is possible that introducing an element of 'case-based' learning here could make learning at these meetings more relevant for all, e.g. by allowing one or more staff members to present a thorny problem that he or she encountered, and then working to solve the case together – possibly under the supervision of an expert in that particular field. This could facilitate sharing experience and case knowledge among staff members, at the same time as people would get to know about each others' problem solving strategies. This might be of use for those who participate, regardless of their level of performance in the concrete context.

5.4 The value of experience

The respondents depicted experience as valuable in many different connections during the interviews. At the individual level, respondents described how they know answers even to new problems that climate change presents them with, from their experience with working in different countries. At the level of organisational strategy, the use of 'evidence-based advocacy' was interpreted as a way in which practical experience was put to work at a higher

level, and this strategy is perceived as so effective that it is being actively spread among partner organisations in developing countries.

This supports the assertion that both Wenger and Flyvbjerg make, that experience (rather than purely scholastic teaching) is crucial to building knowledge and supporting performance.

One surprising aspect of the use of experience was that one respondent described how carrying out CVCA analyses also may be a vehicle for learning about climate change adaptation for those CARE staff members who carry out the analysis. This is not part of the 'official' thinking about the CVCA, as reflected in the CVCA Handbook, and the respondent's description was not detailed enough to show how exactly this kind of learning takes place. But at the surface it could seem to be something like learning by legitimate peripheral participation (as described by Wenger). If that is the case, and if it is judged to be an effective kind of learning in this context, CARE might profit from institutionalizing it – as proposed by Wenger – so that it is supported in the organisation, and experience with doing it can be captured and the method developed.

One problem connected to the use of experience as a route to problem solving is that it sharpens the need for institutional memory. If the high quality of the organisation's work is based on the experience of individual persons – or even that of teams, important knowledge risks being lost when teams are disbanded or individuals leave. One respondent underlined that CARE – in her view – was better than other players in the field at using past experience. But the reason she pointed to was only that people stay on longer in CARE. This seems a rather fragile basis for institutional memory. The Centre of Expertise that is now being started up is expected to have gathering and distributing experience as one of its core tasks, and from the above discussion this would seem to be a very needed function.

5.5 Experience, learning and training – activities and challenges

As the active use of experience is so important in CARE's work as described above, it is not surprising that sharing of experience and knowledge – and the associated problems – are quite prominent features of CARE's work and of the future plans in the field of climate change. But it is nevertheless encouraging, as it confirms that the central claim of this thesis – that knowledge and learning are important aspects of the integration of climate change into development programming – is supported by the case.

The respondents identified many sources of information, knowledge and experience sharing, which can roughly be separated in three groups:

- Informal mechanisms: personal network, and talking to people in the office.
- Formal mechanisms: PECCN (both its reports and other knowledge products, and its advisory services), meetings, retreats, workshops, and training sessions.
- Mechanisms that are not yet fully operational: ALP, centre of expertise, and the community of practice on climate change adaptation.

The two first mechanisms are working well for most respondents, but problems were also pointed out: Formal forms risk disproportionately taking up people's time. The challenge identified by several respondents was that of giving people access to the information they

need when they need it, without drowning them in information. The informal mechanisms are perceived as less time-consuming, but here the problem is rather, that not everybody have access to the relevant networks, as they depend upon knowing 'who knows what' within the particular field.

The patterns of learning, experience sharing and access to new information observed are very different from respondent to respondent. Some emphasise informal networks, some training sessions, some formal experience sharing events, such as retreats or workshops. Most respondents have different routes to the knowledge they need, depending on the concrete knowledge needed and their concrete situation. It is therefore not possible – on the basis of the information available – to chart or model the routes that information, knowledge and experience takes through CARE.

Considering that several knowledge sharing programmes (the community of practice and the centre of expertise) are being designed at present, however, it might be interesting to see the results of a collective mapping exercise, mapping the most important routes that information, experience and knowledge may take in the organisation – and which problems are connected with them. One could imagine using one or more PRA tools, e.g. a 'communal mapping' or Venn diagram. Such an exercise might identify gaps in the current systems and recurring problems that the coming programmes could then be targeted at solving.

5.6 The Wenger model of change

The model of Wenger's understanding of organisational change that was developed in section 3.3.b was useful for structuring the empirical work and the results. All the elements – new enterprises, knowledge, practice meaning and learning were present in CARE Denmark, as discussed in sections 4.7 to 4.11.

The number of new enterprises was large, which fit well with the conclusions on the large number of conceptualizations of the climate change – development nexus present in CARE: Again, we see climate change in activities at many different levels of the organisation.

Some need for new competencies was found, though a respondent also commented that the competencies already present in CARE (from working with environmental management) were part of the reason why CARE has chosen to strategically emphasise climate change. Thus, much of the knowledge was already present in the organisation. The respondent also described how these 'old' competencies had now come to the fore and become more useful. This is exactly in line with Wenger's idea that change in enterprise may give members of a community of practice the opportunity to bring competencies to bear in the community that they could not use before.

Concerning impacts on the negotiation of meaning of other enterprises, it seems that climate change is in the *process* of impacting, and that it may be too early in that process to say yet exactly how revolutionary the impact will be. It is certain though, that climate change competes with other issues over this agenda – e.g. rights-based approaches, women's empowerment and so on.

As discussed in detail above, the learning processes that go on in CARE in connection with climate change integration are diverse and complex, with many 'teachers' and many learners learning many different things.

A common theme in all the results connected to Wenger's model is that instances of change are closely tied with instances of stability, and absence of change. Respondents repeatedly referred to things that had not changed – enterprises, competencies and meanings – when discussing what had changed. It seems that the *integration* of climate change into existing programming and development activities is very successful: The new activities and meanings fit very well into the existing patterns, forming a mesh of stability and change. This in very much in line with Wenger's contention that change is usually managed so as to allow continued relevance and legitimacy of present and past activities, and that meaning is negotiated so that change and stability can co-exist.

This study was not able to investigate the connecting arrows in the 'Wenger model' in any detail. Such a study of process (what causes what, what is the time sequence involved, etc.) would have required studying the organisation over a longer period of time. This was not possible in the context of this thesis. Therefore, we can only note that all the expected elements were present in the case, and that the structure provided by the model made sense in the current case.

5.7 Boundary objects and brokers

Boundary practices were found to be at work in CARE – brokers as well as boundary objects.

Boundary objects included tools and toolkits that guide the integration of climate change into programmes, reports and briefs that carry climate change information from outside and into CARE, as well as between units of the organisations. The boundary objects identified were mainly such as were designed to be boundary objects. This is not surprising, as these are the objects that would naturally come to mind when asked about them – they are 'obvious boundary objects'. In order to identify objects that serve as boundary objects, but which people do not think of as boundary objects, a more ethnographic study would have had to be carried out, observing what people do and how objects travel.

All respondents were engaged in brokering. It is possible that the programming unit of CARE Denmark's office can be conceived of as a community of brokers, just as well as a community of development programming. This might be the reason why no respondents gave the impression of having encountered any of the brokering problems that Wenger warned about.

6. Conclusion

This Master thesis has looked into the issue of climate change and development from the angle of development programming, and learning and change in a Danish development NGO. The aim was to investigate how development programming was being modified by climate change, and what implications this process has for learning and knowledge management in development programming.

To investigate this subject, a single case study of CARE Denmark was undertaken. The argument for looking at a single case was that this type of research provides the best conditions for research that is exploratory, is looking for mechanisms and processes, and to answer the question of *how* things happen, rather than whether, or how much.

It was concluded from a review of the current debate and literature on development and climate change that among development organisations climate change is widely expected to have important implications for development in the future. What form this impact will have exactly, and what the implications are for development programming was less clear.

In order to secure structure and focus in the work with the case, an analytical framework was constructed, based mainly on the theories of learning and knowledge proposed by Wenger (1998) and Flyvbjerg (2001). Theories of change and learning from Doppelt (2003) and Senge et al. (2007) were also reviewed, but found to be too limited in scope for the purpose pursued here. The analytical framework consists of a number of questions that are derived from the theories reviewed, and based in the research objective.

The interviews that were carried out resulted in a rather complex picture of climate change integration, knowledge management and learning in CARE. Experience sharing and learning activities play an important role in CARE's work with climate change in development planning – from toolkits and training workshops to informal networking.

The results fit the analytical framework – and the theoretical assumptions behind it – rather well. The 'Wenger model' worked well, and enabled meaningful analysis and structure of the empirical material. All the expected elements were present, and even the observed ambiguity between stability and change fit the expectations of the model. But the study design prevented meaningful analysis of the process element of Wenger's theory – for this a much longer study, including participatory observation or other ethnographic methods would have been necessary. This limitation is general for the study – many things could have been better studied through participatory observation, but this was not feasible within the limits of a Master thesis.

The results were somewhat more mixed when it came to Flyvbjerg's 'Dreyfuss model of learning'. The model fit most of what was found in the results, but some things were found that did not fit, and an addition to the model was proposed, which might warrant further research: the sixth level of the Dreyfuss model, or the 'reflective practitioner' level. It is beyond the scope of this thesis to investigate the general usefulness of this addition – that is a task for future research efforts.

CARE was found to be a community of practice, not just on development programming, but also on brokering, or knowledge sharing and transfer. Many knowledge sharing arrangements

– formal and informal – seems to be working well in CARE, though some problems were pointed out by the respondents, and in the analysis section of this report. Some ideas for the way forwards were also presented, including a mapping of the knowledge sharing that goes on in CARE for use in the design of new knowledge management mechanisms that are currently being planned and designed.

The evidence gathered in this task suggests that this kind of work will become even more essential to development programming in the future, as many practices have to be rethought and redesigned, and as local and scientific knowledge have to be brought together in order to find the appropriate way to sustainable development in a world characterized by climatic change and instability.

7. References

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Appendix A – Complete list of questions for the analytical framework

The first contribution to the analytical framework was the classification of conceptions of the climate change – developement nexus that was presented in the conclusion to section 3.1. As there exist several different kinds of understanding of the climate change – development nexus, it is relevant to ask the question of how the climate change – development nexus is conceived of in CARE:

- Which conceptions of the climate change – development nexus are reflected in CARE documents?
- How do CARE employees conceive of the climate change – development nexus?
- Do all the above conceptions fit into the categorisation made under 3.1?

From section 3.2, we brought only two questions:

- Are the systems in CARE resistant to change?
- Is change driven by indentifiable agents or drivers of change?

After the reading of Wenger, we may expect the answer the second of these questions to be 'no' – as we expect that change is the outcome of social processes such as the negotiation of meaning and enterprise, rather than something that is willed, planned, and strategically carried out.

In section 3.3, we identified many elements for the analytical framework, which can now be reformulated into queasions in the analytical framework:

Flyvbjerg:

- How do people formulate answers about their work? Do the use narratives and examples, or do they use context-independent rules? (May tell us at what level of the Dreyfuss model they perform, and thus which kinds of learning they can fruitfully engage in)
- How is experience-based learning and knowledge valued and shared in the organisation? Do people talk about parctical experience or formal teaching when they are asked about learning?
- Are there any cases or narratives that are shared broadly – and are any of them of paradogmatic character?

Wenger:

- How did the climate change issue get prominent in CARE?
- How does it climate change enter programmes / projects in CARE?
- Did negotiation over its relevance or viability take place when it was introduced? Do anybody still contest it?
- Were existing enterprises changed? Did new ones come into existence?
    - What is new?
    - Who are engaged?
    - What is the relation to the 'old way'? (Supercede, complement, or?)
- Have new kinds of compentences have become needed and valued? Which?

- In what ways have practice (the may things are done) changed?
- Has the inclusion of climate change also changed the way that other aspects of development aid are perceived as meaningful?
- Have people been learning during this process?
    - Who?
    - How?
    - When?
    - From whom?

Wenger on learning as process

- Do we encounter anyone who is in a peripheral position, or has been so? How does such persons' experience of learning compare to that of others?
- Is legitimate peripheral participation institutionalized in any way? How?
- Do we encounter people who are engaged in boundary practices, or boundary object?
    - How do border practices work in CARE?
    - Are boundary objectives perceived as effective?
    - Is brokering successful? If not, why not?
    - Do objects and brokers work better in collusion?
    - Do brokers encounter problems of marginalization or inclusion, as described by Wenger?

Appendix B – Sample interview guide

This sample interview guide contains the questions that were asked of the respondents. But as the respondents had quite different work areas, the interview guide was adjusted in each case to fit the circumstances. In addition, the respondents were asked further questions as the interviews progressed, in order to clarify points, or follow up on unexpected issues that the respondents raised.

For each question of the interview guide is noted the number(s) of the question(s) in the analytical framework that it relates to – if it relates directly to them. The notation used is AF:(number).

Some of the questions – particularly 3.3.a.i – are answered by looking at the form that all answers are given in, and therefore no questions relate directly to this question.

Introduction:

1. Name
2. How long have you worked in CARE?
3. What do you work with?
4. Which role does climate play in your daily work? (Explain in your own work)
   AF: 3.1.i

Country programmes

5. Which activities in your country programmes are related to climate change?
   AF: 3.3.b.ii
6. Who takes / took the initiative when climate change is / was introduced into the programme?
   AF: 3.3.b.i
7. Do you use the CVCA or other tools / toolkits?
   AF: 3.3.a.ii
   a. How is it used?
   b. Since when?
   c. How were you introduced to it?
   d. How does it help you?
   e. How is experience and knowledge generated gathered or shared?
8. How do the new methods fit other tools / toolkits in use in CARE?
   AF: 3.3.b.ii
   a. Do the tools fit together?
   b. Have any tools been pushed into the background?
   c. Have you yourself begun to do things differently in other connections, after you began working with climate change?

Other programmes (ALP, community of practice etc.)

9. What is the content of the programme (what are you going to do?)
10. Please explain the idea behind the programme for me.
11. How far is the implementation of the programme?
12. How was / is the process?
    AF: 3.3.b i - v
    a. Where did the idea come from / how did it all start?
    b. Who participated in designing it?
    c. Who are working with it now?
    d. Who are / will be implementing it?
13. Has this project met with resistance?
    AF: 3.2.i
    a. Do projects like this usually meet resistance?
14. How is the concept / idea spread in CARE?
    3.3.c.i

Questions about experience and knowledge sharing, and learning:
AF: 3.3.a. ii; 3.3.b.vi; 3.3.c.i; 3.3.c.ii; 3.3.c.iii; 3.3.c.iv

15. What is the product of your climate change assessments or analyses?
    a. Are the results gathered in some way?
    b. Who has access to them?
    c. Do you tell each other about the results across the organisation?
16. What role does knowledge sharing play in the programmes?
17. Do you have regular contact with others who do some of the same things as yourself in order to share experience?
18. How do you get access to knowledge about climate change adaptation?
    a. How do you access other knowledge that you need for your work?

The 'good questions':

19. How would you describe the connection between development assistance and climate change to someone who did not know much about the subject?
    AF: 3.1.i

20. Do you think that the climate change discussion has changed the general view of what good development assistance is?
    AF: 3.1.i; 3.3.b.v