

# **Self-Perpetuating Rationalization**

## **State Intervention in the Use of Natural Resources**

**By**

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# CONTENTS

<b>INTRODUCTION</b> .....	<b>1</b>
<b>THE PROBLEM</b> .....	<b>2</b>
<b>CHAPTER ONE: AUTHORITY AND RATIONALITY IN MODERN SOCIETIES: AN OUTLINE OF WEBER'S SOCIAL THEORY</b> .....	<b>1</b>
1.1 ACTION AND AUTHORITY .....	1
1.1.1 <i>The Organization of Authority and Economic Actions</i> .....	9
1.2 CAPITALISM AND BUREAUCRATIC ORGANIZATION .....	14
1.3 STATE INTERVENTION, BUREAUCRATIC AUTHORITY AND RATIONALIZATION.....	22
1.3.1 <i>Inescapable Rationalization: Weber's Iron Cage and Entzauberung</i> .....	27
1.4 SUMMARY.....	31
<b>CHAPTER TWO: THEORETICAL PERSPECTIVES ON FISHERIES MANAGEMENT</b> .....	<b>34</b>
2.1 FISHERIES MANAGEMENT SYSTEMS .....	35
2.1.1 <i>Extra-legal Resource management Systems</i> .....	42
2.1.2 <i>Legal Resource Management Systems</i> .....	45
2.2 IS THERE A MIDDLE WAY?.....	47
2.3 RATIONALIZATION AND FISHERIES MANAGEMENT .....	49
<b>CHAPTER THREE: FISHERIES RESOURCES AND FISHERIES MANAGEMENT IN NORWAY</b> .....	<b>54</b>
3.1 SOME ECOLOGICAL AND ECONOMIC CHARACTERISTICS OF THE NORWEGIAN COD FISHERY .....	54
3.1.1 <i>Cod (Gadidae)</i> .....	54
3.1.2 <i>Other Species Harvested by Fishermen in Codfjord</i> .....	56
3.1.3 <i>The Harvest of Cod in the Barents Region</i> .....	57
3.2 THE MANAGEMENT OF COD IN NORWAY .....	60
3.2.1 <i>The Vessel Quota System</i> .....	60
3.2.2 <i>The Effects of the Cod Crisis and Recent Fisheries Management Systems</i> .....	67
<b>CHAPTER FOUR: THE HISTORY OF THE PEOPLE IN CODFJORD</b> .....	<b>75</b>
4.1 THE HISTORY OF SAAMI FISHERIES: THE CULTURAL HERITAGE OF CODFJORD .....	75
4.1.1 <i>Recent Developments</i> .....	81
4.2 LÆSTADIANISM: THE MORAL HERITAGE OF CODFJORD.....	85
<b>CHAPTER FIVE: THE SOCIO-ECONOMICS OF SMALL-SCALE FISHING</b> .....	<b>94</b>
5.1 LIVING WITH NATURE.....	94
5.2 THE ROLE OF THE HOUSEHOLD .....	103
5.2.1 <i>Division of Labor Within and Between Households</i> .....	104
5.2.2 <i>The Impact of Religion on Economic Segregation</i> .....	108
5.3 SOCIO-ECONOMICS AND RELIGION IN CODFJORD.....	120
<b>CHAPTER SIX: ECONOMIC STRATEGIES IN THE VESSEL QUOTA SYSTEM</b> .....	<b>124</b>
6.1 ECONOMIC STRATEGIES AND TRADITIONS .....	124
6.1.1 <i>The Informal Economy of Codfjord</i> .....	130
6.2 ECONOMIC AND ECOLOGICAL STRATEGIES .....	133
6.3 THE CONSEQUENCES OF THE VESSEL QUOTA SYSTEM IN CODFJORD.....	139
<b>CHAPTER SEVEN: KNOWLEDGE IN SMALL-SCALE FISHING</b> .....	<b>143</b>
7.1 TRADITIONAL ECOLOGICAL KNOWLEDGE: DEFINITIONS AND IMPLICATIONS .....	143
7.2 FISHING COD .....	146
7.2.1 <i>Behavior at Sea</i> .....	146
7.2.2 <i>Predicting Fishing Times</i> .....	148
7.2.3 <i>Finding Fish</i> .....	149
7.3 KNOWLEDGE, EXPERIENCE AND TERRITORIALITY .....	150
<b>CHAPTER EIGHT: DIRECT AND TRANSITIVE AUTHORITY</b> .....	<b>155</b>

8.1 SOME IMPORTANT CONCEPTS AND CONSTRUCTS IN NETWORK ANALYSIS .....	156
8.2 ECONOMICS AND RELIGION .....	161
8.2.1 <i>Getting a Job: Opportunities in the Network</i> .....	165
8.2.2 <i>Losing a Job: Conflicts in the Network</i> .....	169
8.3 TRADITIONAL AND LEGAL AUTHORITY .....	173
<b>CHAPTER NINE: SMALL-SCALE POLITICS AND SMALL-SCALE FISHERIES.....</b>	<b>178</b>
9.1 AUTHORITY AND AUTHORITIES IN CODFJORD POLITICS.....	179
9.1.1 <i>The Case of the Fisheries Committee</i> .....	179
9.1.2 <i>The Case of the Fish House</i> .....	184
9.1.3 <i>The Case of the Choice as to Where to Sell the Fish</i> .....	188
9.2 AUTHORITY IN ECONOMIC TRANSACTIONS .....	190
9.2.1 <i>Colliding Traditions?</i> .....	192
<b>CHAPTER TEN: ECONOMIC ACTIONS OF FISHERMEN IN CODFJORD.....</b>	<b>198</b>
10.1 ECONOMIC ACTIONS AND STRATEGIES.....	198
10.1.1 <i>Traditional Fishermen</i> .....	199
10.1.2 <i>Modern Fishermen</i> .....	202
10.2 LOCAL DIFFERENTIATION.....	207
10.2.1 <i>Dissolving Traditions</i> .....	207
10.2.2 <i>Gaining Employment and Emancipation</i> .....	212
10.2.3 <i>Local versus Universal Rights</i> .....	215
<b>CHAPTER ELEVEN: THE VESSEL QUOTA SYSTEM AS STATE INTERVENTION.....</b>	<b>218</b>
11.1 THE INTENTIONS OF THE VESSEL QUOTA SYSTEM.....	218
11.2 MANIFEST FUNCTIONS OF THE VESSEL QUOTA SYSTEM .....	221
11.3 LATENT FUNCTIONS OF THE VESSEL QUOTA SYSTEM .....	223
11.3.1 <i>Synergetic Effects of State Intervention</i> .....	227
11.4 TOWARDS A RATIONALIZED FISHING COMMUNITY? .....	229
<b>CHAPTER TWELVE: OPEN ACCESS, STATE PROPERTY AND THE COMMONS .....</b>	<b>232</b>
12.1 THE SOCIAL FUNCTIONS OF OPEN ACCESS.....	233
12.1.1 <i>The Significance of Formal Economic Rationality in the Codfjord Fisheries</i> .....	233
12.1.2 <i>Limited Entry, Emancipation and Co-Management</i> .....	236
12.2 RATIONALIZATION AND THE COMMONS DEBATE .....	241
<b>CHAPTER THIRTEEN:THE TRAGEDY OF RATIONALIZATION.....</b>	<b>250</b>
13.1 RATIONALIZATION AS A SELF-FULFILLING AND SELF-PERPETUATING PROCESS.....	250
13.1.1 <i>Rationalization and the Paradoxes of Fisheries Management</i> .....	255
13.2 ON THE TRAGIC .....	258
<b>APPENDIX 1: THE FIELDWORK.....</b>	<b>262</b>
A.1.1 SAMPLING AND METHODS .....	262
A.1.1.1 <i>Approaching the Field</i> .....	263
A.1.1.2 <i>Sampling</i> .....	263
A.1.1.3 <i>Measurement Instruments</i> .....	266
A.1.1.4 <i>Results of the Fieldwork</i> .....	268
A.1.2 WHAT AND WHO DO WE KNOW SOMETHING ABOUT? .....	269
<b>APPENDIX 2: OPERATIONALIZATIONS .....</b>	<b>275</b>
A.2.1 ECONOMIC TRANSFORMATIONS.....	275
A.2.2 COGNITIVE TRANSFORMATIONS .....	277
A.2.3 RELATIONAL TRANSFORMATIONS .....	278
A.2.4 NORMATIVE TRANSFORMATIONS .....	280
A.2.5 THE LOGIC OF THE ANALYSIS.....	281
<b>APPENDIX 3: QUESTIONNAIRE.....</b>	<b>283</b>
<b>LITERATURE .....</b>	<b>297</b>

# Introduction

People in northern Norway have been dependent on the harvest of natural resources for several hundred years. Several species, both on land and at sea, have been important in the people's harnessing of the natural environment. For many, Norwegian-Arctic Cod has been the economic, social, cultural and ecological cornerstone during the past 500 years (Drivenes, Hauan and Wold 1994). Towards the end of the 1980's a resource crisis occurred which saw the collapse of the stock of Norwegian-Arctic Cod (Jentoft 1991). As a response to this crisis, the Norwegian State imposed a new fisheries management system in the cod fishery in 1990. The intention of this *vessel quota system* was to maintain the cod stock by limiting catches and entry in the fishery. Fishermen had to document previous income from fishing, as well as lack of income from other occupations than fishing in order to be allowed to participate in the fishery under the new management regime. More specifically, dependency on fish resources was calculated in economic terms by the state, and the vessel quota system was an economic instrument for influencing the exploitation of the resource. The state defined a fisherman by equating occupational status with income from fishing. In the next step, this was used to select entrants to the fishery. As a result of this, some were excluded from further fishing, and the new management system also caused a reduction in income for those still harvesting. However, there were no provisions in the system for other social changes than those specifically pertaining to income reductions among the fishermen. The state compensated excluded fishermen by granting them unemployment benefits. The analysis in this thesis discusses the cultural, social and economic changes following from the vessel quota system, relating these changes to general sociological theories about modernization.

This study explores the consequences of the vessel quota fisheries management system using data from a case study. The theoretical perspective is derived from contrasting Max Weber's theory of rationalization with some of the positions taken in the debate concerning the «tragedy of the commons» (McCay and Acheson 1987). Weber held that state intervention contributes to changing the actors' notion of rationality from being anchored in local rituals, institutions, religions and cultures to being anchored in the instrumental principles of capitalist market behavior (Weber 1978). The tragedy of the commons is a theory of how resources become depleted due to the users' notion of rational behavior (Hardin 1968). According to some, state intervention or privatization are the best - if not the only - means of preventing resource depletion (Hardin, Ibid.). Others hold that state intervention causes the tragedy of the commons rather than contributing to its prevention, because the actors' notion of rational behavior is altered from traditional to instrumental due to the state's specific structure of authority (McCay

and Acheson 1987). Drawing on the findings of the case study, I will argue for a position in between these two extremities.

The location of the case study is one municipality in northern Norway. The municipality, which will be referred to as *Codfjord*, comprised a total population of 1638 persons in 1994. The municipality and the region has been populated for several hundreds of years (Bjørklund 1985). In the course of history, three ethnic groups have settled in the community. The first group to arrive was the *Saami*, an ethnic group that historically lived as a nomadic people all over Fennoscandia. The second group is known as *Kvæn*, consisting originally of immigrants from the area which today constitutes Finland. The third people to arrive were *Norwegians*, who seem to have settled during the late middle ages. It remains unclear when, exactly, these groups arrived in the region. The area in which the municipality is located is considered attractive for settlements due to its richness of natural resources. The municipal borders surround a fjord which is known all over the region as a good place for fishing. Settlements are presently scattered around and along the fjord, most being located in proximity to the waterfront. This is probably due to the inhabitants' exploitation of the environment. So-called primary occupations have traditionally represented the economic, cultural and social mainstay of the population. Fishing, often performed in combination with farming, has played an important role in the economic history of the community.

In 1994, 42 full-time and 15 part-time fishermen lived in the community. All of these may be considered small-scale fishermen, because they use small vessels ranging from 20 to 37 feet, and harvest using so-called conventional tools. Conventional tools are gillnets, hand-line and long-line. In this study, full-time fishermen were interviewed using a structured questionnaire, open-ended interviews, and participant observation. Other persons - such as part-time fishermen, civil servants and others with relevance to the study - were interviewed using open-ended interviews and participant observation<sup>1</sup>. The fieldwork was performed between August 1993 and March 1994, that is, two and a half years after the vessel quota system was introduced in Norwegian small-scale fisheries. The location of the case study was selected because of its relevance to the problem analyzed in this text.

## The Problem

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<sup>1</sup>Thus, this is a study of fishermen *in* a community, not a study *of* an entire community.

Fisheries management systems are one example of what is termed state intervention. In this study, state intervention means that the management of a natural resource is put under the administration of the state bureaucracy. The *process* whereby the bureaucracy assumes authority over the resource is termed *state intervention*, while the entity which assumes the authority is called *bureaucracy*. This conceptual framework is adapted from the German sociologist Max Weber, who held that the modern state could be considered in the same terms as a large-scale capitalist firm. In this perspective, the state uses the bureaucracy to acquire control over externalities to the production process, for example control over access to raw materials and the supply of labor. By incorporating these externalities within the domain of the bureaucracy, they become objects of calculation and prediction. Calculation and prediction are two of the assumptions of instrumental rationality, which is the behavioral principle by which capitalist actions are oriented. This form of action stands in contrast to traditional, affectual and value-rational actions, which are often typical courses of social action in production systems outside the capitalist sphere, for example production systems located in communities which rely on a subsistence type of economy. When the state acquires control over these production systems, these will - over time - start acting according to the premises laid down by the bureaucracy. That is, their action-orientation becomes self-interested and driven by instrumental rationality.

The notion of how one should act is linked to beliefs about what is the morally right course of action, because the actor's concept of proper behavior stems from the normative order in which he or she is embedded. Normative orders are also sources of authority, which exist under some form of guarantee; that is, those contradicting the commands of the guarantors of the normative order can expect some form of disapproval, punishment or other sanction. State intervention often changes the source of authority in a social system because a new normative order is introduced and guaranteed. Since normative orders serve to uphold prevailing forms of actions, the actors' concept of «proper» action changes from traditional, affectual and/or value-rational to instrumentally rational actions when state intervention alters the production system from traditional to capitalist. Actors need to act in an instrumentally rational manner because this form of behavior is rewarded in the capitalist production process; one of the most common rewards is prosperity in business. This process also serves to alter several other social phenomena. According to Weber, state intervention contributes to *rationalizing* social systems. While the world previously consisted of a whole range of diverse cultures, religions, practices and institutions, state intervention causes these phenomena to become invariable and homogeneous because actors orient themselves solely by the concept of instrumental rationality, leaving aside other forms of motivations.

Although the terms that have been used have sometimes varied, the same topics have been discussed among those interested in the social science of fisheries, especially resource management systems (Maiolo and Orbach 1980). Resource management systems are often imposed due to scarcity of resources, but may also be imposed due to such factors as user group conflicts and the safety of the fishermen. The following discussion will be limited to those cases where resource depletion is the problem. There are two opposing theories of what may cause resource depletion. According to one position, resource depletion is a case of *the tragedy of the commons* (Hardin 1968). The tragedy of the commons is caused by the specific purpose that the actors have when they act toward a resource; all actors relate instrumentally rational toward the resource and objectify it as potential capital. The perspective's notion of the actors' rationality is also linked to a specific notion of property. Access to the commons is open and is hence free to everyone wanting to exploit the resource. The combination of the fact that all actors are driven by profit motives at the same time as there are no limitations in how much of the resource they may take, starts a process leading to resource depletion. Actors try to take their catch as efficiently as possible, in order to prevent others from exploiting the same resource. These elements combine to form a self-perpetuating negative process, often resulting in the collapse of the resource stock. According to this perspective, the state should intervene in the fishery with a *legal resource management system* or the resource should be transformed into private property. Legal resource management systems are founded on the authority of the state, and are guaranteed by law.

The opposing position holds that people who live from the exploitation of natural resources often make systems for sustainable harvest themselves, that is, without any kind of state intervention (Berkes 1989). In this case, the assumptions of the tragedy of the commons and Weber's predictions are incorrect, as many local cultures remain vital and «unrationalized». Resource users are embedded in normative and symbolic systems which contribute to limiting harvests in such a fashion that resources are maintained. That is, the users of the resource form a resource community which constructs specific rules and norms to guide their and other's behavior when fishing. They form an *extra-legal resource management system* which exists independently of the state, is based on informal, traditional authority, and is guaranteed by convention among the fishermen. Because fishermen have a common interest in preserving the resource, people are sanctioned informally if they disobey the rules of the normative order (Berkes Ibid.). Such management systems also contribute to excluding others from using the resource, because users define the resource as their property and sanction intruders. It follows that resources cannot generally be considered *open access*, but should be regarded as *common*



*property*. According to this position, a general feature of common property is that it is managed by an extra-legal resource management system. Access to common property is therefore not open to everybody, but is restricted to a limited number of actors. Specifically, this is property owned by a resource community. It also follows from this theory that state intervention may cause the tragedy of the commons; state intervention contributes to lifting people out of local, traditional, normative orders, forcing them to act on the premises of the legal normative order represented by the bureaucracy and capitalism (McCay and Acheson 1987). This normative order prescribes instrumental behavior among the actors. Thus, the behavioral criterion for the tragedy of the commons transforms into a self-fulfilling prophecy.

If the world is rationalized in the sense that Weber argues, the theory of the tragedy of the commons seems appropriate. One aspect of rationalization is that actors tend to act in an instrumentally rational manner. Instrumental rationality applied to economic matters is termed *formal economic rationality* by Weber. While actors historically may have been embedded in extra-legal management systems, their incorporation in the capitalist production process has made them act in an instrumentally rational way with regard to resource use. State intervention may therefore be necessary because this is the only form of resource management system corresponding to the actors' notion of rationality and legitimacy. This interpretation also implies that those who believe that common property is always embedded in an extra-legal resource management system have an anachronistic and a-historical perspective of resource communities. However, using another interpretation of Weber, the rationalization process slowly takes possession of new social and geographic spheres, and many aspects of life remain withdrawn from the capitalist production process. For example actors, being members of resource communities, orienting their action according to value-rational concepts when relating to a resource. Such behavior related to economic actions is referred to as *substantive economic rationality* by Weber. Thus, extra-legal resource management systems may exist side-by-side with legal resource management systems in a modern state. If this is the case, replacing resource management systems may have the consequence that the tragedy of the commons becomes a self-fulfilling prophecy, and that resource depletion is accelerated instead of prevented by state intervention. This leads directly to a series of questions which this study aims to answer by use of data from Codfjord.

- (1) *What was the fishermen's notion of economic action, and what was the social foundation of these acts before the vessel quota system was introduced?*
- (2) *How can this behavior best be understood: as instrumentally rational, traditional, affective, value-rational or somewhere in between these ideal types?*

- (3) *To what extent was the concept of economic action - and its social foundations - affected by the new form of authority introduced by the vessel quota system, and - if any changes occurred - what were the consequences of this change?*

These three main questions will lead to several sub-questions, which will be detailed in the analysis. The process leading to the discussion of the answers to these questions is organized according to the following plan:

#### Part I: **Theory**

Part I outlines the conceptual framework of the analysis. Chapter *one* is based on an interpretation of Weber's social theory, emphasizing how actions are linked to legitimacy, authority and normative orders. The effects of state intervention on the process of rationalization are discussed using this conceptual framework. Chapter *two* discusses different perspectives on fisheries management, emphasizing the two opposing positions regarding the tragedy of the commons. Both chapters are summarized and contrasted in chapter 2.3, where the questions posed above are specified in accordance with the previous discussion in Part I.

#### Part II: **Context and History**

Chapter *three* reviews some general changes and developments in Norwegian fisheries and fisheries management, representing some of the social forces which have an effect on the Codfjord fishery. Factors relevant to the history of Codfjord are presented in chapter *four*, emphasizing the history of the Saami people since many of the inhabitants in Codfjord have this cultural heritage. The features of *Læstadianism*, a particular type of Pietistic-Orthodox Protestantism, are also described in this chapter, as many of the fishermen in Codfjord belong to this religious group.

#### Part III: **Economic and Ecological Actions**

The focus is changed from macro-structures and history to individual level behavior in chapter *five*, in which the general economic behavior of the Codfjord fishermen is described. The specific impact of the vessel quota system on the economic behavior of the fishermen in Codfjord is discussed in chapter *six*. This analysis is extended in chapter *seven*, where the ecological behavior of the fishermen is elaborated on. These three chapters serve to reconstruct the different concepts of economic rationality among the Codfjord fishermen.

#### Part IV: **Social Relations and Authority**

Authority and other related subjects are analyzed in chapter *eight* by means of a network analysis. The structural perspective on authority is continued in chapter *nine*, where the different normative orders which have an effect on the fishermen's behavior are dissected by considering three specific cases.

#### Part V: **Discussion**

Chapter *ten* discusses and analyzes the economic behavior of fishermen in Codfjord, leading, in chapter *eleven*, to a further discussion of the impact that the *vessel quota system* has had on this behavior. The theoretical implications of these findings for the debate concerning the tragedy of the commons are elaborated on in chapter *twelve*.

#### Part VI: **Conclusion**

A summary of the findings and a suggestion for a new perspective on the social foundations of resource depletion concludes the study in chapter *thirteen*.

#### **Appendix**

The *first* appendix describes the methods used in the study, emphasizing sampling and data-collection methods and the *second* appendix how the questions posed above and the theories used to analyze their answers are narrowed down and operationalized.

The strength of case studies is their ability to incorporate several dimensions of one phenomenon at the same time; they do, however, have restrictions and limitations regarding the amount of empirical material that can be used for answering the questions posed above. It is impossible to give an accurate description and analysis of all social phenomena that may have an effect on an actor's behavior within the limits of a reasonably long text. It is therefore necessary to choose an empirical focus when selecting data, which involves discarding other data as irrelevant. In this study, the Weberian perspective on social change translates into a perspective where conflicts often represent the dynamics of social change. This does not mean that everything of importance which occurs in the community was based on conflicts between people and groups of people. Conflicts - in contrast to other social phenomena which occur in the community - are emphasized because social changes often occur in the ensuing turbulence.

This is also the metatheoretical standpoint taken in this study towards the analysis of social change.

This is also directly related to the importance of the restrictions and limitations implicit in any analytical perspective. The analytical perspective used here has sometimes been labeled «rationalistic», meaning that the concepts and constructs of the perspective ascribe intentions and goals which the actor may not have (Østerberg 1976). Rather, it is held, the intentions and goals ascribed to the actor follow from the logic of the perspective, not the actor's concrete behavior. While this certainly is a criticism of the Weberian perspective that one must take seriously, it fails to capture the significance of the actors' ability to orient their actions parallel to their own historical context. Seemingly, this criticism underestimates the actors' understanding of both themselves and others. In the interpretation of the Weberian perspective on social change used here, the intentions and goals of the actors have been emphasized when they were explicitly stated by the informants. Of course, this does not mean that the intentions and goals used in the analysis are «true» in any metaphysical sense of the term. But this is a type of uncertainty prevalent in any form of social research, independent of the perspective taken.

Another standpoint taken in this study relates to quotations. Wherever an author is made an object of interpretation and used in the arguments of the text, direct quotations from the original texts are used if they fit into the rest of the text. This is done with the realization in mind that the author hardly has invented any of the arguments himself. As Hellesnes (1988) points out, hardly any new thoughts have been thought since Plato. The best you can hope is that your own synthesis and combination of others' thoughts is original.

# **Chapter One**

## **Authority and Rationality in Modern Societies: An Outline of Weber's Social Theory**

This study analyzes the effects of a fisheries management system on a group of fishermen. In this chapter, the problem will be linked to a theoretical framework that focuses on the role of legal authority in modern society, and how this form of authority differs from traditional authority. Emphasis is given to how these forms of authority differ in their effect on those subjected to them, and how normative structures are affected when behavioral rules and guidelines are altered. Concepts and constructs are based on an interpretation of the social theory of Max Weber (1958: 1978: 1985). The imposition of a fisheries management system is regarded as a case of *state intervention* which, among other things, implies externalization of a set of normative and economic principles (Berger 1990). The conceptual framework outlined here will be used to explain and interpret changes in the fishing community on which this study focuses. Weber's social theory discusses how an actor's orientation in a social system becomes transformed as a consequence of the economic development in the western world. The concepts on which he bases this analysis - action, social relation, action orientation, authority and legitimacy - are elaborated on first because they are necessary to capture the dynamics of state intervention. An important element in Weber's analysis is the role of bureaucracy, not only as a manifest form of social organization such as public administration, but mainly as a specific form of authority and social action. When the bureaucracy intervenes in spheres where other types of authority, notably traditional authority, are considered valid, several changes occur in the social system. In this text, changes in the economic orientation of actors subjected to state intervention will be explored.

This chapter will first focus on the main theoretical constructs for analyzing social action and authority. Then, the formation of bureaucracy is analyzed in contrast to traditional leadership, relating authority to economic rationality and the bureaucratic organization. Finally, a discussion is given about how bureaucracy – understood as a social organization - becomes meaningful as a social object, that is, how it gains meaning in relation to other social processes through a rationalization process.

### **1.1 Action and Authority**

In Weber's analysis, bureaucracy is understood as double social reality. First, it is defined by the behavioral principles by which it works. This may be called the internal reality of the bureaucracy and is characterized by a distinct set of rules constituting a specific standard for instrumental actions. Second, the bureaucracy is distinct in its mode towards those subjected to its authority. This will be referred to as the external reality of bureaucracy and may be understood as a specific form of social control (Blau and Meyer 1971; Janowitz 1976). While this distinction between the double realities of bureaucracy certainly can be enforced analytically, it is hard to understand the external reality of the bureaucracy without understanding its internal reality. The principles of social control applied by the bureaucracy when assuming authority over other social systems are projections of its own standards for social actions, and must be understood in contrast to other standards for social action when analyzing the social dynamics of state intervention (Lægreid and Olsen 1978). Therefore, it is necessary to discuss the general forms of social action first and then classify the specific form of social action in a bureaucracy relative to other forms of social actions.

At the core of different principles for organizing authority lie opposing concepts of social action and meaning. Meaning may be understood as a concept covering the coordinating foundations of behavior, that is, the reasons, intentions and arguments we can employ to justify actions. Divergence in meaning is understood as one component in a theory of divergent social actions and normative orders. Social actions are oriented towards the behavior of other actors, and become meaningful for both the actor and others by the terms in which this interaction is defined<sup>2</sup>. When other actors can grasp the intent of the act, it becomes meaningful. Actions may be categorized by the principle of meaning in operation during the act. Following Weber's typology, actions may be:

1. **Instrumentally Rational** (*Zweckrational*). Actions of this type rest on specific expectations as to the behavior of other actors. These expectations are used as conditions for reaching the acting individual's calculated end. It follows that the expectations of the other actors' behavior serve as a means for reaching a previously set goal.
2. **Value rational** (*Wertrational*). Value rational actions are carried out when the action is believed to have a value of its own. The act may serve some religious, ethical or esthetic purpose, and is in this sense the primary form of ritual. It is also of importance that the act is performed independently of its prospects for success. That is, it is driven by higher commands.
3. **Affectionate** (or emotional). In this case, actions are determined by the specific feelings

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<sup>2</sup>Of course, actions may be oriented towards physical objects, but these are not social actions in the sense that they are oriented in terms of the behavior of other actors. Rather, they are oriented in terms of the physical objects in question.

or affections that the actor may have at any point in time.

4. **Traditional.** This category depicts a type of behavior where actions are based on ingrained habituation, that is, actions are performed in such a fashion that they are in accordance with specific customs (Weber 1978, 25ff).

Following Weber (1978), the categories of action are ideal types. This means that the concepts are analytical guidelines used for research on «reality», rather than concrete representations. While empirical types may show large variations, ideal types extract these variations into a set of concepts representing analytical differences – not reality (Burger 1987). Actions are determined and performed in different fashions, and empirically observable actions may be border cases between different types. Traditional actions may also be termed practices (Bourdieu 1984). Actions become customs when repeated over time; an example here is the yearly cycle of fishermen, in which they harvest specific grounds at different times. Sometimes, fishermen are unable to explain why they fish exactly at these specific places and why they do not try other places; they hold that this is where they have always fished<sup>3</sup>. However, when exploring their history and culture, these acts are meaningful in the sense that this is how fishing has always been done. Thus, their actions may be termed traditional because their actions are coordinated with traditions. When people act affectionately, they normally act spontaneously, and behavior arises from emotional impulses. Examples include those acting phobically towards certain objects and situations. This behavior, which may seem irrational, becomes meaningful when the interpreter becomes aware of traumatic episodes in the person's life. Value rational behavior refers to the value of the act in itself. The actor is sensitive to the specific movements, gestures and other prescribed specifications. Cases in point are the different monastic orders found in several of the world's religions; while traditions within these orders vary, most have in common that the rituals of loneliness, asceticism and modesty carry a guarantee in themselves for closeness to God and/or salvation. When actions are instrumentally rational, the acting individual calculates the behavior of others and generates expectations as to their actions. These expectations are used as a means of maneuvering towards the actor's goal. Economic actions may be the most fundamental form of action in this category, because everybody uses each other to earn profit, which is the intent of the behavior. When knowing that actions in economic markets have the sole intention of yielding profit for each actor, all actions in a market become meaningful.

The categorization of different types of actions points at different types of *social relations*, a

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<sup>3</sup>This is discussed in detail in the empirical section where the idea of «traditional ecological knowledge» is explored.

concept «*which denotes the behavior of a plurality of actors insofar as, in its meaningful content, the action of each takes account of that of the others and is oriented in these terms. The social relationship thus consists entirely and exclusively in the existence of a probability that there will be a meaningful course of social action* (Weber 1978, 27)». Different types of actions yield different types of social relations, but they are also based on different types of social relations. Social actions exist to the extent that principles of interaction exist which involve other actors in one or several social relations. The linkage between actions and social relations is also rooted in Weber's theory of meaning. The concept «meaning» has two different facets: «*Meaning may be of two kinds. The term may refer first to the actual existing meaning in the given concrete case of a particular actor, or to the average or approximate meaning attributable to a given plurality of actors; or secondly to the theoretically conceived pure type of subjective meaning attributed to the hypothetical actor or actors in a given type of action* (Ibid. 4)». In the first case, meaning is given and confirmed empirically by an actor or the context in which the actor orients his behavior. In the second case, meaning is a theoretical construct, where one, by knowing the theoretical construct, attaches meaning to others' behavior. These types of meaning are outer points on a scale, and most empirical cases of meaning fall in between these poles. It is also of importance that «*in no case does [meaning] refer to an objectively «correct» meaning or one [that] is «true» in some metaphysical sense* (Ibid. 4)». It is impossible to *know* the meaning of any type of action, but interpretations may be more or less adequate, depending on empirical evidence and knowledge of the principles in operation during the interaction.

Given this contingency in meaning, which rests on a belief in one's ability to correctly interpret the behavior of others, one can extract different types of action orientations. Action orientations are general categories - or ideal types - of meaning by which the intentions of actions can be categorized. Weber observes three different types of action orientation. These are usage (*Brauch*), custom (*Sitte*) and self-interest (*Zweckrational*). In the words of Weber, «*certain empirical uniformities can be observed, that is, courses of action that are repeated by the actor or (simultaneously) occur among several actors since the meaning is meant to be the same* (Ibid. 29)». The difference between usage and custom is merely one of time. If a type of action represents a pattern within a group of actors and is repeated regularly, it is called usage. In the case of usage, actors relate to each other according to a standard that is calibrated for the specific purposes served by the action. If this standard has existed over a longer time-period, it is called custom. The term custom denotes that the action in question assumes not only validity across individuals, but also over time (For similar discussion of the concept *practice*, see Bourdieu 1977: 1984: 1988). In this case, the meaning of the action itself can only be stated



when referring to the custom itself. This type of action orientation generates the specific types of actions referred to as traditional and value-rational above. The action orientation can be labeled self-interest if actions are instrumentally rational - these actions are oriented toward a goal outside themselves.

The concepts of action, meaning, social relations and action orientation cover the process of *institutionalization*, where individual behavior converges towards general behavioral patterns and thereby becomes meaningful to a plurality of actors. Actions are seen as meaningful by those constituting the institution, that is, those who have social relations to others in the institution. However, in what sense they are meaningful is contingent on the specific normative content of the institution. For example, the principles of meaning are different in an economic market and in a religious cult. This chain of concepts can also explain how new meaning is generated when different groups come into conflict with each another. If a «new» type of action occurs, it must become an action orientation before it can be said to be meaningful to all actors who are affected by the actions of others. Only when following an action orientation can behavior be termed meaningful. However, most types of social actions and their corresponding principles of meaning are guided by a belief in the existence of a normative order, that is, an order prescribing what is right and wrong, legitimate and illegitimate. In other words, action orientations are transformed into normative orders over time.

Normative orders exist to the extent that the actors who are subjected to them regard them as morally valid. For instance, the normative order called Christianity is only valid to the extent that it is regarded as valid among the actors who are subjected to this order. When the normative order is regarded as valid, its prescriptions for action are considered *legitimate*. The existence of the normative order also rests on a guarantee that it will be enforced. This means that the actors can expect that violations of prescribed actions will be sanctioned in some way. Legitimacy can be understood as a concept expressing what is seen as right or just in a specific situation, that is, whether the actions is consistent with the normative order regarded as valid among actors (Jentoft 1989). We may differentiate between legitimate orders according to the principles which guarantee their enforcement. These principles are:

1. **Convention.** This form of guarantee points at the informal enforcement of rules and regulations, where the normative order(s) existing in the group is regarded as so crucial for the existence of the group that its violations will result in punishment and/or disapproval from the rest of the group. It is therefore, in this specific sense, internally guaranteed.
2. **Law.** This type of enforcement rests upon external guarantees because submission to the normative order is enforced and coerced by a staff of people who have been delegated

this responsibility from higher authorities (Weber 1978, 33 ff.).

In many cases, these two types of guarantee exist side by side; indeed, the actual guarantee in operation may even be a synthesis of the two. Sometimes, one can observe controversies over which type of enforcement will best serve a given purpose best. This discussion is to be found among those interested in the management of natural resources, where resource preservation often is the intent of the order (Berkes 1989)<sup>4</sup>. On the one hand, management systems which are guaranteed by convention exist in most fishing communities. This implies that there exists a valid, and therefore legitimate, normative order with guaranteed enforcement in fishing communities. Enforcement by convention is therefore preferable because it is embedded in the presumption that local normative orders are more compatible with the local culture than management by law. On the other hand, one may hold that state intervention is universally legitimate, and that normative orders imposed by the state therefore serve the purpose in a better fashion (Maiolo and Orbach 1980). One reason for this is that the legal system behind such enforcement is more democratic than the form of «local» justice present when the guarantee is given by convention. This view implies that a normative order exists at the state level with guaranteed enforcement by law and that all are equal before the law. It also assumes that fishermen regard this order as legitimate, and will follow the commands given by those in higher authority.

Actors ascribe legitimacy to a given normative order and regard it as valid for different reasons. There are four ideal types of ascription to normative orders:

1. **Tradition.** This is based on the presumption that what has always been valid is also valid now.
2. **Affection.** The validity of the normative order is believed to be in correspondence with the feelings and emotions of the actor.
3. **Value-rational faith.** This kind of validity is based on faith in an absolute normative order, such as those following from religious insights.
4. **Legal enactment.** A normative order that is regarded as valid and therefore treated as legitimate because:
  - (a) It is derived from a consensus in the group subject to the order, or
  - (b) A higher authority considered to be legitimate imposes it. Because the higher authority is legitimate, it follows that its commands also are legitimate (Weber

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<sup>4</sup>However, this is not always the case; user group conflicts and safety measures are examples of factors which also call for some form of social order to govern the fishermen.

The process noted above, in which specific actions are generated in conjunction with meaning, social relations and action orientations, is reflected in the different types of ascription to normative orders. Normative orders are legitimate for different reasons, that is, subjection to these orders represent different types of action. This may be clarified by a hypothetical example. Fishermen in a community may have a long tradition of managing the resources they harvest by believing in the validity of traditional authority. The fishermen see the management system as meaningful on this basis, that is, they understand their and others actions in these terms. The «mode» of these actions can therefore be interpreted as traditional, because the fishermen behave in a customary fashion. The management system, which is a normative order, is guaranteed by convention because each member of the community can expect sanctions or disapproval from other actors in the system if they violate the rules. Those who disapprove of deviant behavior do so because they believe that what has always been valid should also be valid now, that is, the management system is legitimate because it has always existed. In this case, the behavior has a traditional modus because individuals subject themselves to a specific type of authority. On the other hand, they could subject themselves to another management system, for example one imposed by the state. They may do this for one of two reasons; either they regard it as in the best interest of the state - and consequently in their own best interest since they are members of the state - that all individuals subject themselves to the management system, or they find that subscribing to the management system is right because they consider the state to be legitimate.

When subscribing to a management system, one subjects oneself to one form of legal authority. Authority is anchored in legitimacy, and exists insofar as it is perceived to be legitimate<sup>5</sup>. According to Weber, different types of authority are based on distinct forms of legitimacy<sup>6</sup>. The different types of authority find their basis in legitimacy in the following manner:

1. **Legal authority.** The legitimacy of this form of authority rests on a belief in the legality of enacted rules and the right of those who are elevated to authority under such rules to issue commands. In this case, domination rests on rational grounds.

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<sup>5</sup>Of course, the state does not cease to exist because someone refuses to follow the rules by which the state operates. However, it ceases to be legitimate for the person who refuses to obey the rules of the state.

<sup>6</sup>*Power* and *authority* have different meanings. Having «power» means being able to coerce people, for example by threat of punishment, regardless of the will of the recipient. «Authority» presupposes that this coercion is considered legitimate and meaningful as a course of action by all parts.

2. **Traditional authority.** This form of authority is legitimized by an established belief in the sanctity of immemorial traditions and the legitimacy of those exercising authority under them. Domination is founded on traditional grounds.
3. **Charismatic authority** This type of authority bases its legitimacy on devotion to the exceptional sanctity, heroism or exemplary character of an individual person, and of the normative patterns or order revealed or ordained by him. Domination rests on charismatic grounds (Weber 1978, 215 ff.).

Legal authority exists as an authoritative body because it is a meaningful social category for the purposes it serves in a modern state with a capitalist economic foundation. Legal authority exists and is maintained to the extent it is considered meaningful, and hence legitimate, for enacted rules to be principles according to which actions should be oriented. The strong relationship between legal authority and capitalism is founded on a similar action orientation, as both are based on rational foundations. Legal authority is legitimized by using instrumental arguments. In a system of legal authority, the rules and laws issued at the highest level of the legal system must serve the will of the people. This will is normally channeled through a parliamentary system of elected party-delegates. In this system, the election process can be considered a particular case of self-interested action-orientation since voters choose those delegates or parties that they consider most representative of their own interests (Blau and Meyer 1971). One may, however, find objections to this portrayal of the election system. Always choosing according to self-interest negates the collective dimensions of welfare, because individual welfare is contingent on collective welfare. However, it is quite possible to formulate individual welfare in the terms of collective welfare, for example by choosing the party that one perceives as representing the best collective welfare for the group/class/strata/etc. to which the elector belongs. This implies that the best individual solution will also be chosen, but via the collective welfare of the social unit in which the actor is located. Thus, a chain of instrumental arguments serves to legitimate the existence of legal authority. The same structure of argumentation is present in the formation of capitalist actions. Such actions are a particular case of instrumental actions that rest on a belief in the success of calculations and the individual actor's expectations as to the behavior and strategies of others. As in the case of ascription to legal authority, capitalist actions find their rationale in explicit and rational rules that regulate behavior in accordance with higher norms that can also be justified rationally, for instance the profitability of a business.

The legitimate basis of traditional authority rests on the validity of the specific set, or sets, of norms that directs the behavior of people. As opposed to legal authority, where these norms are rationally justified, the norms of traditional authority have a historical character that cannot be justified rationally other than by justifying the tradition itself. This means that the norms and

rules which comprise the tradition are derivatives of the tradition and not rational arguments. As such, traditions are not rational in the sense of being explicit arguments; rather, they are statements and/or commandments (Hollis and Lukes 1986). Those who subject themselves to traditional authority believe that traditions - as a set of norms - serve as a guarantee for the validity of authority, and vice versa: those elevated to authority also serve as a guarantee for the continuous validity of traditional norms. In sum, holders of authority and the specific traditions that have elevated them to that position form a self-confirming circle. Examples of such circles are found in religious organizations. Here, the election process often follows traditional rules of succession, gender specifications and other attributes dictated by tradition. After being elected, those put in authority have as one of their tasks to maintain the same set of rules that gave them authority in the first place, for example by dictating decrees that confirm the initial rules. Traditional authority can be justified rationally without pointing to the tradition in itself by using generic or ad hoc justification. In the case of generic explanations, the justification of the present validity of traditions is based on their creation and the circumstances around their creation. Ad hoc justifications are based on the effects of traditions. For example, that maintenance of traditional authority will also hold other institutions - that for some reason is considered desirable to keep - intact.

It is within this scheme – where the interaction between action and authority is emphasized - that Weber discusses the emergence of different *economic* actions. This is elaborated on next.

### **1.1.1 The Organization of Authority and Economic Actions**

Actions are the product of authority and authority is the product of actions. Authority becomes a social phenomenon due to its character as an action, that is, structures of authority are socially manifested as actions. Thus, the recognition and expression of authority are socially manifested as actions. On the other hand, actions are governed and formulated in terms of the particular form of domination that is present in the social sphere where the action is located. In this way, actions are a synthesis of individual intentions and the social structure of the actor (Berger and Luckmann 1985). Above, the social constitution of meaning was elaborated on, and it was argued that actions are carriers of intentions. It is the intentions behind the act that make it meaningful to other actors, and which define it as a social activity. There is a strong relationship between actions and communication (Habermas 1984: Haga 1991). It is when actions occur, whether in the form of speech, physical gestures or any other physical movement, occur that meaning becomes concrete and intelligible, and other actors can respond. Thus, the act serves to create a platform on which communication can be established by representing the actor's intentions in the social context. Action as a communicative vehicle is

crucial for understanding the formation of rationality (Habermas 1984). The concept rationality has a somewhat unclear meaning since it is used to describe several different social phenomena. Some hypothetical examples may illustrate this. In one sense, «acting rationally» means that the actor has a clear overview over the means and end relationship(s) in the social process to which the act belongs. Examples include actions that involve calculation and estimations of others' behavior. In another sense, actions are rational because they are «useful» or «beneficial», for example reaching a goal. In yet another sense, «rational» is equated with «logical», meaning that specific actions are the optimal response given certain circumstances; given rumors of bankruptcy, the rational stock broker will optimally withdraw his investments as quickly as possible before the rumor has reached other investors. This disagreement as to what rationality is can also be seen in the analytical use of the concept (Østerberg 1976).

In one paper, Brox (1984) claims that a redistributive economic pattern between households of fishing families can be described in terms of rational behavior. The described pattern consists of household members taking turns at catching fish and thereafter distributing catches to other households for consumption (i.e. dinner). One after another, the households catch and distribute fish, an activity which constitute a chain of exchange. In this manner, the labor input of each household is reduced with a factor equal to the sum of households involved in the exchange. However, can the act of participating in this exchange be termed «rational» in the instrumental sense of the term? To answer this question, one must first distinguish between individual and collective rationality. From an individual point of view, participation could be both rational and irrational given the standard of reduced labor input. According to this standard, the more labor input is reduced to produce a certain item, the more rational participation is. Participation can be considered rational if each of the household members only fish for household consumption, for example by taking time off from other activities such as farming or other jobs. In this case, the reduced labor input in fishing for household consumption can be transferred to other activities. However, if the household members would go fishing anyway, they would be indifferent in terms of labor costs between participation and not. Given that catches are distributed normally across days, the household member would catch fish anyway. Consequently, the reduced effort caused by receiving fish from others would be counteracted by the fish that would be given in return for the received fish. In that case, participation would be irrational. The total costs of participating would increase because the actor would need to get involved in transactions with others, thereby generating transaction costs that otherwise would have been avoided. From the perspective of collective rationality, this exchange could be termed «rational» in the sense that the group of exchanging households – or the system – reduced the total labor input for catching fish for household consumption. In that manner, labor

power could be transferred to other tasks more urgent for the maintenance of the system, for example collective social activities. However, has this analysis anything to do with rationality?

It is one thing to describe what the researcher may term «rational»; quite another is to gauge the intention of the actors who constitute the social realm analyzed by the researcher. For Weber, there is one important criterion that must be fulfilled before the researcher can describe actions as rational; the actor must see himself and other who are involved in the social process as rational. As Guneriussen (1984) has pointed out in a response to Brox, the above circle of exchanges and the individual motivations for participation cannot be termed «rational» unless each actor participates because the action is in compliance with a standard for behavior that the actor sees as rational. In other words, the act of participation is only rational to the extent that the actors who constitute the social exchange have done so because they consider participation rational. This difference between the actor and the observer is of crucial importance because any analysis makes a categorical mistake if it imposes rationality on an actor who is not aware of the standard of rationality. When the distinction between the actor's and the researcher's standards for rational action is overlooked, the communicative dimensions of action are ignored and the researcher's description of the observed behavior is invalid as a description of a concrete social reality. Thus, the formation of the act as socially meaningful is overlooked. In his analysis, Brox may consider the household members to be rational in relation to external standards of rational behavior; in this case for example, his own standards for rational behavior, but this does not mean that the actors themselves see their actions as rational. In fact, they may, for example, act in accordance with religious prescriptions, which represents a traditional motive. Quite another discussion is whether these actions have outcomes or consequences that can be considered rational. However, such an analysis must rely on ad hoc argumentation for the relevance of hypothesized outcomes or consequences, and is therefore not an analysis of the social realm in which the action is located. Any analysis that focuses on how actions change must incorporate the actor's intentions because actions change with their social meaning. Thus, any analysis that aims to describe a social reality as perceived by the actors must incorporate the intentions of the actors. Since this is the intention of the present analysis, the Weberian prescriptions of analysis of rational action will be used in the rest of this text.

Weber distinguishes between different principles for acting economically rationally. The first kind of rational action is located in social systems dominated by traditional authority. Traditional authority is often connected to societies whose legal constitution is founded on informal principles. Actions are regarded as the prolongation of internalized rules and guidelines for behavior that are connected to large sets of rituals, symbols and norms (Berger



and Luckmann 1985). As opposed to instrumental actions, whose intentions can be traced back to standards for instrumental means and ends, traditional actions are structured by the cultural and social standards for *correct* behavior, that is, behavior considered consistent with the normative content of the normative order valid in the context. Thus, the authority through which the normative content of the order in question is exercised is traditional because the expression of normative guidelines follows historical and traditional guidelines. As noted above, traditional authority is normally guaranteed by convention and enforced by a master or a set of masters appointed by tradition. When tradition defines precedence in economic matters, the resulting rationality of the action is termed *substantive economic rationality* by Weber. The term specifies that the standard for rationality is given through tradition, as opposed to standards for instrumental accomplishments. The term also specifies that the actor understands herself to be acting in accordance with tradition and that the act has compliance to tradition as a goal. Substantive economic rationality *«is the degree to which the provisioning of given groups of persons (no matter how delimited) with goods is shaped by economically oriented social action under some criterion (past, present, or potential) of ultimate values, regardless of the nature of these ends. These may be of a great variety (Weber 1978, 85)»*.

Substantive economic rationality is not meaningful in a system of capitalist production. Here, economic actions are meaningful to the extent that they are coordinated in terms of instrumental goal orientation. Thus, self-interest becomes a legitimate form of action orientation, and economic actions have no substantively rational meaning; this is because such actions correspond to social orders that are invalid in a production process where profitability has replaced tradition as a standard by which actions should be measured. When several actors employ instrumental rationality over time, this leads to social orders that legitimate this form of social action, specifically legal enactment. Legal enactment, which is guaranteed by law, is based on consensus among the actors that the specific laws and rules in question are legitimate because they serve to protect the self-interest of each individual actor by regulating the behavior of all actors<sup>7</sup>. This also means that legal authority becomes the legitimate form of domination. As the capitalist modes of production become increasingly connected to both domination and power, old institutions become obsolete because they are inadequate for coping with the form of economic actions which occur under capitalism (Polanyi 1992). This process is started because surviving in business is dependent upon mastering the instrumental skills and knowledge that are integrated into capitalist market behavior. This behavior is inherently instrumentally rational because it relies on carrying out calculations regarding the behavior of

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<sup>7</sup>Anti-trust laws, present all over the world today, are an example of such laws. They enhance competition by combating monopoly.



others. These calculations intend to predict economically optimal outcomes according to predefined standards. This is what Weber calls *formal economic rationality* which «designate the extent of quantitative calculation or accounting which is technically possible and which is actually possible (Weber 1978, 85)»<sup>8</sup>.

The formal economic rationality employed by capitalists is described by Weber in the following terms:

- «(1) *The systematic allocation as between present and future of utilities, on the control of which the actor for whatever reason feels able to count (These are essential features of saving.).*
- (2) *The systematic allocation of available utilities to various potential uses in the order of their estimated relative urgency, ranked according to the principles of marginal utility. These two cases, the most definitely «static», have been most highly developed in times of peace. Today, for the most part, they take the form of the allocation of money incomes.*
- (3) *The systematic procurement through production or transportation of such utilities for which all the necessary means of production are controlled by the actor himself. Where action is rational, this type of action will take place in so far as, according to the actors estimate, the urgency of his demand for the expected result of the action exceeds the necessary expenditure, which may consist in (a) the irksomeness of the requisite labor services, and (b) the other potential uses to which the requisite goods could be put; including, that is, the utility of the potential alternative products and their uses. This is «production» in the broader sense, which includes transportation.*
- (4) *The systematic acquisition, by agreement (Vergesellschaftung) with the present possessors or with competing bidders, of assured powers of control and disposal of utilities. The powers of control may or may not be shared with others. The occasion may lie in the fact that utilities themselves are in the control of others, that their means of procurement are in such control, or that third persons desire to acquire them in such a way to endanger the actor's own supply.*

*The relevant rational association (Vergesellschaftung) with the present possessors of a power of control or disposal may consist in (a) the establishment of an organization with an order to which the procurement and use of utilities is to be oriented, or (b) in exchange. In the first case, the purpose of the organization may be to ration the procurements, use, or consumption, in order to limit competition of procuring actors. Then it is a «regulative organization». Or, secondly, its purpose may be to set up a unified authority for the systematic administration of the utilities which had hitherto been subject to a dispersed control. In this case there is an «administrative organization» (Weber 1978, 71 ff.) ».*

When refocusing the discussion on bureaucracy and action, point 4 is of special importance because it defines the position of the bureaucracy in a capitalist production system. The bureaucracy is an organization in the sense that it has a specific purpose in the capitalist

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<sup>8</sup>This must be understood as a specific case of instrumental rationality.

production process. Specifically, bureaucracy has meaning in this mode of production either as the body which administrates procurements, use, or consumption, or limits competition among procuring actors, or centralizes control over the means necessary for capitalist production. Evoking the social order present within the capitalist production system is the first purpose of the bureaucracy. Its second purpose is related to control over externalities, so that those production units previously outside the control of capitalists - such as suppliers of raw material - become part of the production process. This includes access to and regulation of labor power. The bureaucracy is therefore the specific form of legal enactment that dominates the social system in which capitalist production occurs, and its purpose is to efficiently administer production and other factors related to production.

In summary, by imposing the rules to which it subjected itself onto those who are the object of control, the bureaucracy makes these externalities objects for calculation and prediction as well (Polanyi 1992). These features of the bureaucratic organization are discussed next.

## **1.2 Capitalism and Bureaucratic Organization**

The economic system of modern, western democracies is termed «welfare state capitalist» (Berger 1990, 105) in which a strong relationship exists between the state and the market. According to Berger (1990, 108-111), there are four features of these economic systems. *First*, the state manages the economy. Because the state is responsible for the welfare of its citizens, in the form of employment, social security, medical services, etc., it assumes authority over markets and exchanges. State control over the market has the ‘advantage’ that the economy can be managed in such a manner that certain political goals are realized within the framework of a good economy that the state can manipulate in the desired directions. Social security systems are the *second* feature of welfare states, and are directly related to the first feature. Through redistributive economic mechanisms, the state manages a pool of taxes used for securing a minimum level of welfare among its citizens. These social security benefits are articulated as rights, not charity, as would be the case in conventional capitalist states. The *third* feature of welfare capitalist states is mass consumption. This feature of modern capitalism was already observed by Veblen in 1899 (Veblen 1965), and may be regarded the consequence of an egalitarian economic ideology. Everybody should be economically enabled to consume a minimum of goods and have stable access to wealth, resulting in an economic system in which consumption is seen as a social mechanism that indicates the success of the state’s ability to redistribute economic wealth to everybody. The *fourth* facet of welfare capitalist states is termed capital labor accord (Berger 1990, 111). This accord is the result of the state

institutionalizing labor conflicts into a system of political and administrative participation. Thus, trade unions and class conflicts are recognized by the state, and solved within an institutionalized setting of negotiations (Egeberg, Olsen and Sætren 1978; Rokkan 1987).

The active role of the state in the economy calls for strong and reliable management based on expertise in the specific social field that is being managed. Due to these needs, the modern bureaucratic organization has assumed the role of manager of the state, and managerial authority is delegated to it. However, the bureaucratic organization of the economy has also had some adverse effects. According to some researchers, the modern welfare capitalist states *«have destroyed 'life world' and 'community'. These destructive effects are linked up with an expanding welfare bureaucracy that treated its clients merely as policy takers, and with legal regulations penetrating nearly every realm of daily life. Finally the welfare state is suspect because the frequently deplored 'government overload' ultimately originates in its endeavor to intervene in different spheres of social life (Ibid. 114)»*. The strong relationship between state and market can easily develop into a paradox where the need to govern the interest of everyone limits the freedom of the citizens, and therefore weakens their economic initiative. However, the bureaucratic organization of the economy has not only developed from a functional need for effective management. Indeed, the technical/legal form of management that the bureaucracy represents is one of the founding mechanisms of capitalism. Modern history shows how capitalism is intrinsically tied to the bureaucratic organization. An excursion into the development of capitalism as a system of economic action is therefore in order.

Michels (1966) established that the bureaucratic organization of authority becomes semi-autonomous due to its specific form of social organization. This authority is especially important in its disciplining effect on the rest of society. The disciplining effect was first outlined by Weber in *«The Protestant Ethic and The Spirit of Capitalism»* (1958) and later in *«Economy and Society»* (1978). In both treatises, Weber explores how the bureaucracy assumes a specific position in capitalist society by applying the general concepts discussed above to an analysis of the genesis of capitalism. Weber analyzes the emergence of capitalism as the dominant mode of production in modern society, locating the emergence of capitalism in an historical conjunction where several factors were present simultaneously (Weber 1995). These factors include: the existence of bureaucracy as a way of organizing, delegating and guaranteeing authority, technology making mass production possible; and the presence of a market which makes exchange and a (virtually) free flow of capital possible (Hellesnes 1988). All of these factors are elements in a conjunction; each factor is an insufficient in itself but necessary for capitalism to occur. When appearing together, they are all necessary and

sufficient, but the process still needs to be triggered by an external cause (Collins 1992).

Weber argues that the emergence of capitalism was triggered by the particular economic actions prescribed by the Protestant ethic, specifically the Calvinist work ethic and theory of salvation. According to the Calvinists, God blessed those chosen for heaven with prosperity. This belief is the direct consequence of the maxim *in majorem gloriam Dei*, that is, work is performed to honor God and all secular goods exist to honor God. The more secular goods produced, the more honor is given to God. The Calvinists believed that God is omnipotent, omnipresent and omnigood, but that he is unapproachable and not open for any human contact and will (*Deus absconditus*). God communicates to the actor through signs; prosperity was interpreted as a sign of salvation, and penury as a sign of damnation (Christensen and Göransson 1969, 180). This twofold relationship between prosperity and salvation is combined in the doctrine of predestination. Only if hard work and asceticism result in prosperity can the individual feel assured that he is destined for heaven. However, the belief in everything secular as the property of God was most clearly manifested in the foundation of a theocratic organization of politics and democracy. Calvin published the theory behind this organization of the state in 1536 in *Institutio Religionis Christianae*. The implication of this belief was that ministers should rule the world in the form of a concrete economic, cultural and social system (Ibid. 178 ff.). Theocracy was tested by Calvin, who in the period 1536-1538 ruled the Swiss city Genève according to theocratic principles. The system was not a success, as Calvin and his companions were expelled from the city after two years (Ibid. 178ff.)

The Calvinist belief in predestination is important for understanding the underlying motivation among early capitalists for the accumulation of profit. It generated a distinct psychological process among the Calvinists in which a competition, where individual success in business relative to other capitalists was interpreted as a sign from God that the actor could expect salvation when deceased, accelerated the growth of capitalism as a legitimate social order under the authority of Protestantism. To a significant extent, the rise of capitalism can be ascribed to the change in dominant religious doctrines from collectivist Catholicism to individualistic Calvinism. Here, it may be noted that doctrines similar to those observed in Calvinism can also be observed in other religious orders, some of which are also found in Norway. In Norway, the most important doctrines of this kind stem from the confessional writings of Hans Nielsen Hauge. According to *Haugianism*, economic and worldly prosperity are a gift from God that should be managed in such a manner that they increase. If they increase, the actor is seen as having shown respect for God's blessings (Molland 1979, 61 ff.). Hauge was the foremost advocate of these doctrines, and he became one of the most significant industrial founders in

Norwegian 19<sup>th</sup> century history (Pryser 1985). In Codfjord, where the present study is carried out, many fishermen belong to a pietistic-orthodox fraction of Protestantism called *Læstadianism*. The continuing vitality of this fraction all over northern Norway indicates that also present day Norwegian society is influenced by religious thoughts (Nergård 1994). This can be observed in Codfjord, where the normative implications of running a fishing operation vary depending on religious affiliation. The normative logic of Læstadianism emphasizes pietism and asceticism and is different to that which is found in non-religious fishing operations.

The importance of religion can be explained by the fact that it provides a normative order that rules the behavior of professing individuals. It provides a specific form of action because it dictates meaningful behavior before God. At the core of the process in which capitalism replaces traditional modes of production, lies a change in the economic behavior of individuals. A qualitative change in the relationship between action and authority occurs when the structure of authority is altered. Historically, traditional and value-rational behavior are the dominant forms of action in societies working by feudal, tribal and/or monarchic principles, that is, «traditional» societies. This occurs partly because economic actions under these forms of production are organized around principles of subsistence and reciprocity (Malinowski 1986: Polanyi 1992: Wolfe 1990). The social implications of these principles of action are different from those that formal rationality have. Economic actions in traditional societies maintain traditional and/or religious economic institutions and an internal division of labor connected to a larger symbolic framework (Mauss 1990). In the traditional context, it is meaningful to behave in such a fashion that the act itself is in accordance with traditions or religious rituals. Behavior is enforced by those having historical and/or charismatic authority, and is usually guaranteed by convention. This is especially the case in tribal societies where a council of elders has authority and defines distinctions between right and wrong, correct and incorrect (Godelier 1972). Thus, historical and/or value-rational actions become aggregated into action orientations, generating guaranteed social orders corresponding to the principles of meaning employed in this society.

This translates into a specific form of authority based on the informal or semi-formal structures of leadership in such societies. Here, a master or a group of masters exercises traditional authority according to the following principles:

*«Authority is allocated according to traditional rules and is obeyed because of its traditional status (Eigenwürde). This type of organized rule is, in the simplest case, primarily based on personal loyalty that results from common upbringing. The person*

*exercising authority is not a «superior», but a personal master, his administrative staff does not consist mainly of officials but of personal retainers, and the rulers are not members of an association but are either his traditional «comrades» or his «subjects». Personal loyalty, not the official's impersonal duty, determines the relations of the administrative staff to the master (Weber 1978, 229) ».*

Authority is legitimized by reference to custom and how things used to be. It is also of importance that this opens the interpretation of age-old rules by those granted authority for structuring and conditioning. Some actors are given the authority to interpret rules due to their legitimate authority, which in itself is valid according to the same normative background as the interpretation of the rules. Furthermore, traditional authority may or may not be exercised by a staff, but «Staff» must not be understood in the sense of a bureaucracy, rather it must be regarded as a set of delegates who are recruited according to the will of the ruler. They need not form an organization in the sense of an institution with a defined purpose. Usually, the purpose is implicit in the social and cultural construction of the tribe. For example, rituals, symbolic systems and normative structures are maintained according to historical rules.

«Bureaucratic» authority differs significantly from traditional authority in its internal organization. The term «bureaucratic authority» must be understood as a subclass of legal enactment that is intrinsically tied to the formation of capitalism and the modern state (Albrow 1996). Capitalism, in whatever historical variant one may use the term, is marked by a system of mass production corresponding to a system of mass consumption. Naturally, the many tasks and operations involved in managing the social processes generated in this system trigger a functional need for a stable and predictable administrative instrument that is efficient in handling a complexity of regulatory tasks. The focus on the efficiency of bureaucracy is emphasized by Blau and Meyer, who claim that:

*«Neither the will of the majority nor the personal choice of a ruler or a ruling clique reigns supreme, but the rational judgement of experts does. Although both authoritarian elements and concession to democratic rules are found in bureaucratic structures, efficiency is the ultimate basis for evaluating whether such elements are appropriate. Disciplined obedience in the hierarchy of authority, ideally, is not valued for its own sake, as it is in autocracy, but is encouraged to the extent to which it contributes to effective coordination and uniform operations. Similarly, while lack of freedom and arbitrary power are inherently opposed in a democracy, the only reason for minimizing them in a bureaucracy is that they inhibit optimum performance. Bureaucratization implies that considerations of efficiency outweigh all others in the formation and development of the organization (Blau and Meyer 1971, 156) ».*

The complexity of modern society demands that the steering instrument is internally consistent, and that those holding positions are reliable and effective. However, individuals are not *trusted* to maintain reliability and efficiency, as is the case in systems based on traditional authority.



Instead, reliability and efficiency is enforced by strict exercise of authority inside the organization, a system of supervision, and formal rules. This is done to ensure that actions inside the organizational boundaries are consistent across those holding positions, since the rules regulate actions into formalized patterns. The bureaucracy is therefore referred to as a *legal authority with a bureaucratic administrative staff*. The constitution of the bureaucracy needs to have this form, as legal enactment is the only form of authority compatible with the constitutional, cultural and social foundation of capitalism as a specific form of action orientation. Cognitively, this action orientation is based on instrumental contemplation, and is, as such, dependent upon predictable social patterns. Thus, the bureaucracy is also an object of instrumental actions: the «behavior» of the bureaucracy can be the object of calculation and prediction. This is also reflected in the constitution of laws and other legal rules, that are intrinsically tied to the formation of bureaucracy as an instrument for exercising authority. This is underlined by Albrow (1996) who links law, rationality and the state to a pattern of an increasingly predictable social world:

*«[...] law: even if its origins are arbitrary, and even if it is administered tyrannically, it remains in the interest of the power holder for it to retain predictability. Even the tyranny of Stalin required some spheres of predictable decision making, and at least an approximation to rational bureaucracy. The idea of law, and hence rationality, are intrinsic to the state (Albrow 1996, 62) ».*

Only in the role of a predictable social organization can the bureaucracy be considered a meaningful social category for the capitalist and, according to Albrow, the state. When predictable, the bureaucracy can be entered into an equation - or, in the words of Simmel (1990), a *teleological series* - designed for profit accumulation because its behavior is invariable and stable. This means that the internal reality of the bureaucracy is formed in accordance with the needs of capitalist society in itself. The functional need for prediction and calculability yields an organizational form where individuals function according to the following criteria:

- «(1) They are personally free and subject to authority only with respect to their impersonal official obligations*
- (2) They are organized in a clearly defined hierarchy of offices.*
- (3) Each office has a clearly defined sphere of competence in the legal sense.*
- (4) The office is filled by a free contractual relationship. Thus, in principle, there is free selection.*
- (5) Candidates are selected on the basis of technical qualifications. In the most rational case, this is tested by examination or guaranteed by diplomas certifying technical*

*training, or both. They are appointed, not elected.*

- (6) *They are enumerated by fixed salaries in money, for the most part with a right to pensions. Only under certain circumstances does the employing authority, especially private organizations, have a right to terminate the appointment, but the official is always free to resign. The salary scale is graded according to rank in the hierarchy; but in addition to this criterion, the responsibility of the position and the requirements of the incumbent's social status may be taken into account.*
- (7) *The office is treated as the sole, or at least primary, occupation of the incumbent.*
- (8) *It constitutes a career. There is a system of «promotion» according to seniority or to achievement, or both. Promotion is dependent on the judgement of superiors.*
- (9) *The officials work entirely separated from the ownership of the means of administration and without appropriation of his position.*
- (10) *He is subject to strict and systematic discipline and control in the conduct of the office (Weber 1978, 220 ff.) ».*

According to Weber, the bureaucratic organization of legal authority is the highest, or purest, type of formal rationality. All actors in the bureaucracy understand that they and others are means for carrying out the will of the holders of the finite authority. This internal distribution of authority is accomplished by connecting a system of reward to intra-organizational mobility. Also, the system allows for hierarchically ordered supervision and control where subordinates answer to a specific set of superiors. However, it is an important feature of the bureaucracy that subordinates and superiors are classified in accordance with a system of hierarchically ordered positions, and that the rights and duties associated with these positions are independent of the specific persons that hold them. In this sense, the system may be referred to as impersonal, since work-tasks are accomplished according to a set of rules that follows the position, and not the personal characteristics of the holder of the position. To the extent that the individual, as an individual, has any position in the bureaucracy, this is linked to his role as an *expert*:

*«Traditional bureaucracies assume that just as gradations of hierarchy correspond to levels of authority, they also correspond to degrees of competence. Supervisors are considered more expert than their subordinates, and the boss, in addition to possessing managerial skills, is assumed to have more technical knowledge than anyone else in the organization (Blau and Meyer 1971, 71) ».*

The modern need for experts may be considered a result of bureaucratization and vice versa (Giddens 1990). The expert is a person who holds special competence within a specific substantial field, and is ascribed authority due to this competence. As the complexity of society has increased, there has been a tendency to specialize knowledge (Giddens 1990). This may be considered a consequence of bureaucratization in the sense that the bureaucracy rests on



hierarchically ordered individuals that hold limited special competence. Thus, the bureaucratic division of labor has had a general influence on the formation of expertise in society in general. On the other hand, it is practically impossible for one person to know everything needed for making good decisions in all of the spheres that a bureaucracy administers. Therefore, the division of labor in the bureaucracy may be considered a practical way of securing that decisions are reached on valid and good premises. Therefore, the development of *expertise* – or *professionalism* as Perrow (1986) calls it - can be considered a paradoxical effect of an increasingly global and complex economic system. While social relations have accelerated in magnitude and complexity due to an increasingly global economic system, the cognitive foundation for acting in the world is becoming increasingly smaller. Individual competence is ascribed authority to the extent that the person is considered an expert within a limited substantial field (Albrow 1996).

The connection between expertise and bureaucracy that Weber assumes has been criticized for overlooking the fact that there is a difference between those who have authority in a bureaucracy because they are *administrative* experts and those who are *substantial* experts, for example experts on a specific technical field (Parsons in Perrow 1986). Ignoring this difference makes it hard to grasp the fact that friction occurs because subordinates feel that their higher substantial expertise is ignored due to their superiors' administrative expertise (Perrow 1986, 42). However, «[I]t was Weber's simple but enduring insight to see how crucial expertise was a requirement for holding office throughout the hierarchy. The critics of bureaucracy have failed to utilize that simple insight when they propose that the official is not an expert in anything but survival (Perrow 1986, 46)». Weber's point is that *expertise*, in one form or another, is crucial for holding office in the bureaucracy. The fact that different types of expertise create friction due to asymmetric relations of authority is a different problem, since this pertains to the internal allocation of authority in the bureaucracy. According to Perrow, the fact that authority is held because the holder is an expert remains one of the most important features of bureaucracy. This serves to give the bureaucracy an implicit authority in management cases because those holding positions in the bureaucracy are management experts per definition.

According to Weber, the bureaucracy also constitutes a superior management tool because it is an efficient, reliable and predictable organization. The matter-of-factness of the bureaucratic form of domination may be its most important attribute as a social system vis-à-vis its function. This is shown in its rule-obeying structure and the formal regulations imposed on actions and interactions which result in an internal reality that is distinct in its fixedness and rigidity, especially as compared to the social organization behind traditional authority. These attributes

may also be the reasons why the legal principles behind capitalist production organizations have become an important component of the legal principles of modern states. In fact, Weber holds that the difference between capitalist firms and modern states only pertains to the size of the organization. However, this statement overlooks the difference between private and public law; the state is subjected to democratic and public law-mechanisms that private businesses are not. Thus, one may suspect that differences are larger in reality than when using ideal types. On the other hand, the wisdom of ideal types does not lie in their description of reality, but in their guidance of the research into reality (Burger 1987). The formation of welfare state capitalism also shows that the typology developed by Weber is relevant for the analysis of contemporary society, as the state and the market have become increasingly intertwined (Berger 1990).

### **1.3 State Intervention, Bureaucratic Authority and Rationalization**

Above, it was emphasized how bureaucratic authority differs in both form and content from other types of authority in general, and traditional authority in particular. The generation of these differences has been linked to the development of capitalism and its functional need for an efficient management tool. In the capitalist economic system, formally economically rational actions prevail as the dominant mode of interaction between actors. This mode of interaction develops from the institutional structure of the market, which is designed to accommodate competing actors, and which accentuates actions that are intended to accumulate profit (Schumpeter 1994). This is accomplished by rapid exchanges using money as a medium, as opposed to exchanging objects as is the case in a barter system (Polanyi 1992). One of the functions of bureaucratic authority is to maintain these institutional structures by guaranteeing that formal economic rationality remains a dominant mode of interaction. The disciplining effect of bureaucratic authority, in conjunction with laws and regulations that project the action-logic of the bureaucracy onto those subjected to it, serves to solidify social structures that are compatible with those of the market (Lukacs 1985). That is, actions become formalized and guided by law, assuming the form of a predictable social pattern that can be the object of calculations. The result is that bureaucratic authority assumes a powerful status in modern society. This is underlined by Blau and Meyer, who claim that:

*«First of all, bureaucracies create profound inequalities of power. They enable a few individuals, those in control of bureaucratic machinery, to exercise much more influence than others in the society in general and on the government in particular. This huge differential in political and social power violates the democratic principles that sovereignty rests with all and that each citizen has an equal voice (Blau and Meyer 1971, 166)».*

This inequality of power, which is derived from the bureaucracy being delegated authority by

democratic organs, is among other things used to increase the control of the state. This will be the subject of this discussion.

In sociological analysis, the concept *externalization* denotes the process by which the specific quality of an object transcends the object itself and becomes the quality of other objects. This is usually an active process, that is, the object actively externalizes its qualities by imposing these on the social context. The externalization of the action logic of the bureaucracy is especially pertinent in cases of *state intervention*. The concept «state intervention» denotes the process whereby the state assumes control over social spheres that were previously outside the control of the state (Berger 1990). One may object to this definition in that no spheres are outside the control of the modern state, because laws regulate behavior at the individual level. Thus, no action can be regarded as outside the control of the state in one way or another. However, regulation of individual behavior may be accomplished at several levels and with different degrees. Often, behavior is regulated within certain legal limits. What happens within these limits is not the concern of the state. An example may illustrate this point. From 1990 to 1993, catches of Norwegian Atlantic cod were regulated by use of a maximum quota system (Jentoft 1991). In this system, Norwegian small-scale fishermen could catch a specified maximum amount of cod; when this amount was harvested, the fishery was stopped. In this example, the maximum quota system represents the limits of the regulation. What happened within these limits, e.g. when and where the cod was caught, was not the concern of the state. Thus, the fishermen were given some leeway as to how the action of harvesting could be performed. However, those who stepped over the limits of the regulatory scheme, by for example catching cod after the fishery had closed, were penalized.

In fisheries, state intervention often restricts the limits of behavior (see Chapter 2). Thus, the scope of individual freedom is narrowed down. When these limits are imposed by law, lawful behavior becomes more rigid because actions become formalized as legal routines. In other words, concrete laws dictate behavior and classify them as legal or not legal. Actions are classified as meaningful to the extent that they are in accordance with the legal provisions of the regulatory scheme: actions become guided by legal enactment. Returning to the example, the act of catching cod became a formalized action that could be classified as meaningful or not according to an objective standard represented by the laws of the maximum quota system. Those keeping within the limits of the system acted meaningfully, while those stepping outside its limits did not. It is reasonable to assume that this has wider consequences than just pertaining to the field which is subjected to state intervention, in this case the fishery. As noted above, actions are not only physical gestures, they are also cognitive entities that serve to

communicate intentions to others actor within a scheme of intelligible actions. Thus, the formalization of action triggers a need on the side of the actor to revise the concept of meaningful action so that it is compatible with the changed social realm.

One may discuss whether state intervention in reality serves to turn change people's lives, or if it is just yet another legal intervention consistent with all the other legal provisions to which people have already adapted. In short, is state intervention in most cases «old news» for people or does it represent changes of a deeper nature? This question can hardly be answered at a theoretical level, since state intervention occurs in different spheres that, to a varying extent, are compatible with the formalized actions resulting from law-regulations. Thus, this is an empirical question which must be judged on a case by case basis. Research has shown that the effects of state intervention in fisheries may have a multitude of effects. Anthony Davis (1991) observes that the imposition of a limited entry system in a fishery located in Nova Scotia, Canada had negative social effects. He claims that the management system contributed to increasing the social differentiation between fishermen in a community in the area. While conflicts had already existed between small-scale and industrial fishermen, the limited entry system accentuated these conflicts by granting those adapting to the management system easier access to capital as well as other advantageous regulations. According to Davis:

*«Representing conflicting rationalities, the two systems of fish production have been engaged in a struggle from the outset. This struggle, most frequently and superficially described as «gear conflict», concerns the very basis of and solidarity within the occupational and social communities existing on Digby Neck and the Islands (Davis 1991, 93)».*

The difference between the rationality of small-scale and industrial fishing was reinforced by state intervention, and translated into social and economic cleavages in the community. A similar effect has been observed in the Florida Spiny Lobster and Stone Crab fisheries (Karlsen 1992). Here, a limited entry system caused social differentiation between those having favorable financial connections and those who did not. Those with financial connections could take advantage of the incentives provided by the system to increase investments. The result was that those who already had capital available or accessible could accumulate even more, while others were gradually squeezed out of the fishery. Almås (1977) finds comparable effects of state intervention in Norwegian farming. He connects state intervention to the development of capitalism in post-war Norway, claiming that regulation of Norwegian farming had the implementation of a capitalist mode of production as its sole purpose (Almås 1977, 111). Discussing the development of Norwegian farming in the 1950's, Almås claims that financial, regulatory, price, and structural policies were coordinated toward a unified goal of

rationalization and efficiency, that is, a type of farming designed for a market-economy. The regulatory policy gave incentives to those who had large farms, while making it hard to run smaller farms because state subsidies generally favored an industrial approach to farming. Thus, state intervention gave rise to a new class of capitalist farmers.

These effects of state intervention have also been discussed at a more general level, especially by the German social scientist Jürgen Habermas (1984). According to him, the public sphere has intervened in the private sphere to an increasing extent (Habermas 1984). This has partly been accomplished by the state taking over responsibilities that were earlier taken care of by informal social institutions. The welfare state assume authority in new spheres, causing private matters to become public responsibilities and regulations at the individual level give increasingly less leeway for individual freedom and preferences. In Norway, social security systems have replaced care-taking responsibilities previously held in the family (Halvorsen 1990). An institutionalized infrastructure of hospitals, homes for elderly and other facilities has replaced the private sphere as the location of care-taking.

This concrete process also shows one of the dilemmas of state intervention. On the one hand, the development of the welfare state has had advantages for most people, for example that people have become more independent economically because they do not need to take full responsibility for the care of their elders and have more time because their children can be sent to kindergartens. Among other things, this has had the consequence that women have been enabled to enter the labor market for longer periods than before. In Norwegian welfare policy, this has been considered as *good* (Halvorsen 1990). On the other hand, it is reasonable to assume that this process has also led to fragmentation of the primary family, as families spend less time together. This may be considered a negative effect since some social problems can be traced back to the dissolution of the primary family. In sum, it is difficult to design state intervention that takes care of all of those social needs which are considered valuable in today's society. However, the needs of the market - efficiency, predictability and profitability - are often given precedence.

Different management systems, whether concerning fisheries or health care, have in common that they impose legal orders which transcend the local sphere by subjecting everybody to the same rules and laws, independent of their locality (Giddens 1990). The process of state intervention, and its varying effects, can be linked to the strong affinity between capitalism, state formation and bureaucracy. According to Weber, the bureaucracy assumes a far more authoritarian role than just that which pertains to its constitutional role as an administrative

tool.

*«Sociologically speaking, the modern state is an «enterprise» (Betrieb) just like a factory: This exactly is its historical peculiarity. [...] The «progress» towards the bureaucratic state, adjudicating and administering according to rationally established law and regulation, is nowadays very closely related to the modern capitalist development. The modern capitalist enterprise rests primarily on calculation and presupposes a legal and administrative system, whose functioning can be rationally predicted, at least in principle, by virtue of its fixed general norms, just like the expected performance of a machine. The modern capitalist enterprise cannot accept what is popularly called «kadijustice»: adjudication according to the judge's sense of equity in a given case or according to the irrational means of law-finding that existed everywhere in the past and still exist in the orient (Weber 1978, 1394 ff.)».*

In Weber's perspective, state intervention is an instrumental action by the state which is designed to increase the efficiency and profitability of production. Weber should not be interpreted too literally in this case. He holds that the capitalist principles of production are becoming increasingly important, but not that the organizational principles are dominant in all spheres of life. However, the organization of life in the public realm becomes *economized* in the sense that actors are treated as instruments in a general production process governed by motives identical to those present in capitalist enterprises. When an increasing number of spheres become integrated into the state-capitalist system of production, a state of *automation* occurs. The more actions are formalized, the more predictable and automatic social actions become. The term «automated» is often used in contrast to the term «irrational» because they capture the tensions created when the calculability and predictability in the capitalist state replace historically embedded practices. Such practices have often irrational - or unpredictable - elements. Alternatively, and possibly more precisely, historical practices are «irrationalized», meaning that they *become* irrational. Formal economic rationality assumes that the behavior of other actors can be calculated in an equation where the outcome is individual profit. Substantive economic rationality assumes internalized practices where behavior is judged by its correspondence to traditional norms. The result is also a qualitative alternation of the foundations of authority. While authority previously rested on internalized norms defined within a variety of cultural and religious spheres, now a general principle of formal economic rationality governs actions, also across cultural boundaries. This causes a process of homogenization (Albrow 1996).

State intervention contributes to making normative orders more homogeneous because the imposition of modern management systems subjects everyone to identical normative/legal principles. Traditionally, authority varied according to the normative order that had the hegemony in the particular social system. Specific religions, practices, charismatic authorities,

economic behavior and other factors affected the way in which traditional authority is legitimized and guaranteed. State intervention reconfigures the right to enforce the limits imposed on behavior. The local context becomes powerless because the responsibility for guaranteeing the normative order is lifted out of the local sphere and into the formalized sphere of the bureaucracy. Management in the sphere which is subject to intervention becomes a public concern in the sense that decisions always involve the bureaucracy as a second part. Individuals become increasingly disconnected from their social surroundings because the social milieu becomes formally regulated by the legal system and not by local and traditional regulations. According to Giddens (1990), the notion of «local» is weakened and the formation of identity changes from being based on membership in local institutions to being based on national and trans-national cultures following the universalization of capitalism. Giddens calls this the *disembedding* of modern identity, as identification is elevated to the general level of a civilization, and is disconnected from distinctly local practices, norms and customs.

One may regard this as a change in the dominant principle of social actions because the basis is altered according to which behavior is judged as intelligible. This has consequences at the cultural level also. Cultural changes are the subject of the next section, in which the influence of formal economic rationality is seen in relation to wider changes in society.

### **1.3.1 Inescapable Rationalization: Weber's Iron Cage and *Entzauberung***

Many social scientists in the classic tradition have expressed pessimism on behalf of the western civilization, and have developed concepts and theories for criticizing the «modern» world. Marx established a theory of capitalist society that focused on the economic, political and social foundations of class formation (Elster 1986). In Marx' analysis, the class-consciousness of the proletariat was assumed to give rise to revolutions where the means of production would be taken over by the working class. Weber extended his analysis of the modern state and capitalism to a theory of rationalization, or *entzauberung* (Scaff 1989). In his view, the increasingly rational approach to economic matters had a rub-off effect on other aspects of society also. Religion, nature, welfare and other phenomena become defined in terms of formal rationality, leading to a disenchanted world void of magic, mysteries and unexplainable events. Others, such as Nietzsche, developed a theory of the fall of mankind in which the modern notion of *logos* was contrasted to the antique notion of *mythos*. He argued that the modern idea of rationality (*Logos*), which he called self-narcosis, gave rise to a false consciousness that would lead to the self-destruction of mankind (Nietzsche 1974). These are only three of the thinkers who have expressed pessimism on behalf of the western world. The views of western civilization of Marx and Weber have a critique of the logic of capitalism as a



common ground. Thus, modern civilization is analyzed by criticizing capitalism and its concept of social action. In the following, the idea of rationalization will be explored.

In Weber's view, the «magic» of the world becomes annihilated in modern society. The concept «magic» seems to be used in a metaphoric sense by Weber, as it represents the unexplainable and incomprehensible phenomena of the world. According to Weber, mankind has always been concerned with breaking down this mysticism.

*«In all times there has been but one means of breaking down the power of magic and establishing a rational conduct of life; this means is rational prophecy. Not every prophecy by any means destroys the power of magic; but it is possible for a prophet who furnishes credentials in the shape of miracles and otherwise, to break down the traditional sacred rules. Prophecies have released the world from magic and in doing so have created the basis for our modern science and technology, and for capitalism (Weber 1995, 362)».*

Seen from a social point of view, what is special with magic and sacred rules? Here, Weber conforms to a longer tradition of western thinkers who give pre-modern culture an «original» or «pure» status (Cf. Nietzsche in Scaff (1989)). In pre-modern cultures, inexplicable phenomena were interpreted according to the rules of religion and tradition (Ricoeur 1967). Thus, the role of myths was to create meaning from these phenomena, while sacred rules gave prescriptions for correct actions toward these phenomena. In most cultures, myths have been an important component in relating to nature. In northern Norway, for example, different myths about the sea have given rise to a multitude of mythical figures which have served to explain occurrences at sea that have been unaccountable in rational language (Drivenes, Hauan and Wold 1994). From a functional perspective, the significance of these and other myths lies in their ability to explain meaningless events, such as losses at sea. Thus, they serve to give security to people in an insecure world; at the very least, they can explain how such events can appear.

The *management* of myth can be extended into social institutions such as the church. Weber, but also others such as Marx (1977) and Durkheim (1995), was concerned with the role of the church in both pre-modern and modern societies. The church, in whatever form it may have appeared, has always served as a manager of mythical rituals and the prescriptions for action therein. The authority to certify actions and rituals that are related to myths has become manifest through different schemes, such as the connection between state and church throughout history. During the Middle Ages, the state was legitimate to the extent that it was blessed by the church (Hoyt and Chodorow 1976). In that sense, the social role of the myth has generated political institutions, for example the theocratic state attempted by Calvin. Here, the management of the state was prescribed by sacred rules issued at the highest level of



ecclesiastical authority. However, *irrational* explanations of the world is not the exclusive property of the church. Although the church has been important in this regard, common *traditions* have served similar purposes. As noted above, traditional actions have the feature that the justification of the action lies in the performance of the action itself. The arguments for behaving in accordance with tradition are implicitly arguments for subjecting to the authority of tradition, not the concrete social effects of the action. Thus, traditions also follow the same structure as magic rituals or compliance to sacred rules, and traditions have the common feature that attention is given to internalized routines and prescriptions which are disconnected from the concrete social reality in which the action is performed. Instead, they are connected to specific cultural standards regarding correct behavior towards the phenomenon or object in question. The will of tradition and sacredness is given precedence before individual will, and the act is meaningful to the extent that it complies with these rules of behavior.

Many historical persons, for example Calvin, may be labeled by use of the notion «rational prophet». The significance of the rational prophet lies in his/hers ability to demystify certain constructs that were earlier managed under the sphere of mythical authority. In the case of the Calvinists, the mechanisms behind the accumulation of wealth were demystified. Calvin gave concrete descriptions – asceticism, reinvestments, etc. – that guided the economic actions of the professing individual, while leaving the wealth itself in the hands of God. Thus, economic actions were treated as objectively given actions that could be explained through the concepts of economic rationality, not myth. The significance of this change lies in its focus on the individual as a source of knowledge, able to make good judgments that are in accordance with concrete standards of rationality. This is seen most markedly in the process of acting in a formally economically rational way in the secular sphere of the economic market. Formal economic rationality denotes the essence of exchange in a market. Before an exchange between two actors can be completed, both actors go through a phase of contemplation. Information about the object to be exchanged is sought, and both actors activate different forms of technical and economic knowledge to process the information. Also, information about the other party is obtained since such information can contribute to manipulating the exchange process. This is the contemplative phase of exchange, and it is described by a set of technical calculations as to the behavior of other actors and the objects which are to be exchanged. When the concrete process of exchange arrives both actors have ‘common knowledge’; each knows that the other actor knows that they both know that each one of them will try to maximize profit, which is the outcome of this form of exchange (Haga 1991). Calculation of the correct path becomes determinative for the outcomes of exchange, and environmental factors (i.e. individuals, institutions, laws and other phenomena) being means for reaching the goal, become objectified.

That is, the environmental factors assume an extrinsic quality because they are objects of knowledge and information which have been generated by use of individual reason. Thus, the correct prescriptions for actions are found in individual reason and the ability of individual reason to calculate correctly, rather than any magic, ritual or sacred rules. This change of the fundamental concept of action in the economic sphere may be considered the first step towards a rationalized society, as certain objects and phenomena are lifted out of the sacred sphere and become secularized. However, other elements also serve to push the rationalization process forward.

Above, the role of bureaucracy as a rational steering instrument was emphasized. The core of the bureaucratic mode of authority is located in its reliance on individual and collective rationality (Blau and Meyer 1971). The organization as such is designed for concrete rational purposes such as efficiency, consistency and predictability. These features of the organization make it appropriate as a steering vehicle because it can be understood using concepts of individual rationality. This is a crucial feature of state intervention as a process of rationalization because tradition and sacredness lose their force as guidelines for behavior when the structure of authority is altered from traditional to legal. Actions in a social context which is subjected to state intervention become judged by standards for rational action, because the limits of behavior are defined within a framework of objective standards. When legal routines define the limits of behavior, the individual can argue rationally for his/her behavior within the framework of the legal order. Thus, prescriptions for actions are defined by instrumentally founded laws. Often, state intervention take the form of a set of laws that regulate behavior towards a set goal. These are mostly formulated by experts whose superior technical knowledge of a substantial field is given precedence over the authority and knowledge that may exist in the context which is subjected to the bureaucratic authority. Thus, knowledge of the life world is also classified in accordance with rational standards of expertise that elevate rational knowledge above the traditional knowledge that may exist in the social context. Thus, state intervention, in the form of change of authority, is not the only trigger of the rationalization process. The general drive towards increased knowledge also has an important role. According to Scaff:

*«The price of the will to knowledge is paid with disenchantment. Or, in Nietzsche's phrasing, «Creative work as enchantment brings with it a disenchantment in relation to everything that is already there» (Scaff 1989, 230)».*

The will to generate knowledge is in itself a drive towards rationalization, since increasing knowledge has the implication that the world is transformed into an object that can be analyzed

by science and the laws of nature. Thus, science is a competitor to myth, since both set out to explain a world that may appear meaningless at the outset. The modern urge to acquire control over nature, by use of science, sometimes leads to catastrophic consequences, such as resource depletion. This can be seen in fisheries, where numerous management systems have failed because nature has shown science to be wrong (Holm 1995). Many concepts can be used to describe the rationalization process and its consequences. The most striking effect of formal rationality is its consistency across cultural systems and its homogenizing effect on culture. According to Albrow:

*«Expand truth and error declines. Increase knowledge and ignorance diminishes. Increase control and the world becomes more predictable. This view of the world makes it a finite entity, coterminous with a material reality like earth (Albrow 1996, 35) ».*

While myths and traditions usually have validity limited to demarcated social systems, formal rationality assumes a universal character due to its homogenous standard of rational action. This development follows the expansion of capitalism (Polanyi 1992). Actions are rational and thereby also meaningful and intelligible to the extent that they contribute to accumulating profit, raise efficiency, lower costs or any other rational conception that is implicit in running a business rationally. Thus, rationalization may be equated with homogenization, the cultural process where «local» universes of meaning melt into one invariable form of social action and intention. This serves to create a social world that assumes a physical/mechanical character and that can be regarded as a physical phenomena. Weber called the sum of all these changes *Entzauberung*, or demystification. While the world historically contained several contingencies, mystical relations and unidentified forces, the forces of modernity – promoted by capitalist production – rationalize the world by giving everything meaning as an object that can be understood by human reason. State intervention contributes to the rationalization process by imposing social orders which in turn impose rational limitations on behavior and incorporate an increasing number of spheres into the capitalist production process. Weber called this process the «iron cage», that is, an inescapable rationalization of the world that it is impossible to stop (Scaff 1989).

## **1.4 Summary**

Weber may be regarded as one of the founders of modern economic sociology, along with others such as Marx and Schumpeter. Of the many topics discussed in his writings, only a few have been discussed in this chapter. It is difficult, and maybe not even interesting, to extract the essence from his social theory. The complexity of his theory permits several analytical

constructs that are valuable for analysis of contemporary society. Here, the intimate relationship between the actor and his/her context is given a prominent place in the interpretation of Weber's texts because it may be argued that this is the most important aspect of his explanations of social change. The relationship between actor and context is often connected to interpretive sociology, to which Weber is considered one of the important contributors. However, the inherent social aspects that the actor/context focus stresses are also at the forefront of the debate in modern economic sociology, notably due to Granovetter's attempt to bring Weber back to modern economic sociology (Granovetter 1992).

Along with Giddens (1990), Granovetter postulates that all actions are «embedded», that is, connected to a social reality through the actor's social relations. Choices, strategies and actions are contingent on the structural position of the individual. No actions occur in a vacuum, rather the ties of the individual always influence them. According to Granovetter, this perspective brings Weber's emphasis on the social dimensions of economic actions back to the analysis of contemporary economic institutions. This is a perspective which has been lost because dominating perspectives in economic sociology have emphasized rationality as an individual entity that is a product of individual reason. As shown above, the concept 'rationality' is meaningless without taking the actor's perspective into account; actions are rational to the extent that the actor sees them as rational and can relate the concrete action to social and/or material structures in the field where the action is performed. What the actor sees as rational is a matter of social and cultural background, since the concepts and constructs that the actor observes in the world are socially and culturally transmitted. Granovetter's concept of embeddedness, which originally was Polanyi's concept, stresses the same components as Weber in explaining social change (Granovetter 1992). In this chapter, the influence of state intervention, religion and economic changes on social actions has been discussed at a theoretical level, arguing that the actor's understanding of a correct and valid course of social action is largely determined by these contextual variables. However, Weber's theory is more than just an emphasis of the social aspects of economic actions.

The theory of rationalization as it has been interpreted here, serves to extend Weber's epistemological analysis of social actions into a critique of modern civilization. It is the fact that human actions, and their corresponding meaning, are contingent on historical and contextual factors that serves to homogenize social actions. This paradox in which cultural, economic and social homogenization leads to unification of meaning, has resulted in loss of variation in a world that historically contained a multitude of cultural expressions. Concretely, the invasion in all different spheres of life by the capitalist mode of production and all the

cultural assets intrinsically tied to this system, causes an economization and demystification of the world. The view on other actors as calculable objects which follows from the fact that the capitalist actor relates to his context in economic terms leads to a self-understanding that is based on the same cognitive mechanisms. When this understanding of both the self and others as an object becomes a normative imperative for being a meaningful part of the modern social world, the terms of interaction becomes increasingly invariable and consistent across social time and space. The self-understanding of an English factory worker and a Saami reindeer pastoralist converges, becoming similar but not necessarily identical.

State intervention has been particularly emphasized because the concrete problem of this thesis is a case study of state intervention. As already shown, state intervention is a social process whereby control of a social field typically changes from traditional to formal. Following the hypotheses above, one may expect the fishermen of Codfjord to change the terms by which they understand themselves and others. Thus, this discussion emphasizes one of the many elements in Weber's theory of rationalization. Also, the consequences and content of rationalization by state intervention are many and complex. This study does not aim to exhaust the issue. Rather, the intention is to provide an assessment of the effects of one concrete form of state intervention; this is done by applying the concepts discussed here to the social change which occurs in one industry in one community. The intention of the theory is to systematize an explanation of social change. This will be done by contrasting the theory of rationalization outlined here with different positions taken in the discussion concerning the tragedy of the commons. The tragedy of the commons will be discussed in the next chapter.

## **Chapter Two**

# **Theoretical Perspectives on Fisheries Management**

This chapter discusses some of the issues arising from state intervention. In this text, fisheries management systems are elaborated on. However, the intent is not to exhaust all issues pertaining to fisheries management systems, whether such systems are legal or extra-legal. Rather, the intent is to emphasize one particular debate with relevance to rationalization; namely the behavioral foundations of resource depletion. The theory of the tragedy of the commons is such a debate, and the positions taken towards this phenomenon reflect the overall debate about rationalization. However, there is one difference between this debate and the one of the previous chapter. The difference relates to the fact that people disagree when assessing the extent to which the world is rationalized. As pointed out above, Weber never attempted to assess the extent to which the world was rationalized. Rather, he demonstrated that the world is gradually becoming rationalized and showed how this process is related to important human faculties such as action and authority, as well as material factors such as technology and production systems. Controversies arising from the theory of the tragedy of the commons may be interpreted as disagreements evolving from the difficulties with which one is faced when concretely assessing the impact of state intervention. For example, is it reasonable to assume that modern fishermen generally, invariably and consistently direct their actions in such a manner that the maximum possible amount of profit is generated, or do they also have other goals? These and other questions will be returned to at the end of this chapter, where the research problem posed in the introduction will be further specified.

I start out by discussing the reasons for implementing fisheries resource management systems by separating different forms of management systems according to their intentions. It is usually held among social scientists working with fisheries that natural resource management systems are necessary to help avoid the tragedy of the commons, but disagreement exist as to how this can be accomplished. When resource depletion - which is the outcome of the tragedy of the commons - is the problem, the state can relate to the situation in three principally different ways: (1) do nothing; (2) intervene and assume control over the situation; or (3), assume that users will develop management solutions themselves and help them accomplish this. The fisheries resource management system imposed by the state will be called *legal resource management systems*, and those that users impose informally on themselves and others will be called *extra-legal resource management systems*. The prefix «extra» denotes that such management systems exist in addition to and outside the legal system. This does not mean that

these laws necessarily are *illegal* - that is, they contradict formal law - but it means that they are laws which people generate informally. However, there are «gray» zones between these two options and these will also be discussed.

## 2.1 Fisheries Management Systems

In spite of variations in intentions, one may explicate some general theoretical principles behind most fisheries resource management systems. Fisheries resource management systems aim either at changing the ecological conditions in which the stock replenishes, or at directing and altering the behavior of people subjected to the resource management system, or both simultaneously. When alteration of human behavior is an ingredient in the resource management system, imposition of the system is legitimized by reference to higher political and normative principles, such as sustainable development, social policy, and the like. Theoretically, then, fisheries resource management systems may be separated by their intentions into two groups (Cicin - Sain and Silva 1985):

- (1) *Fisheries management systems that intend to preserve a given resource.*
- (2) *Fisheries management systems that intend to alter undesired human behavior.*

In (1), preservation of a given resource is a stated goal, and all other priorities are defined accordingly. In most cases, this has consequences for the behavior of those who exploit the resource, but this is not the intention of the system. That is not the case in (2). Here, management systems aim to alter the behavior of actors independently of their behavior towards a resource. While such provisions may have consequences for the resource, this is not the main intention of the system. These two ideal types depict two different causal chains when the resource management system is treated as an independent variable. That is, the resource management system may have effects in two principally different fashions. In the first case, resource management systems are often responses to resource depletion. This need not be directly caused by human behavior. It may, for example, be caused by sickness in a fish stock. Nevertheless, resource depletion is normally the outcome of human behavior, such as overfishing. As fish-stocks are renewable resources, different instrumental efforts contribute to making the resource replenish. This results in the causal chain:

A. *Management system* → *Resource* → (*Actors*)

In the second case, the causal chain is simpler because the sole intention of the management

system is to alter behavior that, according to some standard, is considered undesirable. But, as noted above, this may have consequences for the resource. The causal chain is:

B. *Management system* → *Actors* → (*Resource*)

In case A, the resource management system is supposed to have an effect on the preservation of the resource. This will normally also have an effect on those harvesting the resource in question. Users will have their behavior altered in accordance with the provisions made by the system towards the resource. For example, they may have to harvest less fish. This does not mean that users must alter their behavior because the management system alters the *behavior* of the stock. It means that changes in the conditions for recovering the stock have consequences for the behavior of the users. For example, they may have to harvest less fish because more of the mature fish must spawn for the stock to rebound. Thus, the conditions for recovery have an intervening effect between the management system and the behavior of those using the resource. In case B, the causal chain is more straightforward. The management system is specifically made to alter behavior<sup>9</sup>. However, in many cases, such intentions *do* have consequences for the resource in question. If so, alterations in behavior have an intervening effect between the resource management system and the ecological condition of the resource.

The theory of the tragedy of the commons, which was developed by Garrett Hardin (1968), has received considerable attention among scientists interested in fisheries and other industries that are based on common pool natural resources. The notion of the tragedy of the commons covers a process where several actors behave in a formally rational manner toward both a resource and each other<sup>10</sup>. At the core of the behavioral process lies a form of property right which is attached to the exploited resource. Hardin calls these properties *common property*. Common property has, according to Hardin, the attribute that users can exploit it freely. There are no limitations on the exploitation of the resource except the actors' own standards for how much they need. In a capitalist economy, it is meaningful to apply the principles of formal economic rationality in this context. Actions toward the resource are meaningful to the extent that they

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<sup>9</sup>In this sense it is also incorrect to call such systems «resource management systems», because they are not established with the ecological conditions of the resource in mind. However, for the sake of clarity, all fisheries management systems will be referred to as «fisheries resource management systems», since this appears to be the terminology used in the literature (cf. Berkes 1989).

<sup>10</sup>It should be specified that Hardin does not use the concept «formally economically rational» but «self-interested». The way in which Weber and Hardin use them, these two concepts appear synonymous, except that for Weber «self-interest» denotes an action orientation. However, to avoid conceptual confusion, the type of action described by Hardin will be treated as a case of formal economic rationality.



are oriented in terms of formal economic rationality, that is, each actor attempts to maximize profit as efficiently as possible. Because access to the resource is unlimited, it will be exploited until it collapses. Because each actor knows that all actors will attempt to catch as much fish they can before the resource collapses, everybody catches as much fish as possible in the shortest time possible. A self-perpetuating process is initiated where everybody competes for the fish with all means available (McCay and Acheson 1987). This contributes to accelerating the collapse of the resource to the point where it can not support any of the actors (Anderson 1987: Hardin 1968: Jentoft 1991: Townsend and Wilson 1987). Herein lies the «tragedy»: The resource that at one point benefited all actors - because access was open - is now unable to support any of them. Hardin (1968) suggests that state intervention and/or privatization are the only solutions for avoiding the tragedy of the commons.

According to Hardin's (1968) theory, maximizing actors generate the tragedy, but it is unclear exactly how the word «maximizing» is used. Yet in this context, it appears that the actors' maximand is the extra profit generated by increased exploitation (Townsend and Wilson 1987). Some authors claim that becoming part of the capitalist political economy can generate maximizing behavior (Faris 1977: McCay 1987). Others - especially rational choice theorists - claim that maximizing behavior is a fundamental cognitive faculty for everyone (Elster 1986). Some hold that scarcity of other resources, unemployment, and other social and/or economic factors, contribute to more growth in the number harvesters than one single resource can support (Durrenberger and Pálsson 1987). A rich literature on technological change in fisheries discusses how production and harvest change in accordance with technology (Antler and Faris 1979: Britan 1979: Dewees and Hawkes 1988: Goodlad 1972: Jackson 1979: Johnson 1986: Levine and McCay 1987: Smith 1977). Others have documented how new cultural attitudes change people's attitude toward fishing (Munch 1977: Poggie 1979). Whatever motives people have for their behavior, the result can be the tragedy of the commons, if not a management system does not limit the harvest (Acheson 1981: Anderson 1979: Anderson and Wadel 1979: Brox 1990: Hardin 1968). However, some hold that the assumptions of Hardin's theory are incorrect because formal economic rationality - to the extent that this is the form of rationality in operation - is restricted by different institutions.

Hardin's claim that access to common properties is free and unlimited is contested among several of his critics. For example, Berkes holds that «*much of the resource management thinking - for example «the tragedy of the commons» model (Hardin 1968) - is Western ethnocentric, emphasizing competition rather than cooperation and assuming the supremacy of individualism rather than communitarianism (Berkes 1989)»*. Critics draw on the literature on

extra-legal resource management systems, arguing that access to resources is usually controlled by extra-legal resource management systems so that the tragedy is avoided. Social relations between users may constitute an extra-legal resource management system, which contributes to limiting the harvest among users and excluding other users. This is especially the case when the pressure on the resource increases. When a resource community finds that «their» resource is being depleted - for example due to an intrusion of other users - they tend to form systems for exclusion and inclusion, as well as some type of enforcement. These systems contribute to preserving the resource, as well as distributing the harvest socially according to the normative criteria upon which the system is founded. In fact, the critics of Hardin's model believe that resource depletion is usually located in a cause external to the social relations which form the resource community (McCay and Acheson 1987). Such causes may, for example, be state intervention in a fishery, technological change, and the like. The critics' point is that the social relations which embed the property gives the property a specific social meaning, and that this meaning may be dissolved by state intervention (Berkes 1989). State intervention may contribute to changing the terms by which the actors relate to the resource; actions may go from being based on the specific local traditions and institutions to being based on formal economic rationality. When the way in which actors relate to the resource is changed, the behavioral criteria for Hardin's theory yield a self-fulfilling prophecy. All these different variations in the social and political relations that may embed a resource result in a variety of different property regimes. Berkes (1989) distinguishes between four ideal types of property regimes:

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|-----------------------------|--|
| 1. <i>Open - Access</i>     | <i>Free-for-all; the right to use the resource is neither exclusive nor transferable; these rights are owned in common but are open to access for all (and therefore the property of no one).</i>  |
| 2. <i>State Property</i>    | <i>Ownership and management control is held by the nation-state or crown; public resources for which rights of use and access rights have not been specified.</i>  |
| 3. <i>Communal Property</i> | <i>The rights to use the resource is controlled by an identifiable group and is not privately owned or managed by governments; rules exists which specify who may use the resource, who is excluded from using the resource, and how the resource should be used; community-based resource management systems; common property (Berkes 1989, 10)</i> |
| 4. <i>Private Property</i>  | <i>Ownership and management of the resource is the responsibility of the individual and identifiable owner of the resource, unless it directly or indirectly causes damage to others' property.</i>  |

According to Berkes, it is a mistake to equate common property with *open access* (Cf. also Ciriacy Wantrup and Bishop 1975). Common property must be equated with communal

property. Indeed, Berkes argues, there are extremely few examples of *open access* properties - «Whenever a society has needed a natural resource [...] rules for its orderly use have been worked out (Berkes 1989, 10)». Nobody doubts the existence of state property and private property, but there is disagreement about whether communal property exists as something different from *open access* resources. This is also the key point in this discussion, and all those criticizing Hardin have attempted to document how extra-legal resource management systems close the supposed *open access* nature of the resource. In that fashion, the tragedy of the commons is avoided before the process sketched above starts. Berkes (Ibid. 11 ff.) constructs a series of functional arguments for rationalizing the distinction between *open access* and common property.

According to Berkes, common property (communal property) includes all community - based resource management systems; these are called extra-legal resource management systems here. The concept «community» is defined as the set of individuals or groups of individuals who use the resource. These systems are also «traditional», in that they can be defined as «*practices which have had historical continuity among a group of people* (Ibid. 11)». It should also be emphasized that while the resources may or may not be legally owned by the community, they can be managed in accordance with community-based norms and rules. The roles, or functions, of extra-legal resource management systems are summarized under the following headings (Ibid. 11 ff.):

*Livelihood security.* The resource management system contributes to securing the community, as well as all the groups and strata inside it, a «fair share» of the resource. The management system guarantees that those living in the community at a certain point in time get their share of the resource, but also that those recruited to the community are secured food or other assets stemming from the resource in the future.

*Access equity and conflict resolution.* Because the rules of the management system are mutually agreed upon in the community, they serve to reduce conflicts. The rules are, according to Berkes, mutually agreed upon because they are based on equity.

*Mode of production.* The common property resource management system is connected to a larger set of cultural values, being an integral part of the social system. Persons relating to the resource in question are often part of households or work-teams, and the norms of the management system go hand-in-hand with the norms of the production system. In that sense, the resource management system is an inseparable part of the production system and the local culture<sup>11</sup>.

*Resource preservation.* Common property management systems are inherently resource-

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<sup>11</sup> According to Berkes, this leads to the rule that «*you must live in this community to use the resource* (Ibid. 12)», but - one may add - it remains unclear why Berkes holds that homogeneity in local culture leads to exclusion of others.

friendly because the users normally use the resource for reasons of self-sufficiency. Because the rest of the community punishes persons who take more than they need from the resource, they tend to take just what is needed.

*Ecological sustainability.* Since common property resource management systems are inherently resource-friendly - focusing on equity between generations - they also provide ecological sustainability. According to Berkes, the inclusion of rituals in the management system serves to synchronize the harvest with the natural cycles of the resource, which also leads to a sustainable harvest<sup>12</sup>.

Common property resource management systems are based on a notion of a community, a concept that has a long and controversial history in the social sciences. Indeed, the idea of extra-legal resource management systems rests on conception of a community. This assumption is important because it provides the link between individual behavior and the restrictions imposed on it, and collective institutions (Gibbs and Bromley 1989). Institutions representing an extra-legal fisheries resource management system must define a set of rules to which actors can relate. If they do not, it is impossible for the users to know how the institution wants them to relate to the resource. Gibbs and Bromley (Ibid. 26 ff.) list a series of such rules, formulated as questions that must be answered by those responsible for the extra-legal resource management system:

- «1. *What constitutes membership of the group having a right to the resource and who is not a member with the duty to respect the rights of members;*
2. *what constitutes agreement - unanimity, consensus or majority;*
3. *on what basis the right will apply over time, i.e. annually or seasonally;*
4. *how rights are transmitted between generations;*
5. *where control resides, i.e. vested in a community board, in a village or district elders, or in the household;*
6. *how compliance with agreed rules and conventions is to be maintained;*
7. *how departures from the rules are to be corrected and sanctions imposed;*
8. *and how disputes are to be settled (Ibid. 26 ff.)».*

It is impossible to give an exhaustive list of all factors that must be present before an extra-legal resource management system can be said to exist and work adequately because institutions vary by social setting and resource. However, it is possible to say something about the nature of the constituting factors of such institutions. Berkes (1989, 70 ff.) holds that such institutions are connected to practices. Practices are tacit in the sense that actors may orient themselves in a customary fashion, unable to justify their behavior except by reference to history. Berkes' argument may be in conflict with one of the preconditions of any management system. All extra-legal resource management systems must work according to explicit

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<sup>12</sup> While this may be the case, it remains unclear why Berkes holds that rituals and synchronized yearly cycles lead to a sustainable harvest.

principles, because they all involve a discursive element if they can be meaningfully labeled systems in any sense of the term. Conflicts, misunderstandings and disagreement are some of the elements in any social dynamic, and such problems must be solved by actors arguing with reference to a set of explicit rules if the system exists in a democracy. In theory, it is impossible to have an extra-legal resource management system based on tacit practices, because such practices cannot be explicated verbally. It is impossible to justify the new rules necessary when adapting to social and ecological change, unless the parties somehow can conceptualize these changes. Thus, it seems incorrect when Berkes links extra-legal resource management systems and their corresponding institutions to practices. Rather, they must be linked to known and explicit rules by which actors can orient their behavior. This is important because such documentation shows how such management systems are legitimized.

It was mentioned that many of Hardin's critics also criticize state intervention. McCay and Acheson (1987) claim that state intervention «*can weaken or demolish existing institutions and worsen or even create tragedies of the commons* (McCay and Acheson 1987, 27)». The arguments posed against Hardin's model are extended into a critique of the current forms of legal resource management systems imposed by the state. This brings a new, and different, chain of arguments into the discussion. The arguments against Hardin's model are based on documentation of extra-legal resource management systems, while the arguments against state intervention are based on the effect that legal resource management systems have on extra-legal resource management systems. The arguments against state intervention in fisheries are similar - but not identical - to those posed by Weber when he assessed the effects of state intervention. State intervention replaces the authority of the extra-legal resource management system with legal authority. This forces actors to relate in specific terms to the resource, because the definition of meaning is changed from traditional to legal. Most legal resource management systems treat resources in terms of the profit they yield for the actors and the state. The means by which the condition of the resource is altered are also often economic. For example, the right to fish may be defined in economic terms through income from fishing. If this is the case, the resource has its conditions for reproduction improved, because those who earn above or below a defined income level are excluded from the fishery. Fishing becomes exclusively defined in economic terms, both by managers and fishermen, as opposed to economic, social, cultural and religious terms. When the relationship between fishermen and the resource changes in this fashion, it also contributes to making the community more rationalized. Because state intervention represents a form of system-coercion, actors are forced to act in accordance with their own self-interest (Durrenberger and Pálsson 1987). If they do not adapt to this specific scheme of thinking, they may find themselves excluded from previous fishing rights, because

these fishing rights also become redefined when the property is incorporated in the capitalist production process.

In summary, two principally different resource management systems follow from the two theories of behavior outlined above. On the one hand, Hardin holds that state intervention by imposition of legal resource management systems is one way of staggering the tragedy of the commons. Alternatively, he suggests privatization of the resource as a means of avoiding the tragedy of the commons. When property is privatized, actors have economic incentives to preserve the resource because competition from other actors is eliminated. This yields the possibility of making long-term profits, because the owner has control over the harvest of the resource, or at least more control than is the case if the property is *open access*. On the other hand, Hardin's critics suggest alternative approaches to resource management. They hold that the assumptions of Hardin's theory are too restrictive, as they consider most natural resources as already managed due to the actors' embeddedness in extra-legal resource management systems. How these two different approaches to fisheries management work in practice will be reviewed sequentially, starting with extra-legal resource management systems.

### **2.1.1 Extra-legal Resource management Systems**

There are two types of extra-legal resource management systems. In one case, access to the property is limited by the presence of some form of guaranteed informal management system. One of the consequences of such limitations is resource preservation. Resource preservation by such methods can legitimately be called a management *system*, because the management institution exists as a recognized social order in the resource community which actors orient their actions in accordance with. An extra-legal resource management *system* may, for example, consist of everybody living in a resource community. Theoretically, all such systems consist of one or several groups of fishermen who have an institutionalized extra-legal order that functions to limit harvest by any social mechanism which prevents resource depletion. The order also needs to exist under some form of guarantee. Extra-legal resource management systems do not necessarily exist explicitly to accomplish resource preservation. Resource preservation can also be the outcome of other social orders, such as territoriality. An example of this is the lobstermen of Maine, as described by James Acheson (Acheson 1979: 1981: 1987: 1988). They enforce an extra-legal order which prescribes territoriality. Groups of fishermen have specific territories in which they fish. Those claiming territoriality punish those intruding on these areas - for example by cutting their traps. This contributes indirectly to preserving the lobster stock, because the number of fishermen are limited to those granted access to fishing territories. It should be added that extra-legal resource management systems made solely for

preserving resources are not well documented in the literature. Most such extra-legal resource management systems have resource preservation as an *effect*, not an intention.

Extra-legal resource management may also exist due to the specific features, or attributes, of a fishery. In this case, harvest is limited for reasons other than presence of a management *system* among the fishermen. For example, catches may be reduced due to technological and economic thresholds in the fishery. Such thresholds may contribute to preserve the resource because they impose restrictions on the fishermen's behavior. Many fisheries have economic features that contribute to avoiding the tragedy of the commons (Norr and Norr 1978). A case in point is the Norwegian deep-sea herring fleet (Wadel 1972). Participation in this fishery requires expensive boats and sophisticated equipment that can handle stormy seas in the wintertime. Thus, the level of capital limits entry because few fishermen can afford such boats and equipment. At the same time, rough weather puts physical limitations on the harvest. This reinforces the technological thresholds in the fishery<sup>13</sup>. The important feature is that thresholds such as these cannot be meaningfully labeled *systems*, because they do not exist as intentions to which the fishermen relate. They can be called extra-legal, because they are behavioral restrictions which exist outside the legal system. Instead of being systems, they are physical attributes of the fishery. However, if these attributes are intentionally implemented, they may be called systems or at least parts of a larger system. If, for example, the fishermen are situated in a local culture which condemns vessels over a certain size and certain types of gear, one may say that the physical restrictions imposed on the fishermen are systematic. If the boat is interpreted as a symbol of social status, the status system of the community may contribute indirectly to preserve the resource because it imposes restrictions on boat size. Thus, we may differentiate between extra-legal resource preservation following from intended systems on the one hand, and physical, social and cultural attributes of the fishery on the other hand. In both cases, the resource preservation which results from these phenomena is based on extra-legal factors. This labeling is justified by the fact that neither of these two cases are related to the judicial system of which they also are part, while at the same time being concrete behavioral restrictions.

However, the difference between *system* and *attribute* is not always clear. This is especially the case when attributes of the fishery translate into behavioral systems. The stone crab (*Menippe Adina*, *Menippe Mercenaria*) fishery in Florida is such a case (Karlsen 1992). Crab fishing is special because the fishermen's skill and knowledge in searching for crabs determines his

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<sup>13</sup>Of course, knowledge of such thresholds may also have the effect that it creates incentives for overcoming them, if such action is profitable. In that case, the status of the attribute changes from limiting exploitation to giving an incentive for increased exploitation.



economic success. Because crabs are located at the bottom of the sea, one cannot use electronic devices such as echo sounders to locate them. Instead, fishermen must rely on ecological knowledge. Having knowledge of crab ecology is important since crabs tend to migrate constantly. Important contingencies for the migration of the crabs are weather (cloudy, shiny and/or hazy), temperature, underwater streams, and access to prey. Computer registration of catches and other variables at different spots helps the fishermen to systematize this information so that it can be used for prediction at a later date. The captain of the boat calculates which areas are most likely to be good catching spots based on previous catches and variation in important variables. For the inexperienced fisherman, access to this information is valuable. If the newcomer has direct access to data, he can bypass the data collection stage himself. This will ultimately reduce the costs of establishing an operation, because catches will be high from the start of the operation. By limiting access to this information, some fishermen are locked out of the fishery while others are included. Inclusion and exclusion in the social networks play a major role for entrance into the fishery. It is virtually impossible to start fishing without some knowledge of the fishery, and the ones who start have usually worked as «pullers» for some time. Being a puller is part of a process of being socialized, where the captain teaches his pullers how to catch crabs and gives them access to his data. The particular ecological attributes of the resource translate into a social network - or system - of exclusion and inclusion, where access to the knowledge is the constituent element.

As for the preservation of a resource, it does not matter whether this is intentional or not. The important feature of the extra-legal institutions or attributes is that they contain mechanisms which prevent overexploitation. Extra-legal resource management systems may therefore assume several different forms and they may also be used in different fashions. In one form, the community itself - or groups within it - limits the exploitation by its own cultural and/or religious standards of acceptable harvest (Löfgren 1972: 1979: Martin 1979). In some cases, extra-legal resource management becomes formalized, put into a legal framework, and used by governments as a means of preserving natural resources (Durrenberger and Pálsson 1987). As already mentioned, some communities such as the lobstermen of Maine, protect «their» resources due to pressure from outsiders (Acheson 1987: 1981: 1979: Palmer 1990: 1991). Extra-legal resource management systems are found in Asia (Carrier 1987, Vondal 1987), Europe (Löfgren 1972: 1979: Fernandez 1987: Taylor 1987), North America (Acheson 1987: Berkes 1987: Stocks 1987), and Africa (Bauer 1987: Peters 1987).

However, most of the world's natural resources are regulated by legal resource management systems. Different approaches to this type of management are reviewed in the next section.



### 2.1.2 Legal Resource Management Systems

Legal resource management systems are often a response to the problems that occur when access to natural resources is open and free. Hardin (1968) argues that some natural resources are exceptional in that they are free to be exploited by everybody. That is why he calls these resources «commons». Different approaches to solving this problem are sketched in this section.

Legal fisheries management systems can take various forms (Gorte et al. 1985; Huppert 1987; Muse and Schelle 1989). One way is through licensing the fishing vessel as is done in the Norwegian trawler fleet that harvests herring, menhaden (*Brevoortia spp.*), and cod (*Gadus morhua*) (Gorte et al. 1985). Another way is to give each participant a license, as is the case in the salmon (*Oncorhynchus spp.*) fisheries of Alaska (Peterson 1983). Yet another way is to attach a certificate to the gear used in the harvest (traps, for example), as is practiced in the spiny lobster fishery in Florida (State of Florida Legislature 1991). ITQs - Individual Transferable Quotas - are used as a tool in several management systems (McCay and Creed 1990; Muse and Schelle 1989). ITQs are quotas of a certain species assigned to an individual unit in the fishery. The quota is usually determined by dividing the total harvestable stock into individual units. The quota can be harvested in whatever way and whenever it seems most appropriate for the owner, but it must be done within the particular legal framework which specifies tools, the time of the year for harvest, and the place of harvest. The quota may or may not be transferable, divisible, and leased. Several different systems exist for ITQs and there may be several principles for acquiring a license. In some fisheries, licenses and/or quotas are based on personal history and other records in the fishery but they may also be distributed via lotteries, auctions, and government allocation by some political principle (Gorte et al. 1985). In a market system, there are two options open to the license holders; they can either keep their license or sell it on the free market like any other commodity. In a non-market system, the license is permanent, and cannot be transferred.

In most cases, legal resource management systems have two goals: 1) increased economic efficiency, and 2) preservation of the harvested resource (Cicin-Sain and Silva 1985). Both of these need not be present to justify restricting access to the resource; an intention of achieving one of the goals may be sufficient reason to impose a legal resource management system. The two intentions point at two potential consequences of legal resource management systems. One consequence may be increased economic profit for those granted participation. The management system allows the allocation of natural resources - that can be converted to capital

on a market - to particular social and/or cultural groups that are granted the right to harvest the resource (Gorte et al. 1985). An example is salmon allocation to Native Americans in Alaska (Peterson 1983). Another consequence is of an ecological character. Legal resource management allows for preservation of natural resources (Austin undated), which is a biological and social matter, with biological and social benefits. It can help future generations take part in the ecological environment into which they were born. The protection of cultures by preserving the resource from which they live from may also have consequences outside the community. Emigration and forced re-adaptation to an unfamiliar environment may cause social problems (Doeringer, Moss, and Terkla 1986: Sider 1986 ). Besides, the protection of local cultures and keeping people in local communities may reduce the competition for work among urban lower classes. In this way, one may avoid reinforcement of already existing class structures in urban areas (Perrow 1986). Fishing may also be used to subsidize capitalist expansion by providing protein to urban populations and contributing to the reproduction of lower classes.

In some fisheries, technical devices, political power, access to cheap labor, and other unequally distributed social benefits result in a tendency for some to accumulate more capital than others. A legal resource management system may secure a defendable income for groups that are less able to compete for the available resources (Austin undated). It may also have the opposite effect, reinforcing present class structures. An example of this may be found in the Norwegian cod fishery, in which owners of big steel trawlers have benefited from access to cheap labor, good credit relations, as well as political goodwill (Jentoft 1991). The result is unemployment among small-scale fishermen. Another consequence of legal management systems may be increased safety for the participants. By only granting permits to boats certified to fish in certain waters, the risk of accidents occurring is reduced. This point applies especially to fisheries where it is necessary to operate in a dangerous environment, such as on the open sea. In addition, the reduced competition may cause the fishermen to take the necessary time to follow safety precautions, and thereby reduce the risk of the operation (Muse and Schelle 1989). This is also an example of how an attribute of a fishery may be systematized for management purposes. Safety-attributes of the fishery are systematically used to exclude some fishing vessels according to specific criteria.

State intervention by legal resource management systems has been criticized for its effects. For example, legal resource management systems which limit entry into a fishery may contribute to unemployment. Another effect is that they tend to make local institutions, such as extra-legal resource management systems, powerless. This causes political and social tension, for example

between those who fish and those who manage the resource. The next section briefly reviews one of the models that some have argued will help solve some of these tensions: Co-management.

## 2.2 Is There a Middle Way?

Co-management is a compromise between legal resource management systems and extra-legal resource management systems: «*It is a meeting point between overall government concerns for efficient resource utilization and protection, and local concerns for equal opportunities, self-determination and self-control. The responsibility for initiating regulations is shared* (Jentoft 1989, 144)». Jentoft (Ibid.) argues that cooperation between state agencies and fishermen's organizations provides one possible route into co-management. However, fishermen's cooperatives can also be delegated management authority, constituting co-management institutions. Numerous empirical variations of the theoretical principles are conceivable, but the concrete co-management system must be based on the specific resource in question, the social, economic and political setting of the fishermen, as well as general democratic concerns.

Co-management may be considered an interface between legal and traditional authority. Authority is based on legitimacy, and actors ascribe legitimacy to a given set of normative standards due to a belief that these are meaningful. That is, these standards must be considered valid in the setting where they are applied. Because the existence of extra-legal resource management systems is based on tradition and history, these come into conflict with legal resource management systems. In one sense, those subjected to legal resource management systems consider them meaningless because such systems represent an invalid normative order. They are thus considered illegitimate. According to Jentoft, there are four different aspects of legitimacy in a fisheries management scheme. These may be respectively solved in a co-management system in the following manner:

- «1. *Content of the regulations: the more that regulations coincide with the way fishermen themselves define their problems, the greater will be their legitimacy.*
2. *Distributional effects: the more equitably restrictions imposed, the more legitimate will the regulations be regarded.*
3. *Making of the regulations: the more fishermen are involved in the decision-making process, the more legitimate the regulatory process will be perceived.*
4. *Implementation of the regulations: the more directly involved fishermen are in installing and enforcing the regulations, the more the regulations will be accepted as legitimate* (Ibid. 139)».

If the imposition of a legal resource management system causes conflict, fishermen may use

every available opportunity to circumvent the regulations. Co-management theory assumes that there is a friction between traditional and legal authority, and that it is hard to develop any form of legitimate management system without involving the fishermen in the management process. However, this does not mean that the alternative resource management system must be extra-legal in any fashion. If fishermen and their representatives are delegated authority, they are involved in the management process through formalized routines. Thus, one may prevent the co-management system from degenerating into a system of injustice that creates social inequality. Fishermen may be involved at several different stages in the management process. They may be involved before, during and after the management system comes into effect. It is assumed that the more the fishermen are involved, the more support the management system will achieve among those who are subjected to the system. Drawing on several studies of different co-management schemes, there is consensus among those interested in such management systems that they represent a promising alternative to state intervention (Pinkerton 1989). However, one of the problems when assessing co-management as an alternative is that few such systems have yet been implemented. This is partly because many governments are unwilling to decentralize fisheries management systems. Recently, some Norwegian municipalities applied to the Norwegian Ministry of Fisheries for a project in which they proposed to test different approaches to co-management. The application was turned down because the ministry could not see any need for such a system<sup>14</sup>.

Nevertheless, several arguments for involving fishermen more in the management process have been presented. Systems such as co-management, that include fishermen in the management process, provide for more flexibility (Townsend and Wilson 1987), cultural compatibility (Townsend and Wilson 1987), and support from the persons regulated, than does state intervention through the imposition of a legal resource management system alone (Jentoft 1991). The gain in flexibility refers to the practical management in the community; if people are allowed to take care of the resource that they have managed previously, all parties involved will be more familiar with the regulations from the beginning (Pinkerton 1987: Townsend and Wilson 1987). Cultural compatibility refers to flexibility, but also to considerations of annual cycles and the harvest as integrated in other social, economic, and cultural characteristics of the harvesters (Pinkerton 1987: Smith 1977: Townsend and Wilson 1987). The fact that these systems get support from the fishermen is a result of the opportunity for the community to

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<sup>14</sup>The project was suggested by and located in three municipalities called Storfjord, Lyngen and Kåfjord. They proposed to establish a joint management institution for distributing catches and deciding entrance to the fishery. It was also suggested that the management institution could monitor local cod stocks, which have been documented in the area by marine biologists.

protect its own interests in a management system (Pinkerton 1987: Townsend and Wilson 1987).

Are there reasons to believe that co-management systems will be less destructive for fishing communities than legal management systems, considering that there are conflicts in communities which may be enhanced when some actors are delegated authority? Knowing that user group conflicts and controversies over interests often serve to push fishermen apart rather than pull them together, is it a reasonable assumption that co-management provides a more legitimate management system than those based on legal enactment? Further, if co-management is based on extra-legal resource management systems, can one assume that translating these into a semi-legal co-management system will continue the resource preservation which is supposed to be a part of these systems? These are some of the questions considered below.

### **2.3 Rationalization and Fisheries Management**

This section serves to specify the problems posed in the introductory section, providing some concepts and theoretical constructs that will be utilized when discussing the empirical findings. These concepts and constructs are operationalized in Appendices 1 and 2, which outlines the methods used in this study. According to the theories presented in these three chapters, one would expect numerous outcomes of a legal fisheries management system.

The imposition of a legal management system is a case of state intervention. State intervention and its ensuing consequences, are discussed both directly and indirectly by Weber, Hardin and those who argue for the use of extra-legal resource management systems for public management purposes. Before the different positions in this debate are contrasted, some logical differences between some of the arguments will be summarized. The assumption that most resource communities have extra-legal resource management *systems*, at least latently, must be separated from the argument that most fisheries have *attributes* that lead to resource preservation. If a system *is* present, one must be able to observe it by tracing concrete social relations; these social relations must be oriented in such terms that one can infer that a resource management system is present in the community. Observing how the different attributes of a fishery affect the status of the resource may not be traceable by observing social relations, because fishermen do not need to orient their actions in the terms of these attributes. In fact, the fishermen may not be aware themselves that the attributes of the fishery contribute to the preservation of the resource. It is therefore a particular challenge to detect how the attributes of

the fishery affect the fish stock which is harvested, especially under circumstances where the fishery becomes subject to state intervention. Among those who hold that most fisheries are embedded in extra-legal resource management systems, some argue that state intervention initiates a process of disembeddedness. As discussed above, this may ultimately lead to a situation in which the local institutions that handle the extra-legal resource management system become powerless. But, does state intervention have an effect on those attributes of the fishery that may potentially lead to the preservation of the exploited stock? And if state intervention does have such an effect, what are the further consequences of altering the attributes of the fishery? These questions can only be answered if we enforce the distinction between attribute and system discussed above.

In the following discussion, two different interpretations of Weber will be related to the tragedy of the commons model. After these interpretations are elaborated on, four different aspects of their effects on the fishermen and the fishing community will be discussed in turn.

1. In the *first* interpretation, one may argue that the fishermen and their social relations were heavily rationalized before the legal fisheries management was imposed. The fishermen have been connected to the capitalist production process for several years, serving to disembed the fishermen from «local» institutions, such as extra-legal resource management systems. The rationalization of social relations in the community may also be a result of the fact that the fishermen have been subjected to several forms of state intervention during their recent history. The collective effect of all these phenomena is an alteration of the basic concepts by which the actors understand themselves and each other. Concretely, actors relate formally rationally toward each other and natural resources. It follows that they fit the assumptions of Hardin's model, and relate instrumentally towards the resource. If this were the case, one would assume that state intervention is considered legitimate and meaningful to the fishermen, because the authority to which they are subjected in a legal management system corresponds to their own concept of proper and morally correct action.
2. In the *second* interpretation, fishermen are interpreted as acting in accordance with traditional norms. Actors remain embedded in local institutions, such as an extra-legal resource management system. This interpretation fits the assumptions of those who argue that there is a difference between *open access* and common property resources, because common property systems are embedded in user-based control mechanisms while *open access* resources are not. Informal control mechanisms lose their significance, potentially

resulting in the tragedy of the commons because the fishermen circumvent the regulations. State intervention will be considered illegitimate among the fishermen. Since the fishermen's notion of authority is based on a belief in tradition, legal enactment will appear to be meaningless because legal enactment does not correspond to traditional actions. Over time, fishermen adapt to bureaucratic principles of behavior, that is, behaving instrumentally rationally becomes an action orientation. They must behave instrumentally to survive as fishermen, because such behavior is rewarded in the legal system.

Since it is impossible to exhaust all the consequences of a vessel quota system within the limits of one text, the argument will be narrowed down to some issues that will be discussed in depth.

*Economic transformations.* According to the first interpretation, one would expect that economic behavior is oriented in terms of formal economic rationality. This approach to fishing fits Hardin's criteria for a tragedy of the commons. Consequently, the management system will only contribute to imposing boundaries on this behavior, contributing to making the fishermen more formally rational if they want to continue fishing. In the second interpretation, economic transactions are aimed at other goals besides those pertaining to profit accumulation, since they are embedded in social and cultural institutions that guide fishing behavior. State intervention will make these cultural institutions powerless, forcing actors to behave in formally rational ways. The result will be that local institutions lose their authority.

*Cognitive transformations.* The concept «cognitive» refers to the knowledge-base of fishing, specifically the notion of «ecological knowledge». This concept covers the knowledge of a resource that users have accumulated over generations. According to the first interpretation, such knowledge will have a minor impact on how the fishermen orient themselves towards the resource. Rather, one would expect the fishermen to rely on modern fishing technology, because such technology provides for a more efficient search for fish. Informal knowledge is transmitted across generations by newcomers experiencing and the learning the practices which comprise this knowledge. This involves a learning process that may take several years. Because fishermen are motivated to make a profit from their operations from the first day, they will not invest time in such learning processes. Rather, they will use technical equipment, which is easier to learn how to operate. The legal management system will therefore not have any consequences for the knowledge-base of the fishery. This is not the case in the second interpretation, because ecological knowledge is tied to extra-legal resource management systems. This knowledge is one of the assumptions of the commons theory, because this



knowledge serves as the basis for judging effort, access, and other distributional factors in the resource community. The consequences of state intervention will be that traditional ecological knowledge, which is linked to different historical practices and recruitment institutions in the resource community, will lose its significance because historical practices and institutions lose their traditional authority.

*Relational transformations.* «Relational» refers to the form and content of social relations in the resource community in question. However, the focus will be on the relationship between social relations and authority. In the first perspective, social relations converge towards the form of relational ties present in a market. In this context, actors orient themselves instrumentally and use each other as a means for reaching individual goals. Behavioral restrictions are legitimized by reference to a legal framework, and actors adapt themselves to the formal prescriptions that are part of such systems. The second perspective stands in opposition to this view because actors will also orient themselves reciprocally, that is, individuals will involve themselves in social relations for other purposes than just those pertaining to the maximization of individual profit. Social relations formed by practices and value-rational actions are also goals in themselves. Such ties are connected to traditional authority, as the actions behind them are guaranteed by convention and have local validity. Authority is not legally enacted but based on local hierarchies of authority.

*Normative transformations.* Normative transformations will be limited to different discourses between the actors in the community. The discussion will be limited to attitudes towards distributional questions; specifically, the distribution and exchange of landings of cod between different communities in the fjord will be considered. According to the first perspective, one would expect actors to allocate as much of the resources to themselves as possible. If this is the case, normative discourses will focus on legitimizing self-interest when allocating and distributing natural resources. By contrast, the second perspective suggests that actors adjust landings according to historical and local parameters of equality and fairness. However, actors may still attempt to allocate as much of the resource to themselves as possible, but they will manage the exchange of this resource differently after having acquired control over it. People may, for example, prefer to trade fish with people who share their norms, even if this may mean that they make less profit. If so, normative discourse aims at legitimizing actions as being consistent with local normative orders.

These four elements of rationalization will be discussed in separate chapters below. The problems posed here will be specified further in each of these sections, relating the general



discussions of this section to the empirical realities in the community being studied. All these elements are facets of rationalization, and they represent areas that may respond separately or in conjunction with the imposition of a fisheries resource management system.

In the next chapter, the concrete fisheries management system that was imposed on the fishermen in Codfjord is discussed. The system will be seen in relation to other ecological and economic features of Norwegian fisheries; consequently some general trends in the development of Norwegian fisheries will be analyzed.



# Chapter Three

## Fisheries Resources and Fisheries Management in Norway

According to Weber, the social context in which actions are performed is decisive for the strategy chosen by the actor. This chapter sketches some of the factors constituting the context of the Codfjord fisheries, and analyzes ecological and economic trends at the macro-level. First, the ecology of the cod stock is described. Second, the harvest of this resource is analyzed. Third, the management of the cod stock is discussed with a focus on the activity of small-scale fishermen; the consequences of recent management systems will also be discussed. Contextual variables are important because they often represent causes at the macro-level that have an effect on phenomena at the local level. Many variables of this kind, such as industrial policy, state funding and communication, are not included in this discussion, in spite of the fact that they are likely to be relevant. Including all of the relevant contextual variables would yield an analysis of such a size and scope that one would run the risk of confusion rather than increasing the reliability of the conclusions. All other contextual variables but those pertaining directly to fisheries are therefore omitted.

### 3.1 Some Ecological and Economic Characteristics of the Norwegian Cod Fishery

This chapter starts by discussing the ecological characteristics of Norwegian-Arctic Cod (*Gadus Morhua*, hereafter called Cod), which is the economic cornerstone for fishermen in Codfjord. The intention of the analysis is to introduce the ecological setting to which the fishermen, directly or indirectly, must relate when planning their fishing operations. In addition, it is also my intent to describe the situation to which Norwegian fisheries managers must relate when forming policy. To accomplish this, it is necessary to analyze some recent harvest trends in this fishery.

#### 3.1.1 Cod (*Gadidae*)

Having been harvested commercially for several centuries, cod is by far the most important species economically in Norway's fisheries. The *Gadidae* family consists of about 80 species, of which 23 are found in Norwegian waters; the most important of these is *Gadus Morhua*. There are two variants of this species. The migrating variant - called pelagic, oceanic cod - has a long body with a thick gut, reaching a maximum length of 1.8 meters and a maximum weight of 55.6 kilos. Stationary cod - called coastal cod - rarely exceeds lengths of 0.8 m. The colors

of both species varies depending on their habitat, but coastal cod is usually reddish, brown or olive green with a white gut. Migrating cod is grayish with dark spots and a yellowish gut. The meat is normally white, but other colors appear (Pethon 1994).

Cod is normally demersal, but large cod may also be pelagic. Pelagic cod, of which Norwegian-Arctic cod is one species, may migrate over long distances. Normally, it stays in the Barents Sea until reaching an age of approximately 7 years, when it reaches maturity (in some cases, 4 year old cod migrate due to a shortage of prey). When mature, it migrates towards different spawning grounds close to the coast. Migrating cod do not always seem to follow regular patterns, and the location of spawning grounds vary. This may be due to the fact that migration is determined to some extent by variable factors such as currents and water temperature. During migration, the cod stays at depths between 200 and 400 meters, and may migrate as far as 20 km a day. Spawning grounds for cod include the whole area between Stad and the northern part of Finnmark, where it may be more or less randomly concentrated. However, one finds concentrations of spawning cod at different locations in North Norway. Stationary cod spawn in local waters, usually close to the shore. While migrating cod is mature at an age of 7 years, stationary cod become mature between 2 and 4 years of age. Migrating cod can live up to 40 years, but the life span of stationary cod is shorter.

Another codfish which is important to Norwegian fishermen is saithe, sometimes referred to as pollock or coalfish (*Pollachius virens*). This species has a long body, and is grayish in color with a white gut. It may reach a length of 1.2 meters and a weight of 30 kilos, and can have a life span up to 27 years. Saithe is found along the eastern part of the North Atlantic, from Spain to Novaya Zemlya in Russia. The saithe stock is most concentrated in North Norway in the Summer and in West Norway in the Winter. The species is both pelagic and demersal, staying at depths between 0 and 300 meters. Saithe is normally found in schools consisting of fish from the same cohort. It will usually move just below the surface, hunting for prey. Saithe becomes mature at an age of 5 or 6 years. Spawning time stretches from January to April, and spawning grounds in Norway are found between Lofoten and The North Sea. Saithe fry drift along oceanic currents until reaching a length of 3.5 and 5 cm; before they reach this length, they stay in deep waters, and then migrate towards shallow waters along the coast. It appears that mature saithe migrate from the North to southern, warmer waters during the spawning season (Pethon 1994).

Other species in the codfish family which are harvested by fishermen in North Norway include bream (*Brosme brosme*), haddock (*Melanogrammus aeglefinus*), and blue whiting

(*Micromesistius poutassou*).

### 3.1.2 Other Species Harvested by Fishermen in Codfjord

Norwegian fishermen also harvest a number of other species, according to the type of tool and vessel used. The following list represents the most important species harvested by the fishermen in Codfjord.

**Redfish** In the family *Scorpaenidae*, one species, *Sebastes marinus*, is harvested in Norway. Besides being harvested directly, it is a valuable by-catch for many fishermen. The species harvested in Norway is marked by its distinct red color and a short, stout body covered with shells. Redfish may reach lengths up to 1 meter and a weight of 15 kilos, but is only rarely longer than 60 cm. It may reach an age of 60 years, but most live for a shorter time. Redfish may be found everywhere in the North Atlantic, mostly along continental shelves at depths between 100 to 500 meters. The stock which is harvested by Norwegian fishermen is supposed to have its main habitat in the Barents Sea. Redfish is pelagic, it migrates in schools, and important prey includes krill, capelin, herring, and different small codfish.

**Lumpfish** is harvested commercially for its roe, which is used in the production of caviar. Thus, only females are used, but both sexes are harvested. The short, tubby body marks the family. The gutfin is transformed into small cupping forms, which the fish uses to attach itself onto physical structures (a force equal to 12 N is necessary to remove the fish). In the family *Cyclopteridae*, Norwegian fishermen exploit the species *Cyclopterus lumpus*, which has 7 rows of bone structures close to the skin along the sides and the gut. The rather massive body makes the fish unusually heavy; females reach a length of 63 cm and a weight of 5.5 kg., while the male is shorter and lighter. Prey includes pelagic crustaceans and jellyfish.

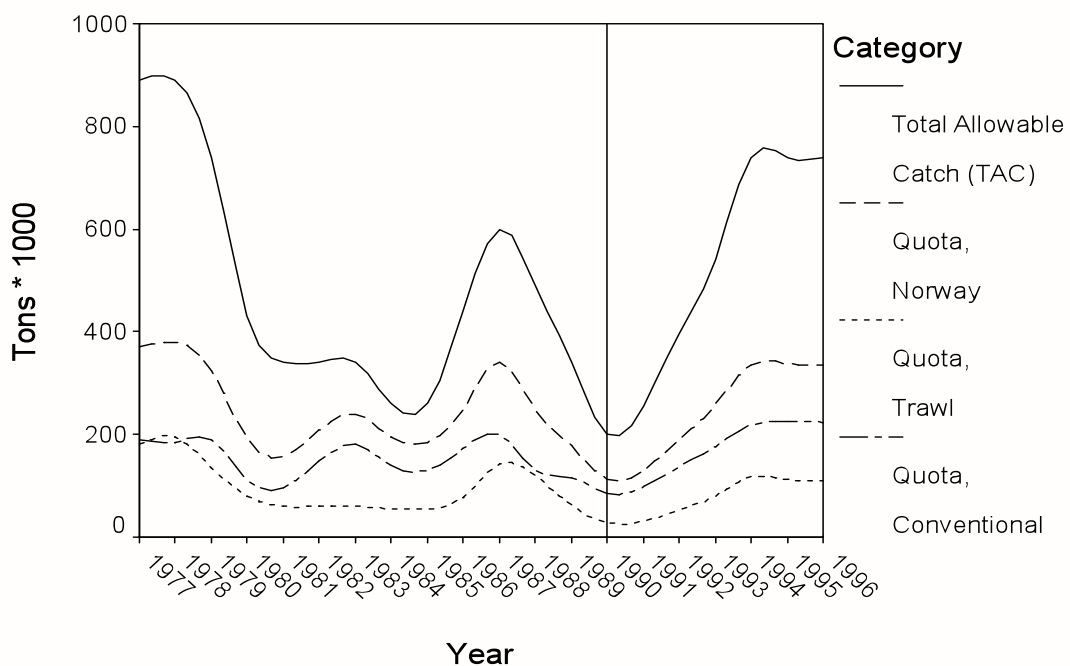
**Flatfish** This family includes approximately 100 species, only a few of which are commercially harvested by the fishermen in North Norway. The main species harvested by fjord fishermen in Codfjord is halibut (*Hippoglossus hippoglossus*). This species is characterized by its large size; individuals may reach a length of 3.65 meters and a weight of 266 kilos. However, sizes ranging between 100 to 150 kilos are more normal. The species has, as all other members of the family *Pleuronectidae*, a head which is turned to the right, with both eyes on the right side. The fish is gray on the same side as the eyes, while the 'blind' side is white. Other species within this family which are also exploited by Norwegian fishermen include Greenland halibut (*Reinhardtius hippoglossoides*) and plaice (*Pleuronectes platessa*).

**Herring** The species *Clupea harengus* used to be commercially important to fishermen in Codfjord. However, overexploitation during the 1970's and 80's caused the stock to collapse, decreasing the commercial importance of the species. However, herring remains an important part of the ecological chain as prey for several important species including whales, codfish, and halibut. Biologists have discussed some taxonomic issues relating to the so-called Atlanto Scandic herring. There appears to be agreement that *C. h. harengus* is the main species in the Atlantic and the Norwegian Sea. *C. h. marisalbi* is concentrated in the White Sea, *C. h. membras* is dominant in the Baltic Sea and, finally, *C. h. suworowi* is prominent from the South East Barents Sea to the Kara Sea. In addition, biologists agree that local stocks of herring can be found at several spots along the Norwegian coastline (Pethon 1994).

### 3.1.3 The Harvest of Cod in the Barents Region

Many countries harvest cod. However, Norway, Russia, Iceland and members of the European

**Figure 3.1 Quotas, Norwegian Arctic Cod**

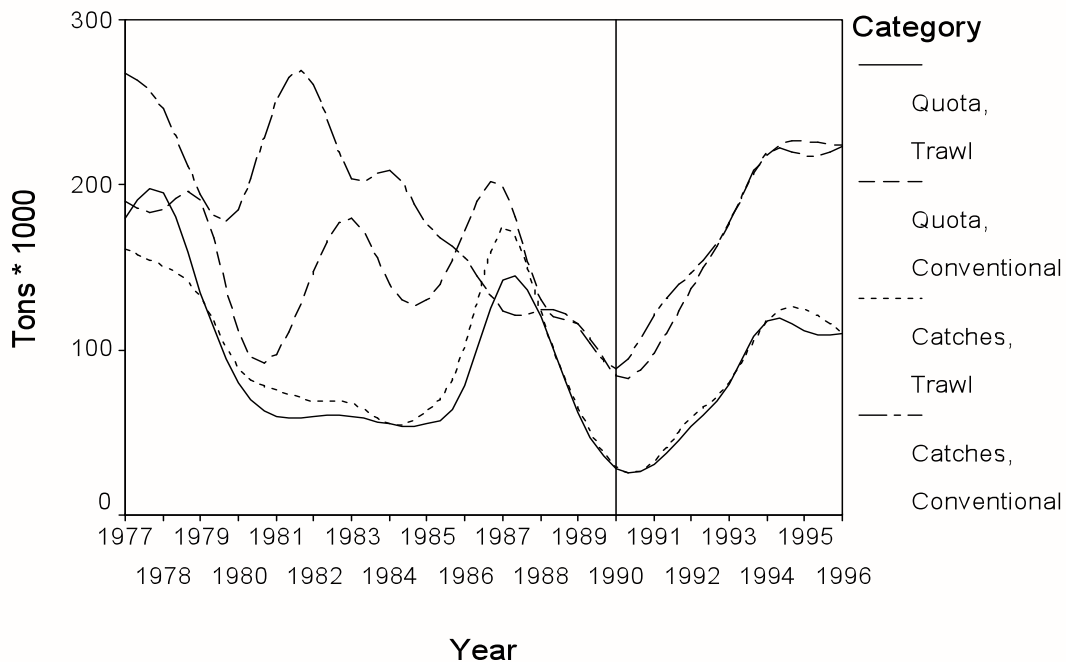


Source: Norwegian Directorate of Fisheries

Union have the largest share in the harvest. The stock is jointly managed by those nations which have had historical fishing rights to the species in the past years, and quotas are determined on a yearly basis through negotiations between Norway, Russia and so-called «third-part» countries. Most third-party countries are members of the European Union (EU) which represent all fishing nations inside the union. The distribution of quotas is based on by advice from the International Council for Exploration of the Sea (ICES), which recommends a

Total Allowable Catch (TAC) for the stock. The countries which participate in the negotiations have their respective quotas determined on the basis of their historic catch rates of cod. It has also been customary that countries which harvest more than their quota in one year, lose part of their quota the next year to compensate the other countries. Figure 3.1 shows the TAC for the stock of Norwegian-Arctic cod by year. On average, about 60 % of the TAC is allocated to Norwegian fishermen. The Norwegian quota is split between trawlers and conventional vessels. «Trawlers» are all vessels which use trawl as the principal harvesting tool. «Conventional» refers to all other tools - such as long line and gill net<sup>15</sup>. These user groups have different interest organizations that, in cooperation with the Norwegian government, determine annual user group quotas. Quotas have

**Figure 3.2 Quotas and harvest by year**



Source: Norwegian Directorate of Fisheries

fluctuated significantly during the period from 1977 to 1994, reaching an absolute bottom level in 1990, when the «cod crisis» started (Jentoft 1991).

The «cod crisis» was, at least partially, a result of overfishing. Harvests have not always followed quotas exactly, as shown in figure 3.2. At times, both Norwegian and foreign user groups have harvested more than their respective quotas. Limiting the discussion to Norwegian catches, tests show that the mean difference between Norwegian quota and Norwegian catches in the period from 1977 to 1996 is significant (Mean, Norwegian Quota=248 360 tons, Mean,

<sup>15</sup>«Conventional» can also be understood as referring to vessels whose tools are stationary.



Norwegian Catches=279 495 tons, DF=19,  $t=-2.814$ ,  $p<0.05$ )<sup>16</sup>. The difference between quotas and catches in the Norwegian conventional fleet is also significant in the period from 1977 to 1996 (Mean, Conventional Quota=157 714 tons, Mean, Conventional Catches=185 330 tons, DF=19,  $t=-2.39$ ,  $p<0.05$ ). Norwegian trawlers fished more than their quota, but the mean difference is not significant ( $p=0.32$ ). Especially in the period up to 1984, the Norwegian conventional fleet harvested more than its specified quota; this was legal however. During these years, the Norwegian conventional fleet was allowed to fish unlimited quantities of cod, as opposed to all other user groups. This could be done due to a clause in the agreement among the countries which shared the management of the cod. The clause was removed in 1984, which may have been too late because the cod stock collapsed a few years later. However, the clause is interesting in itself, and one may speculate why those responsible for the management allowed the conventional fleet to overfish its quota by more than 100 % in certain periods (1981-83). The agreement may have been the result of an idea that the conventional fleet is less efficient than trawlers and that they use gear which is less damaging to the stock. Even though the collapse of the stock may have been the result of overfishing by the Norwegian conventional fleet, the cod crisis came at the same time as the so-called «seal invasion». The seal invasion comprised of a large quantity of seals migrating from different areas in the Barents Sea to the coast of the counties Finnmark and Troms in Norway. These seals seemed to have been driven towards the coast due to lack of prey in the Barents Sea, indicating that the ecological chain may also have been out of balance during these years.

Whatever the reasons for the cod crisis and the seal invasion were, the harvest of cod declined significantly towards the end of the 1980's. In 1990, when the *vessel quota* system was introduced, Norwegian catches totaled only 180 000 tons, which is significantly less than the mean total Norwegian catch (279 495 tons) for the period from 1977 to 1996 ( $t=9.28$ , DF=19,  $p<0.001$ ). As shown in figure 3.2, the harvest was significantly lower than the quota from 1988 onwards. This reflects one side of the problem that occurred during the cod crisis; even though fishermen were allowed to fish, the ocean was empty. The crisis also caused the proportion of the quota allocated between trawlers and conventional vessels to change. Normally, catches by conventional gear have exceeded catches by trawl, but this situation was reversed in the period from 1986 to 1988. The reason for this change was the lack of cod along the Norwegian coastline. When cod was absent along the coast, most fjordal and coastal fishermen were excluded from the fishery because their vessels were unable to operate on the open sea<sup>17</sup>. This

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<sup>16</sup> In this section, all data used for analysis is obtained from the Norwegian Directorate of Fisheries.

<sup>17</sup>This is a good example of how the attributes of a fishery impose restrictions on behavior, as discussed in chapter 2.

caused the Norwegian government to transfer part of the conventional quota to trawlers so that the national quota could be caught and the industry on land could be supplied with raw material. For fjordal and coastal fishermen, the consequences of this situation were many. Jentoft (1991) describes how fishing communities along the coast of North Norway became traumatized by a collective depression during the cod crisis. Many fishing communities in North Norway are founded on the harvest of cod, and the absence of fish in this period resulted in economic and social problems in the population. Many fishermen and their families faced economic hardship, and some went bankrupt. The government decided that the cod stock needed to be more thoroughly and strictly managed, and established the *vessel quota* fisheries management system for the conventional fleet in 1989. This is the subject discussed in the next section.

## **3.2 The Management of Cod in Norway**

The discussion here will be limited to the *vessel quota* system, because this system governs the population of fishermen in Codfjord. The management of trawlers and other larger vessels are excluded from the analysis, because there are no trawlers and larger vessels in Codfjord. After this, some of the changes that the management system has caused are analyzed, emphasizing how catch rates have changed between user groups and regions. The purpose of this section is to give an overview of the structural factors which have an effect on the Codfjord fisheries. In addition, my intent is to give a broad analysis of the social and economic changes caused by the management system.

### **3.2.1 The Vessel Quota System**

All Norwegian fisheries management systems are based on the right of the state to manage the ocean. Concretely, fisheries management systems are defined in The Law on Participation in Fisheries, § 6 and § 8 (Dated June 16th, 1972, no. 57) and The Salt Water Fisheries Act § 5 (Dated June 3rd, 1983, no. 40). These laws allow the Norwegian State to intervene in any harvest of marine resources which takes place on in its waters, and regulate both participation and harvest. The vessel quota management system may be seen to consist of two parts. The first part ensures that fishing rights are part of a limited entry system. The second part ensures that catches are restricted by a quota system. Both factors serve the overall purpose of preserving the cod stock. The vessel quota system can therefore be seen as a fisheries resource management system which has an indirect effect on the population of fishermen. Restrictions on the behavior of fishermen were a consequence - or result - of efforts to replenish the cod stock. The two different components of the system will be discussed in turn.

Along with other provisions in this management system, fishing rights were limited by connecting individual fishing rights to individual enrollment in the Fishermen's Census. The Fishermen's Census has existed for several years; it was originally made as an optional social-security system. Because Norwegian fishermen are considered self-employed, they are - unlike public employees - responsible for funding their own social security benefits and retirement plans<sup>18</sup>. All public employees pay part of their monthly wage into a fund administered by *Rikstrygdeverket*, which repays these in the form of different social security benefits - such as retirement pensions - in accordance with the deposits made by the client. Rikstrygdeverket is a state agency which manages the finances of the Norwegian social-security system. Rikstrygdeverket compiled the Fishermen's Census to offer fishermen the same benefits as state employees. However, the state cannot force self-employed persons to register in any social security system<sup>19</sup>. Membership in the register has therefore been optional and a service to the fishermen. Fishermen wanting to enroll in the register must pay a fee equal to a certain percentage of the value of their catch. This payment is added to a fund that returns benefits to the fishermen when they are entitled.

The Fishermen's Census is divided into two registers, A and B, following the occupational structure of the population of Norwegian fishermen. Register A contains part-time fishermen. In 1994, fishermen who wanted to enroll in this register needed to make at least 19 040 NOK from fishing and maximum 152 320 NOK from other occupations to be qualified for enrollment. In many cases, those listed on register A combine fishing with another occupation, typically farming. If they make more than 152 320 NOK, they are regarded as having another full-time occupation, and are thus ineligible to enroll in the Fishermen's Census. Enrollment in register A is free of charge. Register B contains full-time fishermen. In 1994, fishermen who wanted to enroll in this register needed to make at least 38 080 NOK from fishing and maximum 114 240 NOK from other occupations. The same logic applies to enrollment in this register as the previous one: if a person makes more than 114 240 NOK from an occupation other than fishing, he may choose either to cut his income from the other occupation to qualify for register A, or to quit fishing. If he chooses to stay in register B, he must make at least 38 080 NOK from fishing to qualify. If he does not comply with this, he will not be considered a full-time fisherman. In 1994, enrollment in register B required the fisherman to pay a yearly fee

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<sup>18</sup>This does not include health-care services. The Norwegian health-care system is socialized and funded by taxes. Medical treatment is therefore a right that all Norwegian citizens have.

<sup>19</sup>This may be reasonable because some prefer to use private social security insurance, which may return more benefits than the state system does.

of 1 200 NOK. If the fisherman did not pay, he was removed from the census.

The rationale behind the division of part- and full-time fishermen is that those who are part-time fishermen may receive social-security benefits from other sources. Consequently, which social security rights one has vary according to the register in which one is enrolled in. For example, fishermen who are enrolled in register B have the right to be economically compensated if sickness prevents them from fishing, while those enrolled in register A do not. However, none of these provisions had consequences for the fishing rights of the fisherman before the vessel quota system was introduced. If someone wanted to, they could switch between registers A and B by filing an application with the Norwegian Directorate of Fisheries. The application was always granted. Further, if someone wanted to start fishing, they filed the same application, and could start fishing soon after. In that sense, entry was free to anyone. The only formal requirement was to file the application. At the same time, harvesting was free because no quotas applied to small-scale fishing.

The rationale sketched above was valid until 1989, when the Fishermen's Census changed legal status. While still a census of those who were eligible for various social-security benefits, it also became a census of fishing rights from 1989. The change came about because of the vessel quota system. This was established in § 2B of J-206-89, the law by which the vessel quota system was introduced as the legal framework for the future management of cod. Here, § 2B stated that «*The owner of the vessel must have been enrolled on register B in the Fishermen's Census before December 8th, 1989*». Thus, those who for some reason had been out of register B on the eighth of December 1989 were excluded. There were also other criteria for exclusion and participation. According to § 2A, the fisherman's vessel had to have been registered as a fishing vessel. Registration of vessels is done in a central register kept and maintained by The Norwegian Directorate of Fisheries. The purpose of this registration is to ensure that vessels which are used for commercial fishing are suitable for rough weather. However, this rule seems not to have excluded many fishermen because everybody who had a fishing vessel needed to register it before being allowed to deliver fish at processing plants and fish houses. The third criterion for further participation in the cod fisheries had a more severe impact on the size of the population of fishermen. In § 2C, further participation was equated with past catches. The idea of the paragraph is that one's eligibility to participate further is dependent on previous income from fishing and vessel length. This was accomplished by using the scale shown in table 3.1.

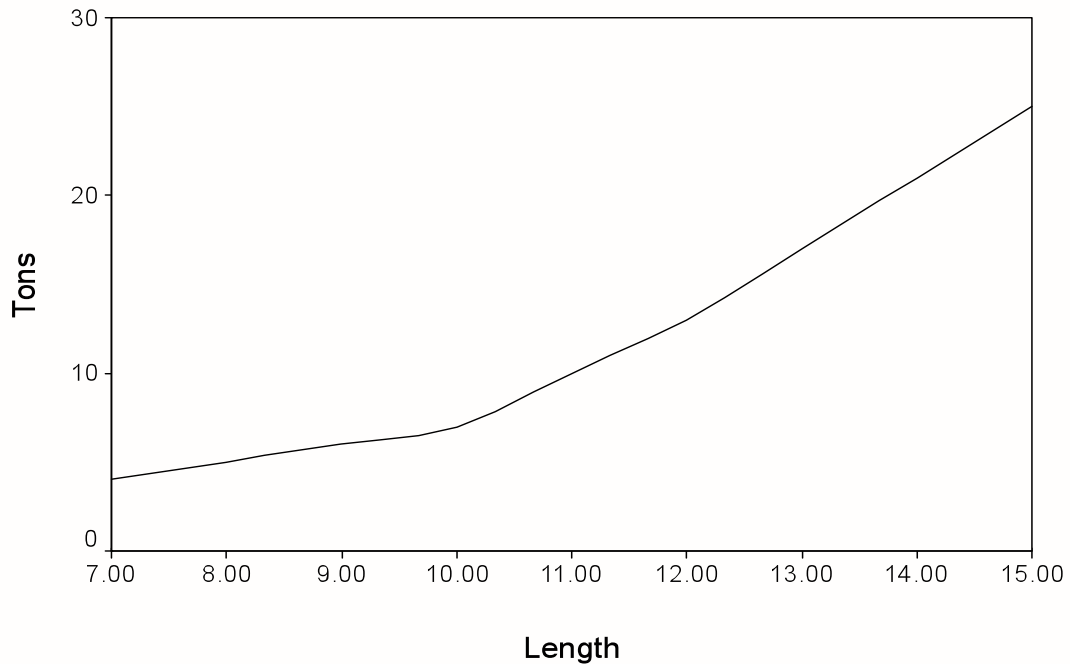
<b>Length of vessel</b>	<b>Tonnage A</b>	<b>Tonnage B</b>
0.0 – 6.9 meters	4 tons	4.3 tons
7.0 – 7.9 meters	5 tons	5.6 tons
8.0 – 8.9 meters	6 tons	7.8 tons
9.0 – 9.9 meters	7 tons	11.2 tons
10.0 - 10.9 meters	10 tons	14.7 tons
11.0 - 11.9 meters	13 tons	21.1 tons
12.0 - 12.9 meters	17 tons	23.3 tons
13.0 - 13.9 meters	21 tons	29.7 tons
14.0 - 14.9 meters	25 tons	37.0 tons
15.0 - 17.9 meters	35 tons	44.8 tons
18.0 - 27.9 meters	50 tons	62.4 tons
28.0 - 33.9 meters	50 tons	98.5 tons
34.0 meters +	50 tons	121.3 tons

To be eligible for further participation, the fisherman had to have caught a minimum amount of cod in one of the years 1987, 1988 or 1989, when the fishery was closed at the end of September. The required tonnage is proportional to the length of the vessel, as sketched in the variables *Length of vessel* and *Tonnage A* in table 3.1<sup>20</sup>. Thus, all those who for some reason had been unable to fish in this period were excluded from further participation; this rule seems to have excluded many fishermen. As indicated in the previous section, catches started to decrease from 1987 due to declining stocks along the coastline. In addition, fishermen in the counties of Finnmark and Troms faced the seal invasion during these years, making access to cod even more difficult than in southern areas. Consequently, one may expect that many fishermen were excluded by these factors. This should especially be expected to affect fishermen along the coast who traditionally combine different occupations, because these are more likely than others to have switched from fishing to other occupations temporarily when fish were scarce. In sum, the three criteria worked in conjunction. Failing to comply with one of the criteria was reason enough to be excluded from further participation in the cod fishery. Only those who were enrolled in register B qualified to participate in the vessel quota system. This meant that they could continue fishing under a quota system. Those enrolled on register A, as well as others, qualified to fish under the auspices of a so-called maximum quota. These two different quota systems will be discussed next.

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<sup>20</sup>Data from the Norwegian Directorate of Fisheries

**Figure 3.3 Catch requirements by length of vesse**



Source: Norwegian Directorate of Fisheries

The fishermen who were granted participation in the vessel quota system were given a guaranteed quota attached to the vessel, not the owner<sup>21</sup>. In the first year that the system was in effect, the vessel quotas were relatively small. According to J-11-90, §C - the law establishing the quota for 1990 - quotas were proportional to the size of the vessel and followed the scale given in table 3.1, depicted by the variables *length of vessel* and *Tonnage B*. Dependent on the size of the vessel, a certain amount of cod was guaranteed. This means that the fishermen were guaranteed a certain and relatively fixed income, if they used the vessel to which the quota was registered. As shown in figure 3.3, the scale is not linearly proportional, but exponential with the slope rising with increased vessel length. The situation was different for those who did not qualify for enrollment on register B. These could either quit fishing or enroll in the maximum quota system.

Those in register A fell automatically under the maximum quota system, established in J-11-90, § 8 and § 9. The maximum quota system is a management scheme where all fishermen are treated as one group. This group was given one quota, which in 1990 amounted to 12 000 tons of cod. Whenever this quota was landed, all harvesting stopped and it was illegal to continue

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<sup>21</sup>The system was designed in this fashion because catches are registered on the registration number of the vessel. One may be tempted to call this a form of privatization. However, it is difficult this way since the quotas were non-transferable. Thus, the quotas were not private property in that they were not dependent on the will of the owner.

fishing. This rule is also the key to this system. Because none of the fishermen are guaranteed a quota, fishermen may find that they have been unable to fish anything when fishing stops because the 12 000 tons have been harvested by other fishermen. However, there were limitations on how much fish each vessel could harvest, depending on the size of the vessel used. Vessels shorter than 12 meters could fish a maximum of 2.5 tons, while those longer than 12 meters could land a maximum of 3.5 tons. These limitations served to counterbalance the fact that some fishermen could find themselves without any catches when the fishery was closed. However, the income generated from 2.5 tons of cod is small, making it economically impossible to live from fishing alone. In 1990 prices, 2.5 tons of cod amounted to a maximum of 40 000 NOK, but would be most likely to generate 30 000 NOK.

The vessel quota system was partially changed in 1994, but the maximum quota system remained unchanged. The limited entry part of the vessel quota system remained in effect, but the quota regulation changed. While earlier the whole quota was guaranteed for participants in the vessel quota system, the new system consisted of both maximum quotas with no guarantees and vessel quotas with guarantees. Thus, the quota was divided into two components. This resulted in two parallel maximum quota systems, one for those in register A and one for those in register B. However, there was a significant difference between the two maximum quota systems. Those in register B who had been granted a vessel quota earlier, had a larger quota than those in register A. The reason for this was that those who had previously obtained a vessel quota were considered «cod-dependent», and were therefore defined by the government as having a right to a larger share of the total quota.

There were also other differences in the new system. Fishermen who had previously been allowed to participate in the vessel quota system, and who had vessels shorter than 28 meters, could fish their guaranteed part of the quota in the period January 1<sup>st</sup> to August 21<sup>st</sup> 1994. In addition, they could fish on a maximum quota, *if and only if* they had landed their vessel quota. The maximum quota was caught over two periods, which were referred to as the first and second maximum quota. The first period lasted from April 5<sup>th</sup> to August 21<sup>st</sup> 1994, and the second period lasted from August 22<sup>nd</sup> to December 31<sup>st</sup> 1994. The reason why two fishing periods were established was that it was necessary to monitor and evaluate the biological condition of the cod stock in the middle of the year. As a rule, those on register A fished on a maximum quota the whole year, and had to stop fishing whenever the quota was caught. However, there were exceptions to this rule. Fishermen from Finnmark and the seven northernmost municipalities in Troms county - one of which is Codfjord - were, in spite of fishing only on a maximum quota, guaranteed an individual quota that could be caught after the

maximum quota had been landed. This rule came into effect from 1994 and is still valid. Fishermen who had previously been granted participation in the vessel quota system were still guaranteed a vessel quota after the changes of 1994. If this quota was caught before April 5<sup>th</sup>, they could start fishing on the maximum quota. If they failed to land their vessel quota before the first maximum quota was stopped at August 21<sup>st</sup>, they could still participate in the second maximum quota which started on August 22<sup>nd</sup> 1994. In addition to this management scheme, fishing became free for everybody enrolled in the vessel quota system from November 28<sup>th</sup> to December 31<sup>st</sup> 1994. This last change was implemented because neither the first nor the second maximum quota had been landed. The Norwegian Ministry of Fisheries therefore decided that fishing would be free for the rest of the year, if the fishermen had previously been enrolled in the vessel quota system.

The following year – 1995 – brought further changes in the system. The vessel quota was abolished, and everybody who had previously taken part in this system fished on a maximum quota which was spread over two periods. The first period lasted from January 1<sup>st</sup> to October 1<sup>st</sup> 1995 and the second period lasted from October 2<sup>nd</sup> to December 31<sup>st</sup> 1995. However, the harvest was opened because the fishermen were unable to fish the maximum quota, mainly due to scarce access to cod along the coastline. From July 19<sup>th</sup> 1995, fishermen were free to land as much fish as they wanted to if they had participated in the vessel quota system earlier. The management of fishermen who were enrolled in register A remained unchanged during 1995, except that the maximum quota was increased.

Overall, the vessel quota fisheries management system, including the maximum quota system, served to reduce both the numbers of fishermen in Norway and the catch among those left in the fishery. In that sense, it served its stated purpose. The fact that the system contributed to making the cod stock replenish is evident from figure 3.1, which shows the TAC and the Norwegian quota, as well as the two user group quotas. The TAC increased to 890 000 tons in 1997, which is significantly more than the mean in the period from 1977 to 1997 (Mean, TAC= 517 238 tons, DF=20,  $t=-7.354$ ,  $p<0.001$ ). The Norwegian quota was increased to 399 000 tons in 1997, which also is significantly more than the mean Norwegian quota in the period from 1977 to 1997 (Mean, Norwegian quota=255 533 tons, DF=20,  $t=-7.526$ ,  $p<0.001$ ). From 1990 onwards, quotas have increased steeply, indicating a growing fish stock. One may discuss whether the management system or natural ecological factors caused the stock to renew itself. It is likely that both factors may have had an effect, but such claims can never be tested satisfactorily.

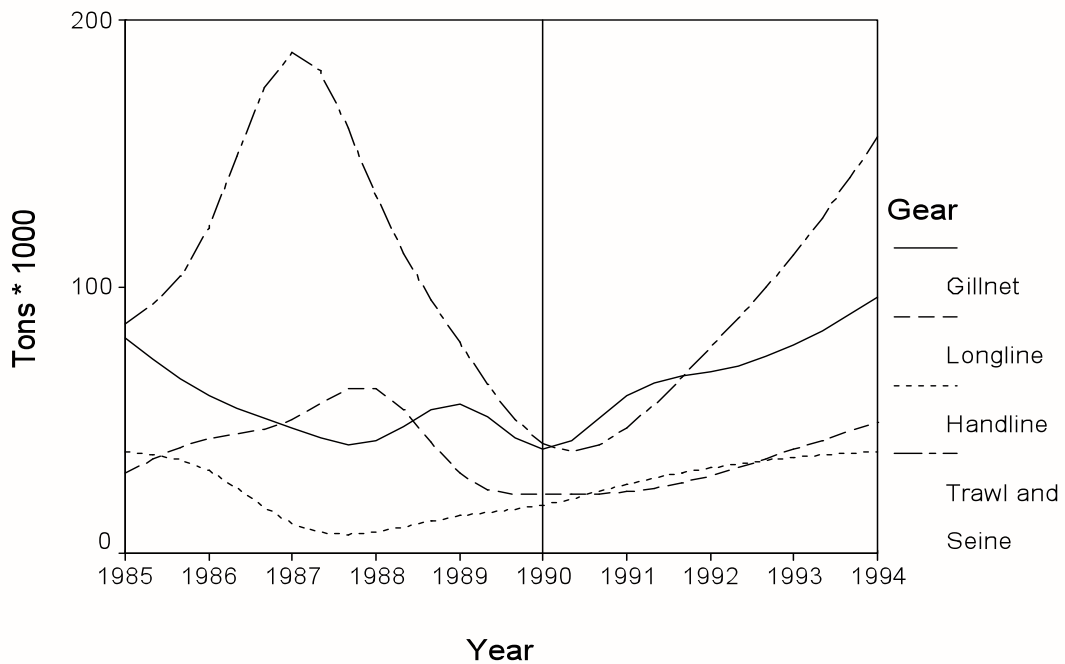


Did the vessel quota system have purposes other than preserving the cod stock? No other purpose than resource preservation is stated in the official policy. However, an action may also be judged by its consequences. Some of the consequences of the vessel quota system at the macro-level are the subject of the next section.

### 3.2.2 The Effects of the Cod Crisis and Recent Fisheries Management Systems

The population of fishermen in Norway may be considered to consist of two main groups (Otterstad 1994). On the one hand, we find a typically *industrial* approach to fishing, consisting of fishermen working on trawlers and/or other large vessels such as seiners.

**Figure 3.4 Catches by gear-groups**



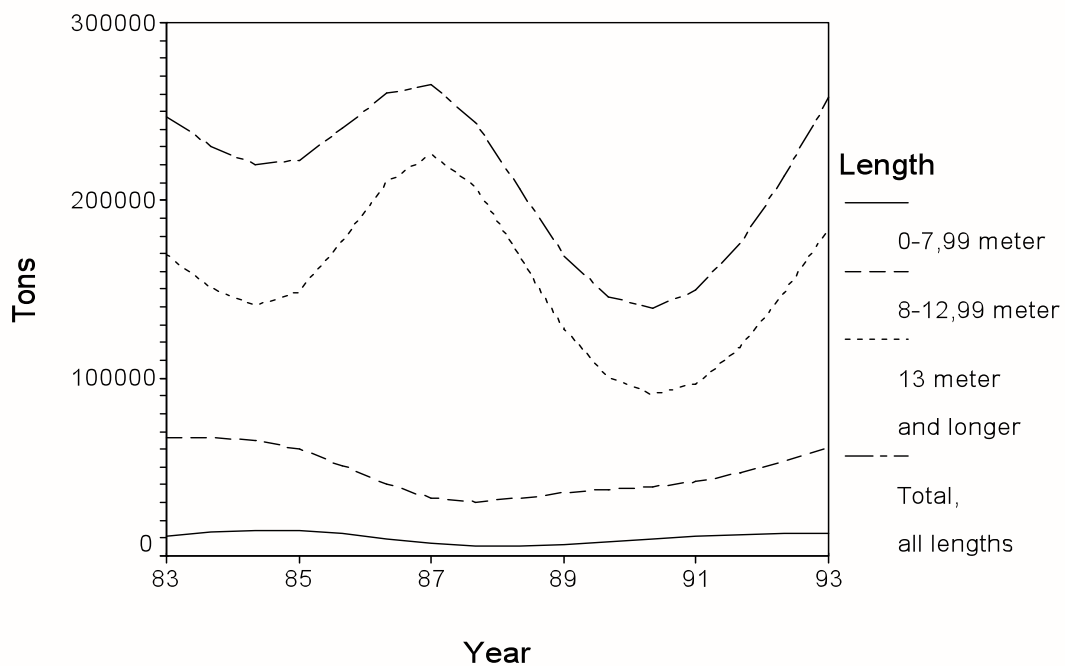
Source: Norwegian Directorate of Fisheries

Fishermen in this category are mostly employed seasonally as wage-labor employees; many of them combine fishing with other occupations on land. The harvest is mostly located outside the continental shelf, but - in the case of seiners - also along the coastline. On the other hand, we find a typically *traditional* approach to fishing where fishermen own smaller vessels and are self-employed. The fishery is organized in communities where fishing has an intergenerational element in which sons inherit a fishing operation from the father, representing a continuation of specific cultural, economic and social traditions in the fishery. The harvest is usually located in fjordal and coastal areas and the tools used are gillnets, long lines, and hand lines. It is useful to separate between these two groups to understand different consequences of fisheries management systems, especially because this division follows that used by the Norwegian

Ministry of Fisheries when regulating the cod stock.

Following the typology just mentioned, trawl and seine represent the industrial approach to fishing. Gillnet, longline and handline - which are regarded as «conventional» tools in Norwegian fisheries management - represent the traditional approach to fishing. Figure 3.4 shows according to landings by gear types in the period from 1985 to 1994. On average, trawl and seine have the highest catches in this period. At the beginning of the period, quotas were reallocated from vessels using gillnet, long line and handline to trawlers and seiners because

**Figure 3.5 Landings of cod by length of vessel**



Source: Norwegian Directorate of Fisheries

access to cod was scarce along the coastline.

Both the industrial and the traditional group had small catches in the period 1989-1991, mainly due to strict quota regulations during the cod crisis. In the years since 1990 – when the vessel quota was put into effect – all tool groups have increased their landings. To some extent, the relative amount of cod landed by vessels using trawl and seine has increased during the 1990's. In 1994, trawlers and seiners landed 156 000 tons, which is significantly different from the mean landings for this group in the period from 1985 to 1994, which amounted to 104 000 tons (DF=9,  $t=-3.48$ ,  $p<0.01$ ). In the same year, conventional vessels landed 183 000 tons, a significant increase of 58 000 tons compared to the mean landings for this group in the period from 1984 to 1994, which amounted to 125 000 tons (DF=9,  $t=-6.001$ ,  $p<0.001$ ). At the same time, another type of industrial vessel became more significant. Historically, fishermen who

have small vessels used long-line. However, during the late 1980's, but especially during the 1990's, the introduction of automatic long-line equipment revolutionized this type of fishery. Automatic longliners are large vessels (ranging from 60 to more than 100 feet) equipped with automatic baiting, setting and pulling lines. In spite of the size and efficiency of these vessels, they are still regarded as «conventional». This means that they claim shares in the conventional quota, and thus compete with smaller vessels.

Those who favor the industrial approach to fishing have increased their share in the quota compared to those using the traditional approach. This claim is supported by data in figure 3.5, which shows that longer vessels (13 meters and longer) have increased their relative share of landings, while the smaller vessels (0-7.99 meters) have relatively small fluctuations in their catches during the period. The relative increase in catches by longer vessels may be directly attributed to the effects of the vessel quota system, as the population of fishing vessels with a vessel quota is being increasingly tilted towards longer vessels. This is shown in table 3.2<sup>22</sup> which indicates that the number of vessels shorter than 10 meters has decreased, while vessels in the range from 10 to 28 meters have increased in number. As will be discussed below, this may be directly attributed to the vessel quota fisheries management system which gives longer vessels better working conditions than shorter ones.

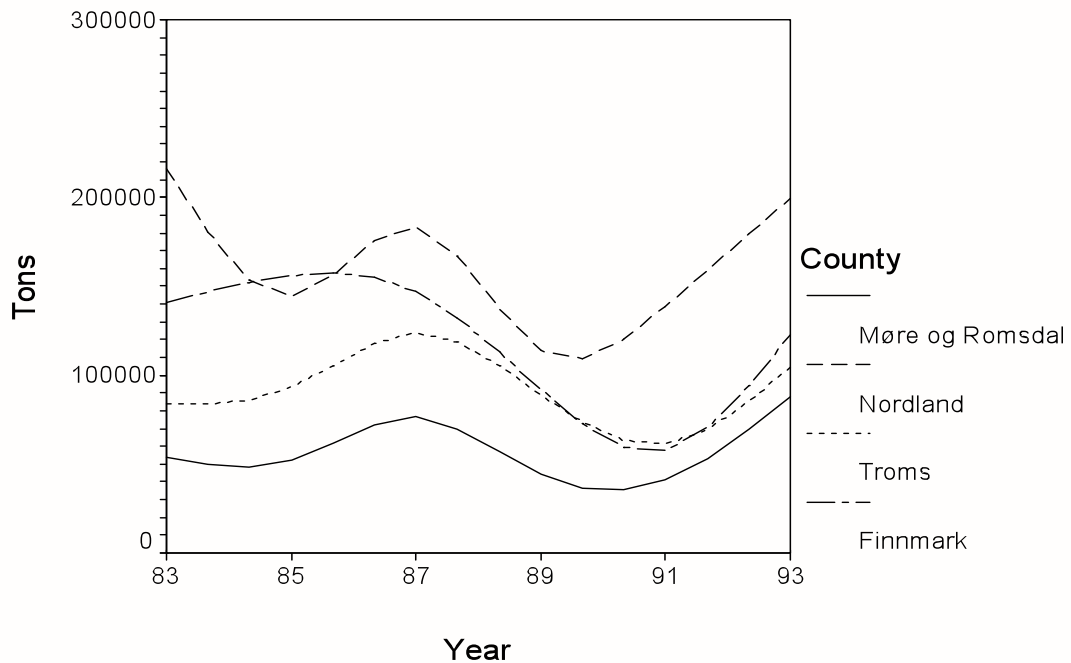
<b>Size</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>
< 8 m	720	NA	646	626	411	351
8-9.99 m	1220	662	1200	1197	1117	1073
10-12.9 m	837	893	941	944	1023	1019
13-20.9 m	602	663	702	699	754	754
21-27.9 m	101	103	107	109	119	121
≥ 28 m	87	81	83	81	81	82

Codfjord is located in Troms county and it is therefore of interest to look at the general development in landings of cod in this region. The fisheries of the counties of Troms and Finnmark experienced a double crisis towards the end of the 1990's due to the simultaneous occurrence of the crisis in the cod stock and the seal invasion. Landings by county in the period from 1983 to 1993 are shown in figure 3.6<sup>23</sup>. This figure shows that Troms has not recovered

<sup>22</sup>Data from the Norwegian Directorate of Fisheries

<sup>23</sup> The number of cases is too small to calculate accurate statistics.

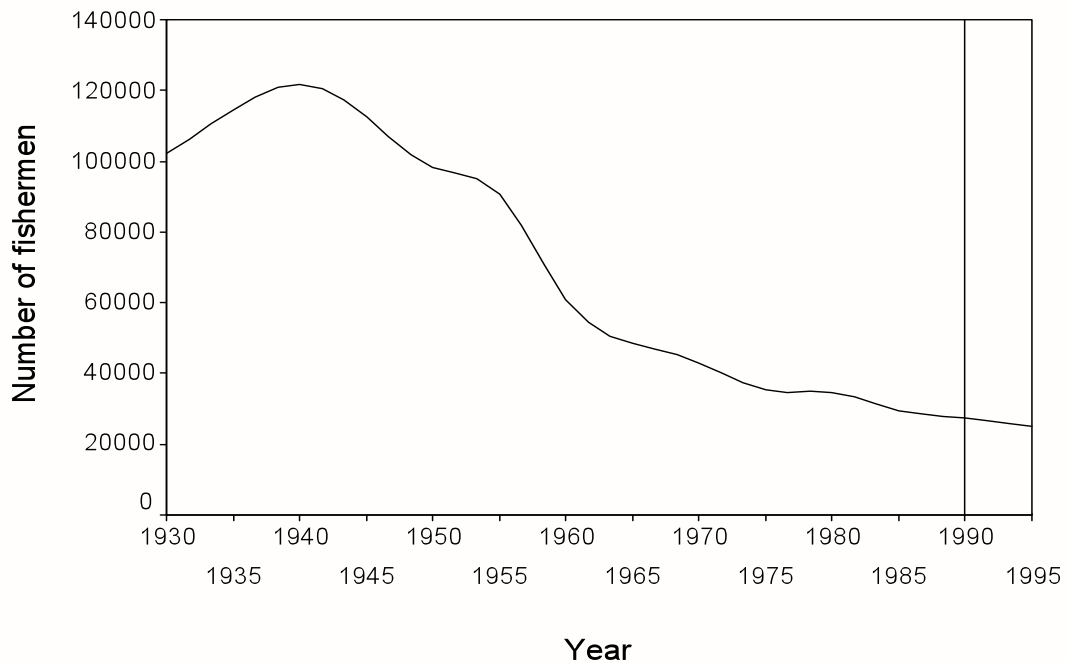
**Figure 3.6 Landings by county**



Source: Norwegian Directorate of Fisheries

from the cod crisis to the same extent as some of the other counties. During the 1980's, Troms and Nordland had about the same landings per year, and were the most significant fisheries counties in Norway. In the same period, landings per year were higher in Troms than in Finnmark and Møre and Romsdal (Møre and Romsdal is one county located in Mid-West Norway). During the beginning of the 1990's, all three counties had approximately similar landings per year, which means that there has been a relative reduction in landings in Troms compared to the 1980's. Records of the exact number of fishermen in each county are unavailable but we may ask what consequences reduced landings had for the number of fishermen in various counties. The decline in the number of fishermen may not necessarily be larger in Troms than other counties. Reduced landings may mean that the number of plants where cod can be landed is reduced, forcing the fishermen to find other places to land their fish. Thus, the number of fishermen may have remained constant. We may wonder whether the number of fishermen has been reduced significantly at the national level, and whether the overall impact of the cod crisis and the vessel quota system can be said to be significant historically.

**Figure 3.7 Number of fishermen by year**

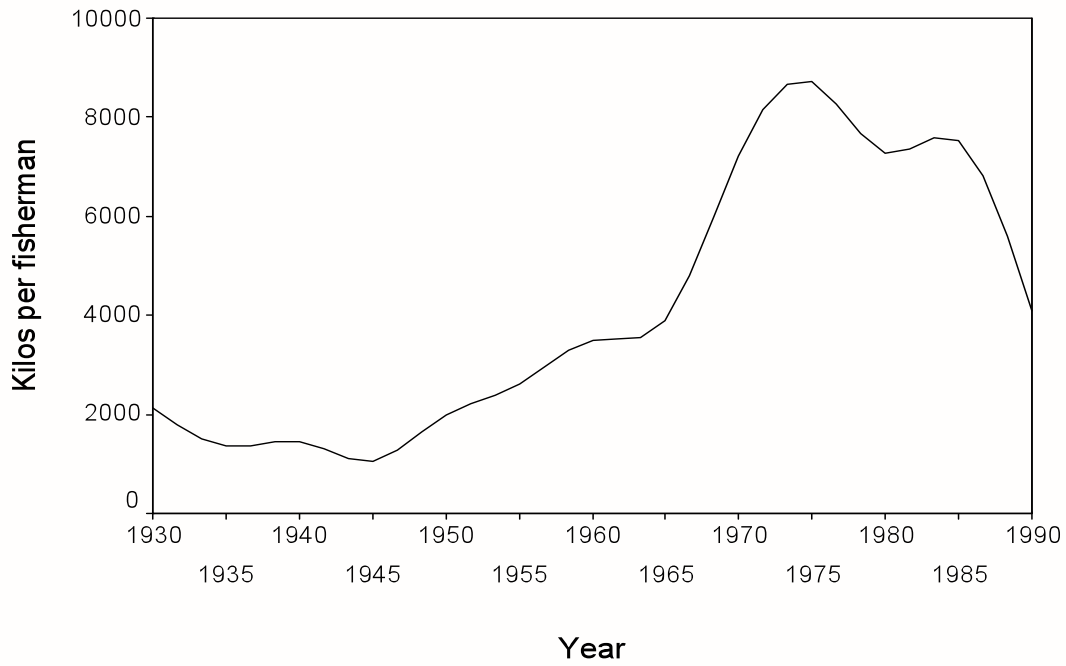


Source: Norwegian Directorate of Fisheries

Figure 3.7 shows the long-term development in the number of fishermen in Norway. While practices regarding registration of fishermen have changed historically, (criteria for registration were changed both in 1982 and 1989) the graph puts the vessel quota system in a historical perspective. The number of fishermen in Norway has been reduced constantly since WWII, especially in the period from 1945 to 1960 when there was a reduction of 51 500 fishermen. This was also the period in which the Norwegian welfare state was being built and when fishing started to become technologically «modern» (Furre 1992). Among other things, the modernization of Norwegian fisheries consisted of several innovations spread over a relatively short historic period. For example, during these years the nylon gill-net was introduced in the Codfjord fishery. The nylon net, as opposed to the older cotton net, was much stronger and therefore easier to maintain; it was also lighter and therefore more efficient because it took less energy to handle it. Furthermore, the nylon net was cheaper to buy. Some of the older informants in Codfjord maintain that the nylon gill-net is the most important innovation in small-scale fisheries, since it reduced the health risks in the fishery. Another innovation which made fisheries more efficient was the echo sounder, which became common among small-scale fishermen in Codfjord during the 1970's. Going back to the period from 1945 to 1960, one may also note that this was the period when trawlers became a significant factor in Norwegian catches of cod (Pedersen 1995). Norwegian fisheries went through a period of modernization during this time, as did Norwegian society as a whole. This is reflected in the number of fishermen which decreased significantly in Norway during the early years after WWII.

Compared to this period, the reduction by 2 500 in the number of fishermen after the vessel quota system was introduced was small. However, this does not mean that the cod crisis and the vessel quota system were insignificant in other regards. These occurrences did have an economic impact, as reflected in figure 3.8.

**Figure 3.8 Calculated kilo cod per fisherman**



Source: Norwegian Directorate of Fisheries

The economic development of Norwegian fisheries can be partially grasped when calculating the kilos of cod caught per fisherman in the period from 1930 to 1990. This is shown in figure 3.8<sup>24</sup>. This graph has the opposite direction of figure 3.7, implying that the number of fishermen has been reduced while catches per fisherman have increased. The increase in catches per fisherman is particularly high in the period from 1965 to 1975, when kilos of cod caught per fisherman rose by more than 100 %. This indicates a period of economic rationalization, that is, the process in which the output of labor increases while the input stays constant or decreases. Thus, the economic rationalization of Norwegian fisheries occurs in time after the number of fishermen has already been reduced. An efficient fishery can be thought of as a double-edged sword. On the one hand, participants make more money with less effort. On the other hand, they may run the risk of becoming so efficient that the resource on which they depend collapses. This seems also to have been the case in the Norwegian cod fisheries. The decrease in catches per fisherman from 1985 to 1990 is large, indicating that fishermen were trying to

<sup>24</sup>Calculating kilos of cod per fisherman involves errors. However, the graph gives an indication of a trend, not a series of estimates to be used for further analysis. The calculation is based on dividing the total landings of cod by the total number of fishermen per year in the period 1930 to 1990.

harvest a collapsing resource.

The economic rationalization of Norwegian fisheries in the period from 1960 to 1980 seems to be the genesis of the cod crisis at the end of the 1980's. Norwegian fisheries, along with the rest of Norwegian society, became technologically modernized in the period from 1945 to 1960. The economic rationalization of the fishery occurred afterwards. This indicates the twofold structure of rationalization: while one may be able to fish in a formally economically rational fashion - that is efficiently due to organizational, technological and social advancements - it does not mean that one actually chooses to act this way. Formal economic rationality, as well as other forms of behavior, is founded on the actors' sense of what constitutes morally right action. In the period from 1960 and afterwards, it seemingly became morally accepted for each fisherman to catch more fish. In other words, the attitude to economic actions seems to have changed during this period, as the formal approach to economic activities became more dominant. Thus, the change from a traditional/small scale to an industrial approach to fishing seems to have occurred at the national level from the 1960's and onwards.

Returning to Weber's perspective on state intervention, the vessel quota system can be considered a logical extension of the problems faced when a fishery becomes too rationalized. As discussed in chapter 1, formally rational actions are tied to legal authority and may only be limited by this form of authority. The vessel quota system is a form of legal authority, according to which fishermen are defined by a set of economic and legal criteria. The system may therefore be regarded as the only viable option for the state to stop an unwanted process, since the fishermen only consider legal authority legitimate. However, do these numbers - which are measured at the macro-level - mean that all fishermen actually behave in a formally economically rational manner? Does the rationalization process only pertain to those who use trawlers or does it pertain to *all* fishermen? Two of the factors which may hold back such a development in Codfjord are tradition and religion. Both tradition and religion embed the actor in norms that are normally of an historic character, and contribute to pulling the actor back into established practices. Thus, one may claim that traditions and religion contradict formal economic rationality, because they dictate meaningful behavior in light of the normative heritage of the community to which the fishermen belong. Two of the most important traditions of people in Codfjord are therefore reviewed in the next chapter.





## **Chapter Four**

### **The History of the People in Codfjord**

In the analytical framework of Weber's analysis, history and traditions play an important role as actions are often oriented in terms of these factors. This chapter sketches the historical heritage of the people in Codfjord and the region where this community is situated. An understanding of phenomena at the regional level is necessary to understand some of the phenomena that occur at the local level as Codfjord shares the historical characteristics of the region as a whole (Bjørklund 1985). The descriptions in this chapter will be referred to in later chapters, and serve to give depth to the concrete analysis which follows. There are especially two traditions that are prominent in Codfjord and the surrounding region.

First, a large portion of the population in Codfjord are of *Saami* descent. The Saami are a Fennoscandian ethnic group that has long-standing historical roots in the area (Eidheim 1971). The first section of the chapter sketches some of historical background of the Saami people, emphasizing their approach to fisheries and their current political status. This element is included because the fishermen in Codfjord have, or used to have, an approach to fishing that is typical of this ethnic group. In the second part, an important religion in the community is described and analyzed. The religion is called *Læstadianism*, and has its origin in the middle of the 1800's in Northern Sweden and Norway (Boreman 1954; Sivertsen 1955). Many of the fishermen, along with others in the community, belong to this religious group and the history of Læstadianism is included because it represents an important part of the cultural and normative platform of the community.

#### **4.1 The History of Saami Fisheries: The Cultural Heritage of Codfjord**

While preparing to do the fieldwork, I read several studies from the Codfjord region. One of these held that most of the inhabitants in Codfjord were of Saami descent (Bjørklund 1985). However, Bjørklund observed that the same inhabitants refused to admit that they were Saami. He drew the conclusion that the repression and stigmatization of the Saami people throughout history had made people in Codfjord hesitant to identify themselves as Saami. This will be discussed more thoroughly below, where the connection between ethnic revitalization and local politics will be discussed in relation to fisheries management and rationalization. This section serves to sketch the historical background of such a discussion. The Saami people's use of the ocean has been dependent on several political events and processes. In particular, different forms of state intervention have altered this ethnic group's use of the ocean. The following

description will therefore also give an overview of factors that have had an impact on their use of the sea.

The Saami population is scattered all over the Fennoscandian part of the Scandinavian peninsula, together with two other ethnic groups who also have a history in the region: Norwegians and Kvæns (Norwegians of Finnish descent). The main area of settlement of the Saami population covers areas in Russia, Finland, Sweden and Norway north of 62°; this area is referred to as *Fennoscandia*. Settlements of Saami fishermen along the coast of North Norway probably go as far back as the year 0. These settlements are mainly found in Finnmark and the northern part of Troms, but also as far south as the northern part of Nordland county. Norwegian settlements came about 1000 years later, when the Vikings started to settle along the coastline (Holmsen 1977). The Vikings made their living from farming and fishing with regional differences in how these occupations were carried out. While Saami settlements were generally located inside fjords, the Norwegians settled farther out on the coast. This is probably due to differences in how the two groups adapted to the environment: the Saami combined fisheries with hunting, gathering and farming, while the Norwegian population lived from fishing, farming and trade. Thus, the Saami way of life involved a subsistence economy, while the Norwegian's adopted a barter and monetary economy, at least partially (Eidheim 1971, Pedersen 1995).

The Saami people are most known for their reindeer pastoralism. This is also the aspect of Saami life which is regarded as most typical of the way in which they have adjusted to the Fennoscandian environment. However, the current adaptation to reindeer pastoralism, where semi-domesticated reindeer are driven back and forth in yearly cycles between different grazing lands, is relatively new. Some sources date this method back to about 1600 (Eidheim 1971, Pedersen 1995). Before reindeer were domesticated, or rather semi-domesticated, the Saami used to hunt for them. These days, only a small portion of the Saami population lives from reindeer pastoralism. It is hard to estimate the exact number, partly because it is unclear who should count as being Saami. Fishing and farming are also traditional Saami occupations, in the sense that they have been a central part of Saami life for several hundred years.

The areas of Saami settlement have historically been the object of territorial disputes between several different nations. Before 1600, Russia, Denmark - Norway (which at that time was a union) and Sweden collected taxes from all settlers in the area. In 1613, Denmark - Norway managed to get the sole jurisdiction over the coastline of Finnmark, while both Denmark - Norway and Sweden collected taxes inland. This situation lasted until 1751, when the border

between Norway and Finland was established in a settlement between Denmark - Norway and Sweden - Finland (these countries formed a union until 1809). However, the present border between Russia and Norway was not established until 1826, when the border was defined in an agreement between Sweden - Norway (from 1814, Norway was in a union with Sweden) and the Russian Tsar. However, the chaos of different nations, borders and territories was not brought to an end until 1905, when Norway became a sovereign state (Pedersen 1995).

In the years from 1200 to 1600, all settlers in the area had to pay taxes to governmental tax collectors traveling in the area. While some authors (e.g., Pedersen 1995) have described the taxation as imposing severe hardship on the population in the area, it seems reasonable to assume that taxation must have been infrequent and to some extent random because settlers must have been hard to find at times. Communities, defined as permanent settlements, are a quite modern phenomenon. It therefore seems reasonable to assume that most of the population in Fennoscandia has migrated between different areas, regions and even countries. This is a particularly plausible assumption in the case of the Saami people, who migrated in pursuit of prey. There appears to be a tendency to exaggerate the hardship imposed on the northern population during these times. Except for taxation, none of the forms of government intervention we know today interfered in the daily lives of those who made their living from the sea until about 1600.

During the 1600's, high fish prices and an abundance of fish caused large, mobile boats from the south (Nordland and Troms counties) to harvest in Finnmark part of the year. It is held by one historian that this was the first time that the Saami population, who still settled in the fjords, had to fish on the same territories as the Norwegians (Pedersen 1995). However, there are two arguments against this claim. First, Norwegians had already settled in the area hundreds of years before 1600. It seems unlikely to assume that there was no contact between these groups on the harvesting grounds, since the distance from the coastline to the fjords is short in most places. In many cases, it is possible to see the coastal areas on the outside from the inside of the fjord. Secondly, the technology of the time was unlikely to enable Norwegian coastal fisheries to be carried out the way it is today (Holmsen 1977). It is likely that the weather forced the fishing to take place wherever the sea was calm, which is inside the fjords where the Saami fishermen had their harvesting grounds. The two ethnic groups may thus have had contact through their sharing of fishing grounds as far back as the time of the first Norwegian settlements in the region, that is, around the year 1000. However, due to a lack of reliable historical sources, it remains unclear how and when these two populations started to blend

genetically and socially. On the other hand, it is clear that the Saami population constituted a large portion of the total population of the north during the 1600's.

Around 1600, social change came to all settlers in the northern region when large-scale fishing and the trading of fish became institutionalized. This was manifested in the establishment of permanent merchant services such as fish houses and retail sales. This new bourgeoisie came from the southern part of the country, where exporters of fish bought fish from northern Norway and exported it to Germany (Drivenes, Hauan and Wold 1994). Local buyers served as agents for these big exporters. The buyers imposed severe hardship on the population of the north; by constantly overcharging for services and goods, they put fishermen in debt. By threatening to deprive the fishermen's families of all possessions, they forced the fishermen to sell catches to them, usually at low prices. This structure of repression and economic hegemony lasted for several hundred years, and created class-divisions in the region (Drivenes, Hauan and Wold 1994).

The poverty of the coastal and fjordal regions in Finnmark and the northern part of Troms at about 1700 led to the establishment of the first fisheries management institutions. In this management system, fishermen from other counties were only allowed limited catches. In some fjords, fishermen from other counties were banned (Pedersen 1995). This management system may be understood as a variant of social policy in which the allocation of resources was seen as a way of giving the population of the north social support. Thus, conceptually, it was a management system, not a fisheries-management system. However, all these restrictions on harvest by fishermen from other regions were eliminated in 1830 by the government. The result was that the harvest became open to everyone. Since 1830, none of the management schemes in the coastal and fjordal fisheries of Finnmark have favored local fishermen. During the period from 1700 to 1800, the vessels fishing outside Finnmark consisted of smaller vessels, and the primary gear used were handline, longline and gillnet. Most of the boats were equipped with oars and sail, and nothing was automated. Consequently, being a fisherman was a hard and risky occupation, inflicting physical hardship on the men who spent most of their life fishing. The only advantage was that everybody «was in the same boat»: the fishermen had similar equipment, social status and were exposed to the same dangers.

Some authors (Eythorsson 1993; Pedersen 1995) hold that extra-legal fisheries management systems have been in existence in the northern fisheries. However, these claims have never been documented. Also, it seems unlikely that such systems have existed due to the specific nature of the small-scale fisheries of the region. The coastal and fjordal fishermen of the north

have always been mobile because they have based their harvest on highly migratory species such as cod. Thus, territorial possessions would make it difficult for these fishermen to fish at the different places that they are known to have fished. Such obstacles are not documented to have existed anywhere in the region; rather, the history of the fisheries in the region shows several traditions of visiting remote fishing grounds at specific times of the year. A collection of interviews housed in the Nord-Troms Museum tell stories of fishermen from Codfjord leaving home for several months, and rowing to the rich fishing grounds further north. In these cases, several fishermen went together in one open boat on which they both worked and lived for long periods together with fishermen from other communities in the region.

Around 1900, the industrial revolution started to affect the fisheries of northern Norway (Furre 1992). Parts of the fleet were modernized when the fishermen bought larger, motorized vessels. At the same time, new and more efficient gear - such as trawl and seine - were introduced into the fishery. In 1897, the «Fisheries Law for Finnmark County» was passed by central government agencies, allowing local and municipal authorities to propose that sea areas were not allowed to be harvested during parts of the year (Pedersen 1995). Such closures applied particularly during the spawning season, when fish stocks were vulnerable to being overharvested, and were especially helpful when foreign trawlers and seiners virtually emptied the fjords of cod and saithe, leaving nothing for local Saami fishermen. However, almost none of the local demands for temporary closures and stock preservation were put into formal action by the central authorities. In sum, a twofold conflict occurred in the region during this time. Different user groups fought for the right to harvest. The state helped the industrialists by ignoring local claims on harvest-rights. Simultaneously, the economic expansion of Norwegian fishermen caused ethnic tensions between them and the Saami fishermen who used smaller vessels and conventional gear. The result was an economic and cultural recession for the Saami fishermen of the north (Pedersen 1995).

However, the turn of this century brought another element to Saami history, causing even more pressure on their culture. The event in question was the assimilation policy carried out by the Norwegian government towards the Saami people from the end of last century up to the 1960's. The assimilation policy had as its goal that the Saami people should be «Norwegianized» by coercing the Saami people into adopting the Norwegian language, culture and economic system. The instruments used for enforcing this policy were public services and media, but it was the educational system that was the main instrument (Eidheim 1971). All children attending school - which was mandatory - during this period learned Norwegian, while all communication in Saami - whether formal or informal - was banned and punished. In addition,

all public services assumed that the client spoke Norwegian, because civil servants were only permitted to speak this language. While there can be no doubt that the assimilation policy followed by the Norwegian government in this period altered the lives of many Saami families, the extent to which it altered their lives has been debated. Several authors (Bjørklund 1986: Bjørklund and Brantenberg 1986: Eidheim 1994: Høgmo 1986: Jernsletten 1986: Minde 1980, 1986: Thuen 1980: 1986) hold that the effect of the assimilation policy on Saami culture was devastating, and virtually abolished all culturally based Saami institutions. Identical positions are also taken in contemporary Saami political rhetoric (Sametinget 1994).

Labor became increasingly specialized as a result of the modernization process going on at the turn of this century. Individuals or groups of fishermen invested in larger vessels that could stay in operation the whole year. This new development also affected the Saami fishermen, who either invested in vessels themselves or worked as crew on these boats. Some captains offered contracts with fixed incomes, which at the time was seen as an attractive opportunity (Pedersen 1995). However, it appears that it was harder for Saami fishermen to obtain capital for new vessels due to racial prejudice among those managing the capital, namely public institutions and private banks (Eythorsson 1993). The Saami language also represented a barrier when Saami fishermen presented arguments for getting loans. In addition, the weak political influence of the Saami people caused this group to have a low priority in public policy since a recommendation from local authorities was needed to get a loan for a new vessel. The result was that industrial fishing became less significant economically for the Saami than the Norwegian population in Finnmark. Instead of industrializing, the Saami continued as small-scale fishermen, often in combination with farming.

The Second World War had a tremendous impact on the infrastructure of Finnmark and the northern part of Troms. At the end of the war, the Germans were chased towards the south by Russian forces. During the evacuation, the Germans burned all houses, public building, bridges and the like in Finnmark and the northern part of Troms. The infrastructure of the region was destroyed, leaving only a small fraction intact when WWII was over. This event, together with the evacuation of people from the region during the war, caused changes in the settlement patterns in the north. During the post-war period, a program for rebuilding Finnmark and Troms was discussed. While matters relating to ethnic diversity in settlement patterns were overlooked in the program, future fisheries policy was mentioned (Stenberg Hansen 1993). However, the plan - called «The London Plan» - never came into effect. In spite of this, the overall policy during the rebuilding of Finnmark consisted of centralizing settlements, where the government provided capital for building houses and industries in central areas. But the

people of the region held on to their traditional way of life, and moved back to the smaller places they came from, continuing to live from small-scale fishing and farming (Solhaug 1977: Stenberg Hansen 1993).

The 1950's represented a change in public policy regarding the Saami population in Finnmark. In 1956, the government appointed a committee to elucidate questions pertaining to the Saami population in northern Norway. The committee delivered its report in 1959 in which it pointed to the need to protect the sea areas traditionally used by the Saami from overexploitation by larger, industrial vessels. However, the Norwegian government never implemented a follow up plan, and none of the recommendations of the committee were put into effect. As larger vessels began to comprise a significant proportion of the total fleet of Norwegian fishing vessels during the 1950's, the lack of regulation of these vessels became a political as well as an ecological problem. Large vessels from the south were more efficient than the smaller, local vessels, thus making it hard for the fjordal, Saami fishermen to earn adequate incomes.

From the 1960's and up to the present, Saami fisheries have been influenced by the same processes as other small-scale fishermen: an increasing conflict between different user-groups. Economic policies during the 1950's and 60's resulted in increased emphasis on industrial fishing, giving the group who adopted this method increased fishing rights. This process resulted in several protests from small-scale fishermen, who, through their organization *The Norwegian Fishermen's Association*, filed several protests against what they perceived as a theft of «their» local stocks (Pedersen 1995). These conflicts remain to this day, and the government has not managed to resolve them. However, some positive efforts have had an impact. Fishing by trawl is illegal inside the coastline<sup>25</sup>, and it is illegal to use seine for fishing cod inside the fjords. In some fjords, it is still legal to fish saithe and herring during certain times of the year using seine.

#### **4.1.1 Recent Developments**

It is hard to separate the status of Saami fishermen from that of other fishermen in northern Norway. However, by using the Fishermen's Census, Saami regions can be compared to Norwegian regions. The selection of areas for comparison was done as follow. First, comparisons were limited to Troms and Finnmark. This seemed reasonable because Saami

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<sup>25</sup> This is defined as the area stretching from the inside of the fjords to the outermost islands.



settlements are mainly found here. Second, «Saami regions» were defined as regions receiving support from a fund established by the Norwegian State, but managed by the Saami Parliament. This fund is called «The Saami Fund for Economic Development», and grants people of Saami descent economic support to undertake investments in industries which are traditionally defined as Saami. Only persons in Saami regions are eligible to receive support from the fund. «Saami regions» are defined by the Saami Parliament and are areas where a significant portion of the population is Saami<sup>26</sup>. «Norwegian» regions are those regions left after grouping Saami regions.

The number of full-time fishermen has declined steadily in both counties sampled. This development is evident in both Saami and Norwegian areas, which have had an almost proportional reduction in the number of fishermen. Saami and Norwegian areas have collectively experienced a reduction in the number of full-time fishermen of 16.6 % in the period from 1988 to 1993. Norwegian areas have had a reduction of 16.6 %, while Saami areas have had a reduction of 17.1 %. This difference is so small that it cannot be claimed that there has been a substantially different development in the number of full-time fishermen in Saami regions compared to Norwegian ones: both areas have had their number of fishermen significantly reduced. However, register A documents another development. Towards the end of the 1980's, the number of part-time fishermen decreased in both Saami and Norwegian areas. However, at the beginning of the 1990's, the number of part-time fishermen increased in Saami areas, while still decreasing in Norwegian areas. Saami areas have had an increase in the number of part-time fishermen of 23.7 %, while Norwegian areas have seen a reduction of 16.8 % in the period from 1988 to 1993. This is a substantial difference, and allows one to conclude that there is a different development in the number of part-time fishermen in Saami areas compared to Norwegian ones.

These differences may be explained in a number of ways. One possible explanation is that the fishermen in Saami regions enroll as part-time fishermen when leaving a career as full-time fishermen, thus only reducing their effort but not their occupation. Fishermen in Norwegian regions either fish full-time or they do something else. Traditional Saami economic occupations have usually been such that the individual was involved in several industries simultaneously. One example is the combination of part-time farming and part-time fishing; other combinations

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<sup>26</sup>The following municipalities are wholly or partly included in the district eligible for support from The Saami Fund for Economic Development in 1996: the municipalities of Skånland, Lavangen, Kåfjord and Kvænangen in Troms county; the municipalities of Kautokeino, Kvalsund, Måsøy, Porsanger, Karasjok, Lebesby, Gamvik, Tana and Nesseby in Finnmark county. Some municipalities which are eligible for support are inland, and have consequently been excluded from the analysis.



have also existed, for example, part-time fishing has been combined with part-time public service. The increase in the number of part-time fishermen in Saami districts may also be due to an effect of the «Saami Fund for Economic Development». Because part-time fishermen in Saami areas have better access to capital, it is easier for them to continue their fishing operations. In addition, since 1994, part-time fishermen who come under the auspices of the maximum quota system, and who are settled in Finnmark and the northern part of Troms are guaranteed a minimum catch. This is not the case with part-time fishermen in other regions. In sum, the full explanation probably encompasses all of these three factors. During the past twenty years, a debate concerning the constitutional and political rights of the Saami people as an indigenous people has come into focus. The debate on Saami resource and property rights escalated at the end of the 1970's when the Norwegian government decided to build a dam in Finnmark at a location used for keeping reindeer; this was later referred to as the Alta-Kautokeino conflict. The Saami argued that the dam would interfere with areas used for reindeer herding, and that the construction would have a severe impact on the ecology of the area. However, the Norwegian government insisted upon the location, claiming that the ecological consequences were few and that the reindeer owners had other places they could use. Because of this conflict, the right to use inland areas in Finnmark became a national public debate. Some Saami activists starved themselves in front of the Norwegian parliament and others attempted to physically obstruct the construction of the dam; activists also received support from several Norwegian organizations and individuals. Large police forces were brought to the area to remove the activists, who came from the entire country. This caused the political and constitutional demands of the Saami to get both national and international attention, as the media followed the conflict.

Following this event, two significant political processes started. First, a national committee was appointed by the Norwegian government to research and document some of the issues arising from the Alta-Kautokeino conflict. The committee, called the *Saami Rights Committee*, was authorized to document the substance and extent of Saami land-ownership claims in Finnmark, as well as other indigenous and traditional rights. These rights were intended to be formed in a similar fashion to Norwegian law on land ownership, thus making comparisons and implementations possible. The committee was appointed in 1980 and finished its work in 1996<sup>27</sup>. Second, because of the turmoil caused by the Alta-Kautokeino conflict, but also because of some preliminary conclusions from The Saami Rights Committee, a Saami parliamentary institution for handling political and administrative issues was established.

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<sup>27</sup> However, there are still some issues that remain to be discussed by the committee, and it has therefore not completely finished its tasks.

During the years after the Alta-Kautokeino conflict, it became increasingly clear to the Norwegian government that international law on the area prescribed the establishment of autonomous political institutions for ethnic groups (Article no. 27 in UN's Covenant on Civil and Political Rights and ILO convention no. 169). The Norwegian King, H.M. King Olav, opened the Saami Parliament, located in Karasjok in inland Finnmark, on October 9th 1989.

Regional and political representatives are elected to the Saami parliament every fourth year, that is, the election-cycles of the Norwegian parliament are followed. The jurisdiction of the Saami parliament is manifested in Law no. 56 of June 12th 1987: *The Saami Act*, where § 2.1 states:

*The Saami Parliament has as its mandate all cases which, according to the Parliament, can be considered as being relevant to the Saami people.*

*The Saami Parliament can, by its own initiative, make statements about all cases within its own mandate. It can by its own initiative, make proposals to public authorities and private institutions etc.*

*The Saami Parliament can form a quorum when this follows from other provisions in the law, or is otherwise established* [My translation].

The jurisdiction of the Saami Parliament is limited to *consultative authority*, that is, making recommendations on cases pertaining to Saami interests, such as new laws and regulations proposed by the Norwegian Parliament. However, the Parliament can also make statements regarding decisions or propositions made by private institutions or companies. However, the proposer is not obliged to ask for a statement from the Saami Parliament, but § 2.2 in the Saami Act encourages other public authorities to consult the Saami Parliament before decisions on relevant issues are reached. Many public authorities are increasingly following this advice, as the Saami Parliament has become a significant actor in Norwegian political and administrative discourse. Last, but not least, there are factors which limit who is eligible to be elected as a representative in the Saami Parliament. The same type of factors restrict the composition of the electorate. Criteria for eligibility are found in the «Sametingsplan» (Plan of the Saami Parliament) for the period 1994 – 1997. According to this the voter must be at least 18 years or age in the year of the election and declared that he or she:

- *Regards him or herself as Saami.*

- *Has Saami as his/her native language, or that at least one of the parents or grandparents have (or had) Saami as a native language* (Saami Parliament 1994, 9 [My translation]).

If the voter fulfills these criteria she/he is eligible to enroll in the Saami Census, a public list over eligible voters in the district. After being enrolled in this census, the individual is allowed to vote.

While many of the inhabitants of Codfjord are of Saami descent, only 4.6% of the population was enrolled in the Saami Census prior to the election of 1993. In the 1989 election, 2.9% of the population was enrolled in the Census and thus eligible to vote. Whether the number of people enrolled in the Saami Census gives an accurate reflection of the exact number of people of Saami descent in Codfjord remains unclear. However, many fishermen reported being of Saami descent even though they were not enrolled in the Census. Different theories have been developed to explain why so many people of Saami descent refuse to participate in political or cultural Saami activities, even when they come from Saami families. Bjørklund (1985) claims that people in the region withhold their ethnic origin. His theory is based on the writings of Eidheim (1994, 39 ff.). Eidheim holds that being Saami has been a source of stigma and racism in Northern Norway, and hence people prefer not to participate in Saami activities such as the election to the Saami Parliament. Such participation may be taken to imply that you regard yourself as Saami, and this is a signal which people are reluctant to emit. Another theory is that people are uninterested in being enrolled in the Saami Census, because they do not identify themselves with the ethno-political processes which take place among those that are active in the Saami Parliament. However, whether people regard themselves as Saami or not, it remains a fact that Codfjord belongs to an area considered Saami by the Saami Parliament. This means that the municipality is considered a mainstay of Saami culture by Saami authorities, who furthermore consider the economic culture as complying with Saami traditions. Thus, in spite of the fact that relatively few individuals regard themselves as Saami, the county is regarded as a Saami. The question of identity will be discussed further below, where current political processes in Codfjord are the focus. Another important historical factor which has had an impact on the identity of the people in Codfjord is Læstadianism, a particular type of Lutheranism.

#### **4.2 Læstadianism: The Moral Heritage of Codfjord**

Before I started my fieldwork, local newspapers were writing about religious controversies taking place in Codfjord and other municipalities in the region. In Codfjord, a conflict developed when members of a religious group called the *Læstadianists* attempted to establish their own school. The Læstadianists argued that the ordinary school system was secularized and

inadequate for raising their children. Others in the community replied that it was unfair that public resources should be used to satisfy the needs of a particular religious group. They also argued that establishing the school would undermine the Norwegian school system. The ordinary school in Codfjord is small because there are few children in the region. Thus, some may have been worried about what the consequences might be if the Læstadianist school was to remove children from the public school, because public schools receive funding proportional to the number of children they have. Economic, social, religious and political questions were asked and answered in the newspaper headlines for a while, but culminated when the Læstadianist school finally opened in 1993. However, it became clear that religious questions had an important status in Codfjord, and consequently this aspect would require particular attention during the fieldwork. The fact that so many of the inhabitants have such an emotional relationship to religion may be due to the fact that the community has been one of the mainstays of Læstadianism for a long time.

Læstadianism is an orthodox pietist form of Lutheranism. It is based on the theological interpretations of Lars Levi Læstadius (1800-1861), a Swedish preacher with a strong intellect and personality, who was active in the northern part of Sweden during the middle of the last century. Læstadius was born in Pite, an area in northern Sweden that at that point was mostly inhabited by Saami populations. Læstadius' family itself was Saami. His father owned a mining company, but the company went bankrupt when Læstadius was young. This pushed the family into poverty, and the family had a hard time making a living until Læstadius' half-brother took them into his care in 1816. Læstadius' half-brother was both a botanist and a minister, and had a large impact on the personal development of his younger half-brother, who pursued the same academic direction (Sivertsen 1955). When he had finished primary school, Læstadius decided to become a so-called *viaticand* (Sivertsen 1955). The «Viaticandship» was an important religious institution in Scandinavia in the nineteenth century. It consisted of young men who traveled the countryside and preached in order to collect money for their education as ministers. Most of these men came from low-income families, and the Viaticandship was made to give people from the lower classes an opportunity to get an education (Sivertsen 1955). After serving as a viaticand for about a year, Læstadius started to study. However, he began studying botany and not religion. This was usual at the time, as the beginning of the last century belonged to the period of enlightenment, when it was common for ministers to «enlighten» the congregation. For example, the minister taught people elementary nutrition, such as how to grow and prepare potatoes. Læstadius was interested in botany and pursued parallel careers in botany and religion, even after finishing his education as a minister. His career as a botanist

resulted in several publications, expeditions, and honorary membership in several scientific societies, including international ones. In Europe, he became a widely acknowledged botanist<sup>28</sup>.

Even though he was a recognized botanist, Læstadius became most influential among the people in Fennoskandia as an interpreter of the Bible and famous for his work among the Saami. The area in which Læstadius worked after receiving his degree as a preacher was mainly inhabited by Saami. The Saami people of the region may be considered as consisting of three groups with three different languages<sup>29</sup>. These three different groups are the Pite-, Lule- and Torne Saami. While linguistic differences may have split the population, they appear to have a rather homogeneous culture and mythology. Læstadius belonged to the Pite Saami himself, but spoke all three languages. All three groups were repressed by the Swedish state. On the Norwegian side (Norway was part of Sweden in a union at this time), the Saami were subjected to similar conditions. The Saami population was driven from the best and richest properties where they traditionally had lived, and into the poorer areas in the north of Sweden. The state helped different merchants get established in the areas where the Saami people were forced to settle. Research suggests that the Swedish state sponsored the establishment of merchants specializing in the sale of alcohol to the Saami population (Boreman 1954). In any case, the Saami population in the area was largely destitute. In the eyes of Læstadius, the population was infected with alcoholism, prostitution, theft and immorality (Boreman 1957: Sivertsen 1955). Læstadius witnessed that the Swedish state attempted to kill off the ethnic group to which he belonged. This process, in addition to a general interest in Saami culture and mythology<sup>30</sup>, seems to be the foundation of his interpretation of the Bible. Saami mythology may be classified as a form of pantheism, that is, the belief that God is expressed in and by nature. While certainly not deriving any religious doctrines from Saami mythology, he made use of metaphors, expressions and names from this mythology in his services. For example, the Devil was sometimes called *Stallo* - which is one Saami name for the Devil.

Theologically, Læstadianism may be regarded as a variant of the Pietism we know from theologians such as Philip Jacob Spener (d. 1705). The characteristics of Pietism may be summarized as:

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<sup>28</sup>In fact, Læstadius had one species of poppy named after him - *Papaver Læstadianum* Nordh.

<sup>29</sup>Some linguists regard them as three different dialects. The author is in no position to judge what is the correct description. However, they are different.

<sup>30</sup>His interest in this mythology resulted in an unpublished book on the subject called *Den Lappska Mytologien* [The Lappish Mythology].

1. The essence of Christianity lies in an inner individual experience of being reborn as a true Christian.
2. The individual must be totally committed to God, leaving the «old» life behind, and living a life free of all worldly sins.
3. Pietists based their belief on the Bible, not holy declamations from higher clerical authorities, like Catholics did. The Bible served as the individual's guideline to rebirth and a life without sin.
4. Most forms of Pietism were Protestant in the literal sense of the word. They were in constant conflict with the religious «establishment», who the Pietists saw as living a life in sin because they were too concerned with material goods and lust (Encyclopedia Britannica, 455ff.)

Generally, Pietism may be regarded as a religious doctrine which makes beliefs a personal matter in the same way as Lutheranism did. Luther removed religious aspects such as confession and interpretation of the Bible from the clergy to the individual. Like other Lutherans, Pietists generally regarded being a Christian as an inner experience; God talked through the Bible. Among some of the Pietists, the Bible was considered a normative guideline, telling the individual believer how to organize his/her life according to the will of God. These main attributes of Pietism also seem prevalent in Læstadianism.

While Læstadianism may be regarded as a form of Pietism, Læstadianism is not only Pietism. Læstadius' rhetorical cleverness lay in presenting the Bible in such a form that people could translate their ethnic knowledge of mythology into an understanding of Christian beliefs. A central thesis in his interpretation of the Bible seems based on a notion of the original sin. In essence, the original sin consists of everything worldly, including the flesh, being infected with sin (cf. the fall of Adam). The Læstadianist notion of the original sin is defined in a letter from five of the preachers in the congregation of North-Troms (Codfjord is part of this area) to a professor in religion at the University of Oslo. Here the five preachers say that:

*About Original Sin we believe, teach and profess that after the fall of Adam, all human beings born in a natural way are sinners. That is, without fear of God, without trust in God and with evil lust. This sickness is hereditary and a real sin, which will subject those not reborn and confirmed by the Holy Spirit to eternal death (Svebak 1978 [My translation]).*

This interpretation of the fall of Adam is conceptually linked to a division of humans into three different groups. The *unconcerned* are described by the following adjectives: disbelievers, ungodly, thieves of grace and spiritually dead. The *awakened* are described as remorseful. Finally, the *Christians* are described as «the pardoned and believers» (Boreman 1957: 102). In his sermons, these groups were the basis of Læstadius' attack on the moral deterioration he saw

around him. The unconcerned were especially a target for his rhetoric. In a sermon from 1853, Læstadius gave the unconcerned the following prospect for their lives:

*If the unconcerned should believe in the words of God, they would certainly have to do penance. But they do not believe, and must therefore go into the ocean of fire, which burns of fire and sulphur. The hideous will receive a hideous judgment because their lives have been hideous. They have been drinking, swearing, fighting, stealing, whoring, been wild and proud, and must therefore be sentenced to the ocean of fire.[...] The murderers [...] and the spiritual murderers, who have spilled Christian blood [...] will drink blood. [...] Those guilty of adultery and impurity will live in Hell, whoring with devils into eternity (Boreman 1957, 102 ff. [My translation]).*

The rhetoric of Læstadius' writings and sermons is often based on detailed pictures, which render the destiny of individuals who refuse to subject themselves to correct beliefs. One may discuss why he did this. The Swedish theologian Per Boreman (1957, 105) suggests that he needed to employ a colorful rhetoric because this was the only way to make the listeners understand his message. Another plausible explanation may be that the tactic was to scare the listeners with verbal pictures which appealed to the listener's superstitions. One should keep in mind that many of his listeners were raised to believe in different mythological constructs. When these mythological entities were connected to biblical prophecies, Læstadius could scare people into belief.

From about 1850 onwards, Læstadianism became a significant religious, political and social factor in Fennoskandia. A medical doctor practicing in the region where Læstadius established a large congregation said that Læstadianism worked as a «*healthy epidemic*» (Boreman 1957, 252). While people had earlier lived in destitution, drunkenness and poverty, Læstadius contributed to elevating his congregation towards a better standard of life. The normative content of Læstadianism may be summarized by the words: law-abidingness, morality, moderation, placability and honesty (Boreman 1957, 252). Læstadius encouraged people to live an ascetic life in devotion to God, freeing themselves from material needs. A biblical phrase often cited in Læstadianist sermons is «*God's fear with moderation is a big asset*», which means that God looks positively on moderation and asceticism. If they fail to meet these and other moral standards, they could run the risk of being doomed to eternal damnation.

These standards seem to be generally valid for most Læstadianists. However, the Læstadianist movement has split into several groups. In the Codfjord-region, Lyngen-Læstadianism is most dominant. This congregation, as is also the case with most others, is organized around informal principles, but with strong lines of authority. A few preachers lead the congregation, organizing so-called *gatherings*. Preachers are not necessarily qualified by formal education, but promoted



in an internal ranking system. How this ranking system works remains unclear. However, the movement is, together with similar movements, the historical source for a particular group of preachers, termed *legpredikant*. This Norwegian word literally means that the preacher is a common person, that is he does not belong to the official clergy. These persons travel around in the region where the congregation is located, giving speeches at gatherings. Normal gatherings are held on Sundays for local congregations, while larger gatherings are held a few times a year. During the gathering, the preacher gives speeches and addresses questions of concern to the congregation. During the larger meetings, several preachers and local congregations meet for common sermons. In addition, larger meetings are used for solving religious disputes between congregations. Thus, gatherings take place at the local and larger meetings at the regional level.

It is interesting to note that Læstadianism represents an organizational step away from Lutheranism. While the political significance of Lutheranism lies in removing authority from the clergy, Læstadianist preachers seem to have significant political, social and economic authority. In the Lutheran church, salvation is a relationship between God and the individual. Salvation is believed to occur through an inner dialogue, or experience with God, depending on the type of Lutheranism, and is in that sense the «private property» of the confessing individual. In the Læstadianist Church, the equivalent structure is God, the individual *and the congregation represented by the preacher*. Use of the congregation represented by the preacher is institutionalized through a specific way of confessing. While confession among Lutherans is an inner experience and/or dialogue, Læstadianists confess their sins primarily to their preacher but also to other people in their congregation. Thus, the ties between the preacher and members in the congregations become strong, in part because this system can potentially be misused. Because the preacher has final authority in the congregation, he may potentially use confessions in any way that he wants. This structure of confession, which is also a significant attribute of the structure of authority in the congregation, is a distinct attribute of Læstadianism, and represents a clear departure from the doctrines of Luther. This structure has sometimes resulted in open conflicts among the preachers of the region.

In recent years, controversies and dissension have split the Lyngen-Læstadianists. In the early 1990's a controversy occurred when some of the «liberal» members of the congregation attempted to modernize Læstadianism. Specifically, there was dispute over the biblical doctrine of the Genesis vs. modern scientific theories of the «Big Bang», and the question whether divorced people should be allowed to remarry. The reformists wanted to incorporate scientific explanations into their religious doctrines because they noticed that their children learned about



these theories in school. The argument for allowing divorced people to remarry was that the Bible was obsolete on this point. Before the reformists proposed that remarrying be allowed, it was strictly illegal to get divorced or to remarry. However, it was regarded as an even worse sin to live together without being married<sup>31</sup>. Reformists argued that the Læstadianists had to allow remarriage to avoid people living together: it was better to allow a small sin and thus avoid a big sin rather than refusing to face the presence of several sins at the same time. This controversy split the movement into two camps, one «liberal» and one «conservative». Lately, the conservative camp has been further divided into two camps, one «conservative» and the other «extreme». As opposed to the liberals, both the conservatives and the extremists consider the biblical doctrine of the Genesis as having precedence over science. They also think that living together without being married, being divorced and remarrying are sins (Under Vandringen no. 6-7 1992). Concerning remarriage, the conservatives say that a «*general liberalization of our present position towards divorce and remarriage will give incentive to a greater freedom of the lust of the flesh, causing misery in the congregation. We cannot contribute to this*» (Under Vandringen no. 6-7 1992 [My translation]).

This conflict has caused severe disputes in the Læstadianist Congregation; these have remained unsolved up to and during the writing of this text. The articulation of the conflict shows that Læstadianism remains a strong social and cultural force in Codfjord and other municipalities in the region. In Codfjord, many informants complained that the religious conflicts in the community led to ostracism and feuds between those who had previously been friends. For several years, the Læstadianists dominated the normative-political debates of the community, and were guided by a few significant personalities who represented the congregation in conflicts and debates. However, conflicts have split the congregation, and people feel uncertain as to whom they should relate. The conflict has thrown many inhabitants in Codfjord into a situation that they describe as mentally stressful because they feel isolated. Also, Læstadianism has become weakened as a dominant force on the political arena in Codfjord because the conflict appears to drain the congregations of political drive. In spite of these conflicts, the local congregations still show organizational initiative in that they plan to establish an autonomous school system for their children. The establishment of a separate infrastructure for teaching also underlines the economic foundation of the movement, as this establishment will cost a substantial sum of money. Thus, when the Læstadianists feel that a goal is very important, they are still able to find energy, finance and political power to achieve it.

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<sup>31</sup>For example, several Læstadianist preachers refuse to baptize children born outside marriage.

In Weber's analysis of the emergence of capitalism in the western world, Calvinism was regarded as the normative force behind actions which resulted in the institution of capitalism. This was due to the strong grip that religion had on people's way of orienting themselves in the world. This is also the case in Codfjord, but with one big difference vis-à-vis Calvinism. While Calvinism believed that signs of salvation were communicated by earthly prosperity, Læstadianism regards salvation as an inner dialogue with God. Further, the freer the individual is from all earthly possessions, the more able he or she will be to establish an inner dialogue. Thus, there is nothing in Læstadianism that gives incentive to the kind of formal economic rationality that Weber observed among the Calvinists. On the contrary, one would expect large differences between Calvinists and Læstadianists regarding economic behavior. It is reasonable to expect that Læstadianist fishermen live ascetically and show economic piety. Thus, the fishing operation is not considered a vehicle for economic expansion, but a vehicle to grace God. This expectation is further justified by the strong grip that leaders in the congregation have over their members. Læstadianism has such a strong hold of people that several families and relationships have been broken since the disputes in the movement arose. In addition, medical doctors working in the region tell about several medical problems, especially psychiatric ones, which have been caused by these disputes. This turmoil is the result of informal punishment in the movement. After the conflict, people have been isolated, verbally harassed and stigmatized due to their beliefs. The fact that this religious group has a tradition of informal punishment has an effect on the general formation of authoritative behavior and the actors' notion of authority and power. This mechanism serves to bind the religious movement as a unified group. However, it also translates into normative guidelines for behavior in other spheres. One of these spheres is the economic behavior of the fishermen in Codfjord, who seem torn between the normative influence of Læstadianism and the cultural influence of capitalism. This is the topic of the next chapter in which economic differences are analyzed between fishermen who belong to different religious categories.



# **Chapter Five**

## **The Socio-Economics of Small-Scale Fishing**

Weber considered the economy to be the principal sphere where rationalization take place because the development which occurs in this sector is determinative for development in other sectors. According to him, one of the features of modern society is the fact that the logic of economic transactions transcends the economic sphere, and becomes the predominant principle of action in all other spheres as well. This is mainly due to the fact that the capitalist system of production take an omnipresent form and subjects all facets of life to economic calculation. It is therefore important to discuss the economic foundations of Codfjord, since these have an effect on the other attributes of the community, such as its relations of authority.

In Codfjord, fishing is the principal economic activity. The fishery of Codfjord is small-scale, consisting of small vessels (ranging between 20 to 37 feet) which are run by one or two persons, one of which is the owner. This chapter starts by looking at some of the general economic features of the Codfjord community, emphasizing its employment structure. After this, economic similarities and differences among the fishermen are analyzed, relating differences in their economic behavior to religious participation. Finally, the relationship between economy and religion is discussed for the case of Codfjord.

### **5.1 Living with Nature**

In 1994, the population of Codfjord comprised 1638 persons who were concentrated in clusters in a total area of 2117 km<sup>2</sup>. The population has stayed quite constant over the last 20 years, but there was a reduction of about 200 persons from 1980 to 1994.

The structure of employment in Codfjord in 1990 is given in table 5.1 according to industry<sup>32</sup>. Two types of occupations are more common than others, primary occupations (farming, fishing, forestry and hunting) and public and private services (this includes civil servants and other employees in the public sector). In the category ‘merchandise, hotels and restaurants’, there are four grocery stores and one hardware store; these are the only places available in the community for the purchase of consumer goods such as groceries and home appliances. Seventy-four persons are employed in the building and construction sector. However, employment in these occupations is seasonal and varies from one year to the next.

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<sup>32</sup>Source: Statistics Norway.

<b>Industry</b>	<b>Employees</b>
Farming, forestry, fisheries and hunting	152
Oil and mining	5
Mechanical industries	55
Powerplants and water supplies	14
Building and construction	74
Merchandise, hotels and restaurants	88
Transportation, storing, post and telecommunications	60
Banking, finance and insurance	10
Public sector employees	272

Due to the fact that there were no construction projects of economic significance going on in the community or nearby in the mid-1990's, one may expect employment in this category to have decreased since 1990. Primary industries, such as fishing and farming, represent the mainstay of *market-production* in Codfjord, but the public sector has grown with the development of the Norwegian social security system, becoming the most important employer in Codfjord.

In September 1993, the workforce consisted of 483 persons, which constituted less than 28.6 percent of the population at the time. Sixty-one of these were unemployed, resulting in a total number of employees of 422. Thus, only 25 % of the total population were employed in 1993. One of the reasons for the relatively low employment rate may stem from the age-profile of the population, as well as a lack of employment opportunities for women. In 1993, the workforce was distributed into different age-categories as follows: 16-19 years (N=11), 20-24 years (N=68), 25-39 years (N=168), 40-54 years (N=165), 55-66 years (N=70), and 67-74 years (N=1). While the median age group is 25-39 years, the distribution is skewed towards people in higher age categories.

<b>Hours per week</b>	<b>Age of employee</b>					
	16-19	20-24	25-39	40-54	55-66	67-74
4-19	4	14	14	27	16	1
20-29	2	9	22	18	12	0
30 +	5	45	132	120	42	0

As seen in table 5.2<sup>33</sup>, a total of 79 persons work 4-19 hours pr. week, 63 persons work 20-29 hours pr. week and 344 persons have a working week of 30 hours or more. Some of the inhabitants of Codfjord have more than one source of income; 422 persons covered the 483 work positions, yielding an average of 1.15 jobs per employed person. The municipality has

<sup>33</sup> Source: Statistics Norway.

tried to solve the problem of scarce employment opportunities for women by establishing a variety of part-time positions, especially in the health sector. A home for the elderly, run by the municipality, is by far the biggest employer of women in the community. Since employment for women is seen as a social good, positions are split so that some women only work one-eighth of a full position. This has made it possible to share jobs between different persons, making it possible for more people to remain in Codfjord. In table 5.3, the different reasons that fishermen in the sample gave for leaving and moving back to Codfjord are shown.

	<b>N</b>	<b>%</b>
Have lived other places than Codfjord:		
Yes	13	32.5%
No	27	67.5%
If yes,		
Place of living:		
Tromsø	3	23.0%
Nord-Troms	5	38.6%
Finnmark	3	23.0%
Midt-Norge	1	7.7%
Midt- and Sør-Troms	1	7.7%
Reasons for moving away from Codfjord:		
School	6	46.2%
Work	3	23.0%
Marriage	3	23.0%
Tired of Codfjord	1	7.7%
Reasons for moving back to Codfjord:		
Homesick	7	53.8%
Unemployment	1	7.7%
Completed education	5	38.5%

The data only cover the demography of the fishermen in the sample. Of the forty fishermen now living in Codfjord, thirteen have lived elsewhere. Six persons have moved away from the community for educational purposes, and then returned. This reason for leaving is especially typical of younger fishermen. Three fishermen temporarily moved elsewhere to find another job, another three fishermen left to live in their wives' home village for some time, while one person moved because he wanted to try living elsewhere. When fishermen move, they prefer to stay close to home. Almost everybody moved to a location in the home county, Troms, or they moved north to Finnmark. Most people said they returned because they were homesick. This may indicate that those who have returned to Codfjord have a strong sense of identification and attachment to the community.

<b>Staying</b>	<b>1989</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>
<i>Female</i>	791	805	795	797	773	765	768
<i>Male</i>	824	833	845	841	833	837	821

<b>Moving</b>							
<i>Female</i>	38	36	42	36	52	36	NA
<i>Male</i>	32	25	32	29	43	32	NA

Table 5.4<sup>34</sup> shows the migratory trends of Codfjord in the past few years. These data reveal that Codfjord is populated by more men than women. Some of the reasons for moving will be discussed on the basis of separate interviews done with some of the people who left Codfjord. Two main factors seem to have an effect on the decision to move away from Codfjord permanently. The data indicate that the largest group of people who leave the community permanently is young, single women who move due to the limited local labor market. The second factor relates to the social control to which one is subjected as part of a tightly-knit network. Some informants indicated that they felt that their freedom was limited in the community. In dense communities such as Codfjord, it is hard to have a private life without interference from other members of the community. In a community where the flow of information is fast, most people will know within a very short time if someone has a dispute, has done something extraordinary, or in any other fashion has done something worthy of public attention.

In summary, the local labor market in Codfjord consists of two segments: one is comprised of self-employed persons living from fishing or farming and the other consists of those who are wage labor employees in the private and/or public sector. The public sector is the largest employer, especially for women. Education is the most important reason for leaving Codfjord, whereas «homesickness» is the most significant reason for returning. The lack of employment opportunities is the most common reason why people move away from Codfjord permanently. However, some also leave to rid themselves of the social control of the community.

Historically, small-scale fishermen in North Norway combined different industries in order to subsist (Brox 1964). The Codfjord fishermen are no exception to this rule. In Codfjord, many fished during the wintertime when the cod arrived at the coast to spawn. During the summer, the same people who fished during the winter transferred their efforts to farming. Fishing helped the family to obtain cash incomes. Historically, people in Codfjord would hang the fish to dry in the winter, selling it during the springtime to local buyers. Farming, on the other hand, was mostly done to cover the farmer's own subsistence needs by supplying the household with meat and wool, as well as milk for those who kept cows. The most common domestic animal kept in the Codfjord region was, and still is, sheep, but some have also kept pigs and cows as

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<sup>34</sup>Source: Statistics Norway

livestock. In addition to fishing and farming, most households are engaged in forestry during the summer and fall. Some have had forestry as a source of income, but for most people this was another subsistence activity. Some people in Codfjord used the summer to work on different construction sites, while others worked as carpenters and electricians over longer periods when fishing was scarce. Economically, the importance of this system lies in the ability of the population to switch to other employment during periods when incomes may be low in particular occupations. For example, when fishing was scarce, people temporarily switched to farming for a while, increasing their livestock to cover reduced incomes from fishing. In conjunction with other occupations, fishing constitutes a buffer system against unemployment. The system is characterized by the fact that some occupations absorb surplus labor from other occupations when these have low economic returns. Thus, fishermen have sometimes been absorbed by other occupations, while the fishery has absorbed people from other occupations at other times, resulting in a flexible economic system.

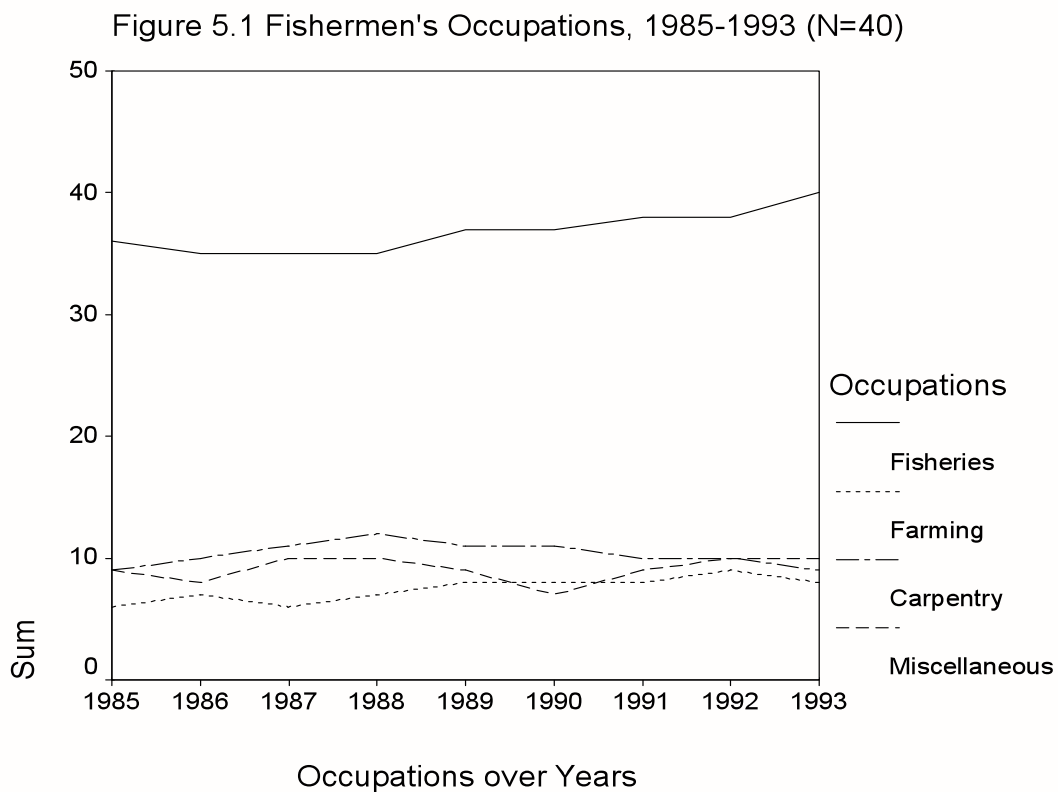


Figure 5.1 shows the occupational activity of full-time fishermen in Codfjord in the period from 1985 to 1993<sup>35</sup>. Since the sampling criterion was being a full-time fisherman, all of these were involved in fishing in 1993 (at the time of the fieldwork). While the history of Codfjord

<sup>35</sup>Frequencies do not sum to population size because one person may have more than one occupation at the same time.



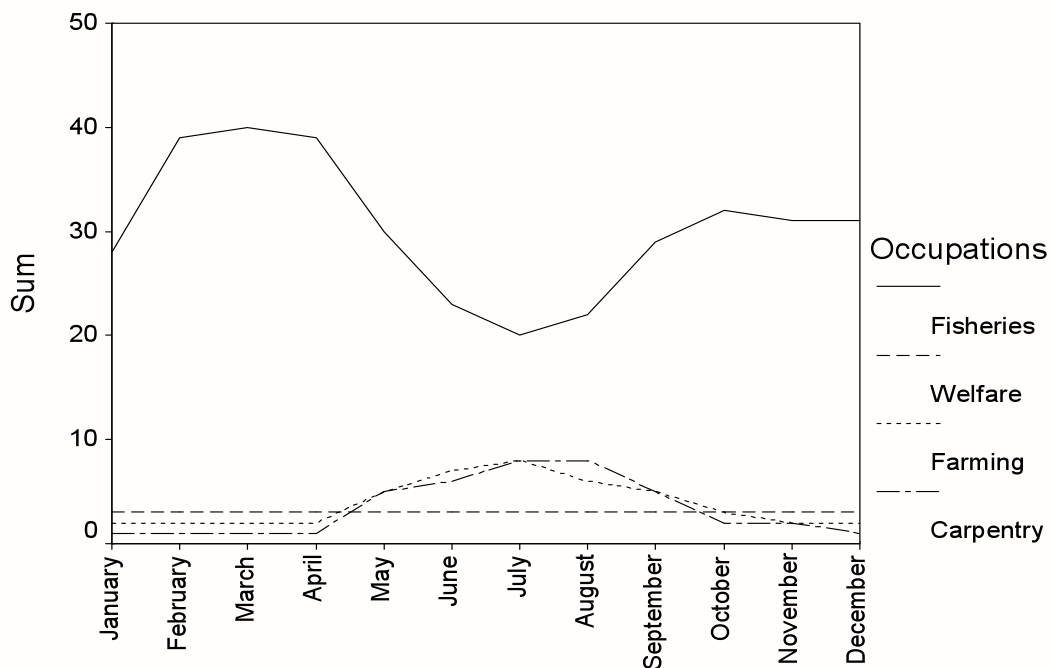
shows that fishing has mostly been combined with other occupations, those who are full-time fishermen in 1993 have fished full-time for all eight years in the period. This may have occurred as a consequence of the limited entry system being made part of the vessel quota system, because all those who were not full-time fishermen in the years 1987, 1988 and 1989 were excluded from the system. However, a few fishermen have been able to enter the fishery because of a recruitment policy introduced after the vessel quota system. A limited number of applicants could enter the cod-fishery if they documented a lack of other occupational alternatives and a previous history in fishing. Four fishermen in Codfjord have been able to start fishing because of this arrangement. It is interesting to note that none of those who applied for a vessel quota were turned down. In addition, nobody in Codfjord was excluded from participation upon the imposition of the vessel quota system. However, this does not mean that the recruitment pattern would not have looked different after 1989 if the vessel quota system had *not* been imposed.

The crew was an occupational group overlooked in the vessel quota management scheme. Crewmembers did not need to register as full-time fishermen before or after the vessel quota system was introduced, even if they worked on a vessel registered with a vessel quota. In Codfjord, the crew of the vessel owners were most affected by the vessel quota system. Captains were forced to reduce expenses because of low quotas, and the first expense that was cut were the wages of crewmembers, who consequently had to leave the fishery. Interviews show that four main options were available to these persons. If they owned an appropriate vessel, they could apply for a vessel quota. Those who had a small vessel could register as part-time fishermen, fishing on the maximum quota. However, nobody chose this option as a permanent arrangement as the maximum quota was too low to live off. Another option was to get another job, which quite a few seem to have done. In some cases, this implied moving away from Codfjord because the local labor market is small. A fourth option, which was preferred by older people, was retirement, or to take welfare and/or unemployment benefit. Nobody seems to have chosen this as a permanent option, rather they have combined these benefits with smaller, temporary jobs.

While farming traditionally has been the most common «second» occupation for fishermen in Codfjord, carpentry has become equally common. This is shown in figure 5.1. In 1985, six of the full-time fishermen combined fishing with farming and nine combined fishing with carpentry. In 1993, eight persons combined fishing with farming and nine combined fishing with carpentry. However, four of these persons combined fishing, farming and carpentry at the same time over the whole period. The category «other» contains the occupations forestry,

public service, welfare and construction. As evident in the graph, the number of persons combining fishing with one or several of these occupations (counting welfare as an occupation) has also remained stable over the period, increasing from nine in 1985 to ten in 1993. There is another tendency present in the occupational involvement of the fishermen that is not evident in the graph. Those who combine fishing with another occupation tend to be younger fishermen who say that they have a greater need for income than older fishermen because they have more debts. Thus, among the older full-time fishermen in Codfjord, the most common practice is to have fishing as a single occupation. Younger full-time fishermen tend to be involved in several

Figure 5.2 Fishermen's Occupations, January-December, 1993 (N=4



#### Occupations through the Year

occupations. These are the general features of the employment pattern over the past eight years, but there are a few exceptions among the full-time fishermen in Codfjord. Figure 5.2<sup>36</sup> shows that the fishermen change occupations several times in the course of one year.

Most of the full-time fishermen have their most lucrative season during the months from September to May, but the period from January to April is the most intense since this is the spawning season for cod. Cod represents the main fishery for most fishermen. During these months, the fishermen make almost a whole year's income. On average, fishermen make 81.5 % (SD=17.7, N=40) of their income from January to June. Occupations such as farming and

<sup>36</sup>Frequencies do not sum to population size because one person may have more than one occupation at the same time.

carpentry are carried out during the summer when the access to fish is low. In addition, some fishermen take a vacation or take time off during the summer. Figure 5.2 also shows that many fishermen continue fishing during the summer. However, the intensity as measured by the number of trips per week drops from a mean of 5.45 (SD=1.36, N=40) in the cod-spawning season to a mean of 1.48 (SD=1.92, N=40) during the summer. Six fishermen are involved in «other» occupations during the summer. Four of these are on welfare during the whole year. This is possible because the Norwegian welfare system provides for partial disability. This means that if a fisherman is regarded as 20 % disabled, he has to make the other 80 % of his income from fishing or other occupations. None of those on welfare have more than 20 % of their income from this source. Some of those in this category have part-time jobs as public employees, employed mainly by the municipal administration. Finally, two persons have tourism and one has forestry as summer occupations.

The fishermen are generally economically dependent on the cod-fishery, but still switch to other jobs temporarily in the course of the year. Thus, the structure of employment in the region, where fishermen take employment in several industries, is the same as it used to be historically. However, the content of this industrial approach - not being economically dependent on only *one* of the occupations - has changed. This represents a change in the economic adaptation of people in the region as compared to the historic adaptation. The occupational history in the region may be termed *flexible specialization* (Barrett 1993). This means that the individual switched among several different occupations, dependent on the set of occupations involved. When fishing was scarce, the individual found something else to do, such as farming and carpentry. The point of flexible specialization was not only that people could *switch* between occupations, but that they could also *live* from different occupations. The data from Codfjord suggest that flexible specialization among the full-time fishermen no longer exists. Some of the reasons that the fishermen gave for this change will be reviewed next.

The reason why farming has ceased to be an important economic element may be derived from the heavy rationalization of this industry over the past fifty years (Almås 1977). Since 1945, the Norwegian Government has had large, efficient farms as the primary ideal. According to Almås (1977), state intervention in farming came in 1955, when an act regarding the division and sharing of farmland passed into legislation. It became illegal to divide farmland into small parcels, as priority should be given to larger farms. In addition, the policy regarding subsidies changed in favor of larger farms. In sum, the post-war farming policy of the Norwegian State has consisted of getting rid of smaller farms by creating a series of incentives which favor larger farms (Almås 1977, Vatn 1984). As farms in the Codfjord region were small, the

rationalization policy made it difficult to run farms profitably. The result seems to have been that many left farming. Another reason to quit farming pertains directly to the design of the vessel quota system. Those who combined farming and fishing before 1990, (when the vessel quota system was introduced) either became full-time fishermen or quit fishing. Because the vessel quota system defined a fisherman according to his income, fishermen felt that they had to choose whether they wanted to continue fishing or not. Even though those who did not fulfill the requirements necessary to get a vessel quota could get one if they applied, people became discouraged about continuing fishing. Qualifying for the vessel quota was possible if the individual had a vessel that could be used in a full-time fishery. For many people, a larger vessel represented a big investment (vessels of about 35 feet cost about 7-800 000 NOK). Since they also knew that the vessel quota itself was low because the cod stock had collapsed, people were afraid to invest their savings in a fishery that in 1990 seemed quite uncertain. Some of those who were discouraged about investing in a larger vessel and applying for a vessel quota enrolled on register A, and continued to fish under the maximum quota system using cheaper, smaller, open vessels. Codfjord fishermen who harvested under the maximum quota system said that they were forced to find other employment because their quota was too low to support themselves and their families (the quota yielded an income of about 30 000 NOK). One may therefore claim that the four fishermen who joined the population represent an exception, because many fishermen were unable to continue fishing.

Another factor that has had an effect on the flexible specialization of the fishermen is the current set of laws for enrolling in register B. These laws say that to be qualified as a full-time fisherman, the individual cannot make more than 114 240 NOK (1994) from other occupations. Making more than this amount of income disqualifies the fisherman from the vessel quota system. While 114 240 NOK yields a certain amount of latitude for smaller, part-time jobs, it does not give enough economic freedom to quit fishing for one season, switch to another job, and then go back to fishing again. If the fisherman makes more than 114 240 NOK in the year he is absent from fishing, he will automatically be disqualified from entering the next year. Thus, the logic of the system forces people to hold on to full-time employment in the fisheries, because making more than 114 240 NOK in an occupation other than fishing in reality means that they will lose their fishing rights. In sum, the inflexibility of the management system has, in turn, made the economic behavior of the fishermen inflexible.

It has been claimed that production in the small-scale fisheries in the Codfjord region is organized around the household (Bjørklund 1985). However, what happens to this production

unit when the husband<sup>37</sup> of the family must fish all the time? This is described next.

## **5.2 The Role of the Household**

The household has been an important production unit in fisheries communities in North Norway (Holtedal 1986, Otterstad and Jentoft 1994). Generally, the father fished, the mother had the responsibility for the farm, while children were used as labor in all branches of the household. Parents have been strongly involved in each other's areas of responsibility. Thus, households have practiced a flexible division of labor, sharing and transferring labor depending on the time of the year, as well as economic and ecological trends (Bjørklund 1985).

During fishing seasons, the father was often absent from the household for weeks at a time (Edvardsen 1990). This caused children to become involved in maintaining the economy of the household. For example, children caught fish from small vessels, enabling them to feed the household and support themselves financially. Children were also involved in farming, forestry and the maintenance of household properties. Having children who were able to make money themselves helped the household finances. They also saved the household expenses related to hiring external labor. Perhaps most importantly, these activities served to recruit new workers for the small-scale fisheries. Children found out whether they liked fishing or not (Edvardsen 1990).

The employment structure of these households also had an effect on the division of labor between the sexes. As they were the only parent present in the household all of the time, women had a leading position with regard to raising children, taking care of finances, maintain social relations and retrieve information (Holtedal 1986). Many women were also in charge of other tasks during different periods of the year: keeping track of the livestock and communicating with financial institutions, such as banks and fish-dealers. The small-scale fisheries of Codfjord were dependent on the job performance of each household member (Bjørklund 1985). These households were partially living in a subsistence economy. While the father's fishing operation brought cash to the household, farming brought meat, wool, milk and other products consumed by the household. If one of the members of the family failed to accomplish his/her tasks, this had a direct impact on the economic situation of the rest of the family.

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<sup>37</sup>All of those who have fishing as their full-time or part-time occupation in Codfjord are men. They are therefore called «fishermen».

Other divisions of labor among households have had an important effect on small-scale fisheries in Codfjord (Bjørklund 1985). Spin-off industries are an effect of the fishermen hiring others to do certain work-tasks. In the following, these social and economic effects of fishing are explored by assessing the changes following the imposition of the vessel quota system.

### 5.2.1 Division of Labor Within and Between Households

First, the organization of the households of the fishermen in Codfjord is analyzed. The historical tendency described above is partially supported by the findings shown in table 5.5.

<b>Table 5.5 Selected household characteristics</b>		
	<b>N</b>	<b>%</b>
Mother's occupation		
<i>Housewife</i>	22	55
<i>Farmer</i>	14	35
<i>Civil servant</i>	2	5
<i>Private sector</i>	2	5
Father's occupation		
<i>Fisherman</i>	40	100
Marital status		
<i>Unmarried</i>	15	37,5
<i>Divorced</i>	2	5
<i>Married</i>	20	50
<i>Co-habitant</i>	3	7,5
Partner's occupation		
<i>Unemployed</i>	7	17,5
<i>Nurse</i>	3	7,5
<i>Public servant</i>	6	15
<i>Farmer</i>	5	12,5
<i>Shop clerk</i>	2	5
<i>No partner</i>	17	42,5

All the fishermen in Codfjord have had a father who was also a fisherman. Their mothers have been housewives and/or farmers. Combining farming with being a housewife applies to 35 % of the population of the wives full-time fishermen, which is too small a number to claim that farming and fishing was a typical combination in the households in which the present full-time fishermen were raised. Rather, one may conclude that this has been a common combination among fishermen one generation earlier. This way of life represented a subsistence-type household which lived from self-employment, sharing and distributing tasks between the family members. The fact that all of the fishermen have fathers who were fishermen underlines the importance of the household as a recruitment institution.

Current household patterns seem more complex than the ones in which the fishermen themselves were raised. Fifteen (37.5 %) of the fishermen are unmarried and two (5.0 %) are divorced, which means that seventeen (42.5 %) persons are single. Generally, a high ratio of single males can be accounted for if they are young and have not yet reached marital age. In

this sample, a one-way ANOVA test of significant differences in age through the different marital categories reveals that there is no relationship between marital status and age ( $F=1.719$ ,  $DF=3, 35$ ,  $p=0.81$ ). The mean age of those who are unmarried is 43.73 years ( $N=15$ ,  $SD=13.59$ ), and those who are divorced is 46 years ( $N=2$ ,  $SD=4.25$ ). Those who are married have a mean age of 51.95 years ( $N=20$ ,  $SD=13.78$ ) and those who are co-habitants have a mean age of 37.33 years ( $N=3$ ,  $SD=11.0$ ). How then can the high number of single males in the population be accounted for? According to the fishermen, few women want to have a husband with an infrequent and unstable income. As mentioned, the small local labor market causes many young women to leave the community to find a job elsewhere. This may be the explanation of why so many fishermen are single, since a deficit of women in the region may make it hard to find a wife. Even though it is uncertain *why* so many fishermen are single, we can be certain that many fishermen *are* single. Because of this fact, one cannot describe the present fishery in Codfjord as being organized around a specific division of labor in the household. This claim is also supported in the employment structure of the wives and co-habitants of full-time fishermen. Among the wives of full-time fishermen, which comprises twenty-three persons (57.5 %), five (12.5 %) <sup>38</sup> work as farmers, seven (17.5 %) are unemployed, three (7.5 %) are nurses, six (15.0 %) work as civil servants and two (5.0 %) are shop assistant. If we count farmers together with those who are unemployed, a total of twelve (30.0 %) women work in the household. However, one should note that those who are unemployed are in the market for employment, which suggests that they would take a job if offered one. Over 70 % of the women interviewed said they preferred to have their own cash income if given the opportunity.

Compared with the previous generation (that is the parents of present full-time fishermen), these data suggest that a change has occurred in the household structure of the full-time fishermen in Codfjord. The household has become less important as the principal work organization in the fishery. Instead, an increasing number of fishermen stay single, probably because of a deficit in the number of women in the community. Of those who are married, only those who have wives that are farmers have subsistence-related work. However, instead of working in the household, women tend to prefer wage labor employment, mostly in the public sector. The public sector in Codfjord is a significant source of employment for women, as described above. All these changes do not necessarily mean that women are not involved in running the fishing operation. Rather, it means that their contribution to the household has ceased being subsistence related (Pettersen 1996).

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<sup>38</sup>Percentage based on  $N=40$

<b>Table 5.6 Task distributions for fishing operations in Codfjord</b>					
	<b>BILLING</b>	<b>BANKS</b>	<b>CATCH1</b>	<b>CATCH2</b>	<b>CLEANING BOAT</b>
Self	21	27	29	28	20
Husband/Wife	1	0	0	1	1
Wife	5	3	1	0	6
Father/Son	6	2	4	5	4
Partner	2	5	2	2	1
Partner/Self	2	0	2	2	6
Not done	1	1	0	0	2
Other family	2	2	2	2	0
<b>Net task total (except not done)</b>	<b>39</b>	<b>39</b>	<b>40</b>	<b>40</b>	<b>38</b>
	<b>SPARE PARTS</b>	<b>BAITING</b>	<b>NET REPAIR</b>	<b>CLEANING/ CATCH</b>	<b>CLEANING/ CLOTHES</b>
	29	6	27	25	16
Self	0	2	1	1	1
Husband/Wife	0	0	4	0	18
Wife	4	0	0	6	0
Father/Son	3	0	6	1	2
Partner	2	0	0	7	0
Partner/Self	0	23	0	0	0
Not done	2	0	1	0	3
Other family	0	9	0	0	0
Hired labor	40	17	40	40	40
<b>Net task total (except not done)</b>					

Table 5.6 gives an overview of different tasks related to the fishing operation<sup>39</sup>. The fishermen do most tasks related to the fishing operation themselves, and their wives are mainly involved in running and maintaining the fishing operations by cleaning the vessel and the work clothes. In addition, five wives keep track of finances, three of which have contact with financial institutions. Generally, the household has become marginalized with respect to its financial accounting. Using specialized accounting companies is now mandatory according to Norwegian tax laws. Everybody who is self-employed must file a financial statement approved by an authorized public accountant once a year; earlier, the fishermen could produce this statement themselves. Thus, the financial tasks of the household consist of collecting bills and other financial items, and then sending them to an accountant. To the extent that tasks are performed by people other than the fishermen themselves, they are carried out by kin.

Tasks such as baiting (which only has to be done by fishermen who use longline), net repair and the cleaning of catch are social activities. Fishermen and others often meet at the fish house to do these tasks. This is especially true when the catch is to be cleaned. When vessels arrive at

<sup>39</sup>In the table, *Billing* means having responsibility for retrieving and paying bills related to the operation. *Bank* means responsibility for dealings with banks or other financial institutions. *Catch1* means responsibility for logging catches. *Catch2* means responsibility for logging payments for catches. *Cleaning boat* means cleaning boat. *Spare Parts* means responsibility for getting spare parts to the boat, as well as for organizing repairs. *Baiting* means cleaning long lines, cutting bait and baiting. *Net repair* means mounting and repairing nets. *Cleaning/catch* means landing and gutting fish. *Cleaning/clothes* means cleaning the clothes used while fishing. The items on the questionnaire are derived from Thiessen, Davis and Jentoft (1992).



the fish houses to land catches, people on land, family, friends and others, usually go down to the harbor to «take a look at the catch»; this is an euphemism which means that people meet and have a chat. Catches are landed, gutted and cleaned at the same time as all kinds of conversations and other activities are going on. In addition, people who want fresh fish for dinner have an opportunity to buy fish directly from the boat. Here, the fish is cheaper and fresher than when it is bought from a dealer. The same routine also takes place when the fishermen bait and repair nets, because people meet at the baiting house for a chat and to help the fishermen. The effect of these social activities, besides being essential tasks, is that people *want* to participate in them without necessarily being obliged or paid for doing them. It is also of interest to note that nobody relies on children for accomplishing any tasks related to the fishing operations. When the fishermen employ their sons, they are a minimum of 17 to 18 years of age. The causes for this employment structure lie in the educational system; children are full-time pupils from 6 to 16 or 19 years, depending on whether they enter high school or not.

Eighteen (45 %) of the fishermen in the sample have crew. Of these, one person (2.5 %) fishes with his wife, seven (17.5 %) fish with their brother, three (7.5 %) fish with their sons, while one (2.5 %) fishes with other relatives. The remaining three (7.5 %) persons, use hired crewmembers<sup>40</sup>. In other words, when fishermen employ someone else, they tend to recruit them from within the family. Others are only marginally involved in both harvest and on-shore related activities. This points to an interesting feature in the spin-off effect of this small-scale fishery. Fishermen reported that they previously created jobs by engaging others to take care of tasks they did not give priority to themselves. According to the fishermen, they spent as much time as possible at sea during the season, sometimes being gone for as long as two months at a time. This was possible because of the absence of quotas and other limitations on harvest. This was also possible because prices rarely fluctuated significantly during times of good catches; they never decreased so much that it was unprofitable to increase effort. When the fishermen came home, they wanted to stay with the family and take a break from fishing. Most of the fishermen left the repairs and maintenance of their vessels to those staying at home because they had enough economic surplus to pay for it and spend part of the profit on leisure time.

According to the fishermen, these chains of job-creation were broken because of the resource crisis and the vessel quota system. When catches are low and/or the quota is fixed at a relatively low level and prices fluctuate insignificantly, fishermen have an incentive to reduce

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<sup>40</sup>Based on N=40

their operating costs. According to the fishermen, it was necessary to save money by doing most tasks themselves and give less priority to leisure time with the family. The fishermen were also forced to save expenses due to the termination of migratory fishing. During the resource crisis, fishermen knew that fishing was bad everywhere along the coastline. The incentives for migratory fishing were therefore not present. The effect of the vessel quota system was of a similar character. With fixed quotas, the fishermen attempted to save operating expenses by fishing as close to home as possible. Earlier, the fishermen were gone for weeks at a time. After the vessel quota system was imposed, the fishermen rarely go farther than a 1-hour trip away from home. Because the fishermen stay at home all year, they have more time to do the different tasks related to running the fishing operation themselves. They also have more time with their family. The effect of these changes is that fishermen prefer, and to some extent must, do most things related to the fishing operation themselves. The spin-off effect of the Codfjord fishery for the local labor market has become marginal. To the extent that the fishermen employ anybody at all, they prefer to use kin, probably because the fishermen want to distribute the few jobs available to someone close to them. In addition, it may be to the fisherman's own advantage that kin are employed, since such labor may be more committed to the owner of the vessel. It may also be a way of maintaining incomes within the family.

### 5.2.2 The Impact of Religion on Economic Segregation

The different features and processes of the Codfjord fishery described in the previous chapter, together with the chapters on the vessel quota and the ethnic and religious features of the region, give a general presentation of the fishermen in Codfjord and their surroundings. However, these descriptions do not explain any of the differences among the fishermen, or, to be more concrete, they do not describe group-structures in the population. Observations indicate that some fishermen hold on to a traditional approach to fishing, while others have a more modern approach. Some fishermen choose a careful economic strategy, while others take more risks. Using discriminant analysis, differences in economic behavior will be related to religious participation<sup>41</sup>. Thus, religious participation is used as the grouping (dependent)

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<sup>41</sup> In discriminant analysis, «*data are the values of the cases whose group membership is known [...] We [...] wish to identify the variables that are important for distinguishing among the groups [...]*» (Nurosis 1993, 1). This form of analysis is based on data where a dependent variable,  $D_i$ , is used as a grouping variable. This variable has values,  $D_{g1}, \dots, D_{gn}$ , designating the  $g$  groups we want to distinguish. Independent variables are entered as a set, as in multiple regression,  $\mathbf{D} = \beta_0 + \beta_1\mathbf{X}_1 + \beta_2\mathbf{X}_2 + \dots + \beta_n\mathbf{X}_n + \mathbf{e}_i$ . Thus, linear combinations of independent variables serve to classify cases into either one of the groups, that is values of the dependent variable. As is the case in multiple regression, it is assumed that each of the independent variables has a multivariate normal distribution. Nominal variables can be entered as dummies (Nurosis 1993). While discriminant analysis may seem identical to multiple regression because the calculated coefficients seem to predict values on a dependent variable, the assumptions of the discriminant model are different from those of the regression model. First, the

variable (coded as 1=no religious participation, 2=no participation, but close kin are involved (only members of the primary family are included) and 3=participates actively). Religious participation has been chosen as the grouping variable since Læstadianism has a prominent position in the community, and since we find variable degrees of participation among the fishermen. Also, there is a strong relationship between Saami culture and Læstadianism, as discussed in chapter four (Nergård 1994). In methodological terms, there is a correlation between being involved in Læstadianism and being an exponent of traditional Saami economic culture. Contrary to the Calvinist tradition analyzed by Weber, one may therefore expect that the more religious the fisherman is, the more traditional his fishing operation is run. This appears to be a legitimate expectation because Læstadianism is conservative with regard to economic expansion, holding subjection to tradition as a good. This will have the concrete outcome that the undertaking of several occupations, which is the traditional economic approach among the fishermen in Codfjord, are combined in a capital-defensive strategy. Thus, it is expected that the moral imperatives of Læstadianism, asceticism and traditionalism, affect the economic strategy behind the fishing operation. This effect has traditionally led to small-scale fishing operations being combined with other occupations, which is typical of the Saami approach to fjordal fishing (Bjørklund 1985). Also, one may hypothesize that those having close kin who are actively involved in religious activities have inherited some of the cultural capital from religious practices. Thus, we expect minor differences between those who are actively involved in religious activities and those who are not active themselves, but have close kin who are religious. The major difference is expected to be between those who are not religiously involved and the two other groups. Since those who are not involved in religious activities are free from the norms of Læstadianism, this group can choose a more capitalist approach to fishing. To test for group membership patterns, number of occupations, percentage of income from fishing, length of vessel and number of trips per week during the winter season are used as independent (discriminant) variables. Income data could not be used in this equation, as too many cases were missing from this set of variables (the group of those involved in religious activities would only amount to three persons if income data were used). However, income data are analyzed in the next chapter by use of other methods. Since  $g-1$ ,  $n=2$ , 40, the following two discriminant equations result from the computation:

**(Equation 5.1)**

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dependent variable in a discriminant function is not continuous but categorical. Second, the discriminant function is not used for prediction but for classifying probabilities that cases belong to given groups by calculating a discriminant score. Especially the second assumption has consequences for the interpretation of violations of the model, as the discriminant function need not be a Best Linear Unbiased Estimator, as must be the case in the Ordinary Least Squares model (Gujarati 1988).

$$D = -5.442 + 1.467(\text{occupations}) + 0.006(\text{fishing}) + 0.519(\text{length}) - 0.38(\text{trips})$$

(Equation 5.2)

$$D = -8.33 + 0.641(\text{occupations}) + 0.028(\text{fishing}) + 0.319(\text{length}) + 0.433(\text{trips})$$

For equation 5.1, the independent variables discriminate significantly between the groups on the dependent variable, as Wilk's  $\lambda$  equals 0.378, yielding a  $\chi^2$  of 34.508 (N=40, DF=8,  $p < 0.001$ ). The second equation is also significant, as Wilk's  $\lambda$  of 0.791, yielding a  $\chi^2$  of 8.325 (N=40, DF=3,  $p < 0.05$ ). The first equation has an eigenvalue of 1.091, explaining 80.5% of the relative variance in group membership in the population<sup>42</sup>. The second equation has an

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<sup>42</sup> The discriminant function represents the optimal canonical function, called **D**, for variation in independent variables within and between groups in a population. In undifferentiated data, a matrix **T**, designating the total sums of squares and cross-products, describes each element's deviation from the mean score of the population,  $(x_i - \bar{X})$ , for each independent variable in the population, and each case's cross-product for each pair of variables *i* and *j*,  $(x_i - \bar{X}_i)(x_j - \bar{X}_j)$ ; this matrix could describe variation in independent variables in the population and the degree of association between all the independent variables in the population. **T** describes total variation in the independent variables for each case and can be converted into a covariance matrix between the variables if the sum of cross-products is divided by *n*-1. In this manner, we can examine the relationship between variables in the population (Klecka 1980, 19). However, if each case's squared deviation from the group mean, called  $\bar{x}$ , is smaller than its deviation from the grand mean, each case's score on the independent variables affects group membership. It also means that the groupwise cross-products are larger within groups than in the total population. This matrix is called **W**, designating within group total sums of squares and cross-products. If the covariations within groups are larger than in the population, this means that the variables have stronger relationships within groups than in the population as a whole. On the contrary, if **T**=**W**, variables are not affected by group membership. Extending this logic, one can test for group differences by obtaining a matrix **B**, which designates the total sums of squares and cross-products between groups. This matrix is calculated by **B**=**T**-**W**. There may be many functions that could describe the difference

between **B** and **W**. Klecka uses the simultaneous equations defined by 
$$\left\{ \begin{array}{l} \sum b_{1i}v_i = \lambda \sum w_{1i}v_i \\ \sum b_{2i}v_i = \lambda \sum w_{2i}v_i \\ \vdots \\ \sum b_{pi}v_i = \lambda \sum w_{pi}v_i \end{array} \right\},$$
 where  $\lambda$  is

an eigenvalue, the *v*'s are a set of *p* coefficients and the *b*'s and *w*'s are, respectively, the between and within sums of squares and cross-products for *p* variables (Klecka 1980, 21). In order to arrive at a unique solution, Klecka (1980) sets the sum of squared values of the *v*'s to 1. There will be a limited number of  $\lambda$  and *v*'s that solves these equations, and each set corresponds to a unique canonical discriminant function that maximizes the differences between the groups. In this function,

$$\beta_i = v_i \sqrt{n - g},$$

where *n* is the number of cases and *g* is the number of groups and  $\beta_0 = -\sum_{i=1}^n \beta_i \bar{X}_i$ . A

two-variable discriminant function, **d**, is given as **d** = **Xβ**. **d** can be rewritten as deviations from mean group membership and **β**:

eigenvalue of 0.264, explaining 19.5 % of the relative variance in group membership in the population. However, these variances are trivial, since the two equations are unique solutions to variation in discriminant space. However, they indicate that equation 5.1 has a larger explanatory power than equation 5.2. On the other hand, since both are significant, both can be used to differentiate between groups. To further the analysis and assess the ability of the functions to classify the data, it is of interest to know the number of cases that are classified correctly by the function. That is, how many cases classified by the function as belonging to a specific religious category do actually belong to the same category in the data matrix? 70% of the cases are classified correctly. Table 5.7 gives details of the classification.

<b>Table 5.7 Predicted and real group memberships</b>				
	<b>Predicted group membership</b>			
<b>Religious affiliation</b>	<b>None</b>	<b>None, but close kin is involved</b>	<b>Participates</b>	<b>Total</b>
<b>Actual group membership</b>				
<b>None</b>	11	6	0	17
<b>None, but close kin is involved</b>	1	15	1	17
<b>Participates</b>	1	3	2	6

Considering these different diagnostic measures of the discriminant analysis, one can conclude that the independent (discriminant) variables together are successful at estimating group membership in the population. However, the group of those who actively participate has a high rate of misclassification: 67% of the cases are wrongly classified. This will be examined more thoroughly below.

The interpretation of the two functions cannot be accomplished by use of the discriminant weights in the functions above. The meaning of a one unit change in one variable differs from a one unit change in another because the standard deviations are not the same for each variable (Klecka 1980, 29). A canonical measure of association between each of the variables and the function can establish the relative dominance of variables in their equation because such measures produce standardized coefficients. This is accomplished by calculating the product-

$$\begin{bmatrix} d_1 \\ d_2 \\ \dots \\ d_n \end{bmatrix} = \begin{bmatrix} X_{11} - \bar{X}_1 & X_{21} - \bar{X}_2 \\ X_{12} - \bar{X}_1 & X_{22} - \bar{X}_2 \\ \dots & \dots \\ X_{1n} - \bar{X}_1 & X_{2n} - \bar{X}_2 \end{bmatrix} \begin{bmatrix} \beta_1 \\ \beta_2 \end{bmatrix}$$

Here, the **d** vector of discriminant scores is expressed as an  $n \times 1$  column vector, **X** is expressed as an  $n \times 2$  matrix of scores on the discriminating variables, and  **$\beta$**  is an  $2 \times 1$  column vector of discriminant weights. If several groups, *g*, were to be compared across *n* cases, then the number of discriminant equations would maximally be equal to (*g*-1, *n*).

moment correlation between each variable and the function. The resulting pooled coefficients are called *Within Structure Coefficients*, and they provide insight into the geometric structure of the discriminant space by being the cosines of the angles formed by the variables and the functions (Klecka 1980, 31)<sup>43</sup>. The following table presents the within structure coefficients for the equations above:

Table 5.8 Within Structure Coefficients		
Variable	Function	
	1	2
<i>Occupations</i>	0,545	0,293
<i>Fishing</i>	0,242	0,689
<i>Length</i>	0,464	0,648
<i>Trips</i>	0,363	0,546

For function 1, we can observe that the variable *Occupations* has the highest correlation with the function, *Length* the second highest, *Trips* the second lowest and *Fishing* the lowest. All these variables seem to be strongly correlated with the function, and may be interpreted by their ranking. It seems plausible that function 5.1 grasps the general economic approach of the fishermen, and not only the fishing enterprise. This interpretation seems reasonable since the variable *Occupations* measures the number of occupations in which the fisherman is involved (counting fishing). In addition, the variable *Length* indicates the fisherman's approach to fishing since longer vessels have higher quotas. Together, the two variables indicate the degree to which the fisherman is totally involved in employment, and how committed he is to work in general. The variables *Fishing*, *Length* and *Trips* solely focus on the fishing enterprise and their differences across the population of fishermen in Codfjord. They are more prominent on the second function, where the set of independent variables correlates almost inversely as compared to function 5.1. Here, *Fishing* has the highest correlation, *Length* the second highest, *Trips* the second lowest and *Occupations* the lowest. The fact that *Fishing* and *Length* have almost the same correlation to function 5.2 indicates that the function captures the intensity of involvement in fishing. Thus, the interpretation of function 5.2 is slightly different from that of function 5.1 since the former specifically captures the fisherman's commitment to fishing, mainly measured as the number of trips during the winter-season and the proportion of his income that is derived from fishing. In sum, function 5.1 is interpreted as occupational involvement and function 5.2 is interpreted as intensity in fishing.

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<sup>43</sup> The n'th pooled within structure coefficient,  $r_{ij}$ , is specifically given as  $\sum_{x=1}^p \frac{w_{ix}\beta_{xj}}{\sqrt{w_{ii}w_{xx}}}$ , where  $\beta_{xj}$  is the standardized canonical discriminant function coefficient for variable x on function j,  $w_{ix}$  is the within group sum of cross-products between variable i and x,  $w_{ii}$  is the within sum of squares for variable i and

Since the discriminant functions are used for classification, they may be interpreted at the group level by use of the group centroids. These are as obtained by inserting the groupwise means of the independent variables into equations 5.1 and 5.2. The groupwise means are given in table 5.9.

<b>Religious involvement</b>	<b>Variable</b>	<b>Mean</b>	<b>Standard deviation</b>
None	Occupations	1.4118	0.5073
	Fishing	73.8235	31.6489
	Length	7.9829	1.9386
	Trips	5.7647	0.4372
None, but close kin is involved	Occupations	1.7059	0.7717
	Fishing	80.8824	21.4502
	Length	9.5424	1.374
	Trips	5.7059	0.5879
Participates	Occupations	2.5	0.5477
	Fishing	48.8333	12.4967
	Length	9.3667	1.4634
	Trips	3.8333	2.9944
Total	Occupations	1.7	0.7232
	Fishing	73.0750	27.1467
	Length	8.8532	1.78
	Trips	5.45	1.3578

Inserting the means into the two equations lead to the following three sets of coordinates in discriminant space:

**Group 1 (Not involved):**

Function 1:  $D = -5.442 + 1.467(1.4118) + 0.006(73.8235) + 0.519(7.9829) - 0.381(5.7647) = -0.99$   
 Function 2:  $D = -8.33 + 0.641(1.4118) + 0.028(73.8235) + 0.319(7.9829) + 0.433(5.7647) = -0.305$

**Group 2 (Not involved, but close kin is involved)**

Function 1:  $D = -5.442 + 1.467(1.7059) + 0.006(80.8824) + 0.519(9.5424) - 0.381(5.7059) = 0.315$   
 Function 2:  $D = -8.33 + 0.641(1.7059) + 0.028(80.8824) + 0.319(9.5424) + 0.433(5.7059) = 0.554$

**Group 3 (Active)**

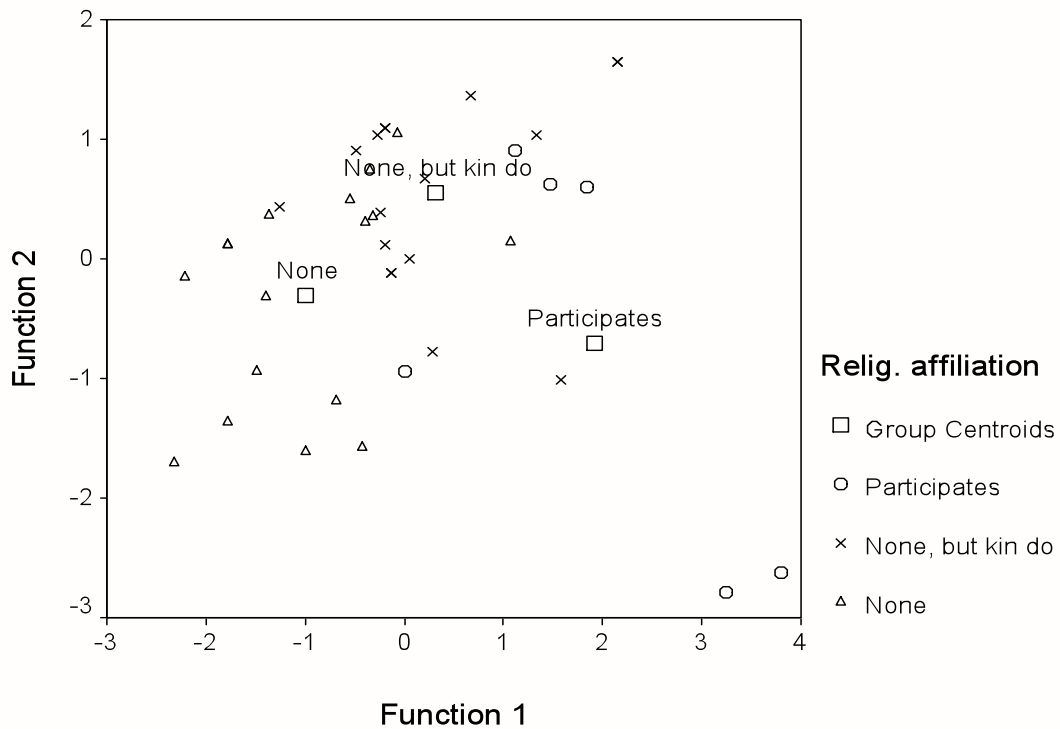
Function 1:  $D = -5.442 + 1.467(2.5) + 0.006(48.8333) + 0.519(9.3667) - 0.381(3.8333) = 1.915$   
 Function 2:  $D = -8.33 + 0.641(2.5) + 0.028(48.8333) + 0.319(9.3667) + 0.433(3.8333) = -0.705$

These coordinates are interpreted as the location of the average discriminant group score in the discriminant space defined by functions 5.1 and 5.2. They can be plotted in a two-dimensional space to visualize their location, as in figure 5.3. In this figure, the point (0, 0) represents the grand centroid; that is, the point reached if the grand means of the population are entered into the equations above. In terms of interpretation, this point represents the center of the

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$w_{xx}$  is the within group sum of squares for variable x (Klecka 1980, 32)

Figure 5.3 Canonical Discriminant Functions



discriminant space, as defined by the discriminant weights on the independent variables. The discriminant score of each case is also plotted, showing the homogeneity that exists between and within groups. Each unit of measurement in the graph represents one standard deviation from the grand centroid of the population.

In figure 5.3, these two functions can be seen to capture some of differences among the fishermen. Along the dimension ‘occupational involvement’, the group of fishermen not involved in religious activities seems to have the lowest score. The group centroid lies about one standard deviation from the grand centroid of the population, indicating that they as a group are mostly involved in fishing as a single occupation. The group centroid for those who are not involved, but who have kin who are, is located about 1 ½ standard deviations in a positive direction from the group whose members are not involved. This indicates a higher involvement in other occupations than fishing. However, it is the group consisting of religiously active fishermen that has the highest involvement in other occupations, being located 2 standard deviations from the grand centroid. On this axis, the groups of fishermen seem to be distributed according to the prior expectations: occupational involvement increases with religious participation and/or religious influence. Along the second function, the Y-axis, the distribution is more complex. This axis represents intensity in fishing, and measures the dependency of the group according to the proportion of income derived from fishing and the length of the vessel (the vessel quota system favors longer vessels with an exponential increase



in quota being given to the longer vessels). Along this axis, the group of fishermen belonging to the group that is religiously not involved but have kin who are scores highest. Those who are not involved are located insignificantly higher than those who are religiously active, indicating small differences in intensity in fishing between these two groups.

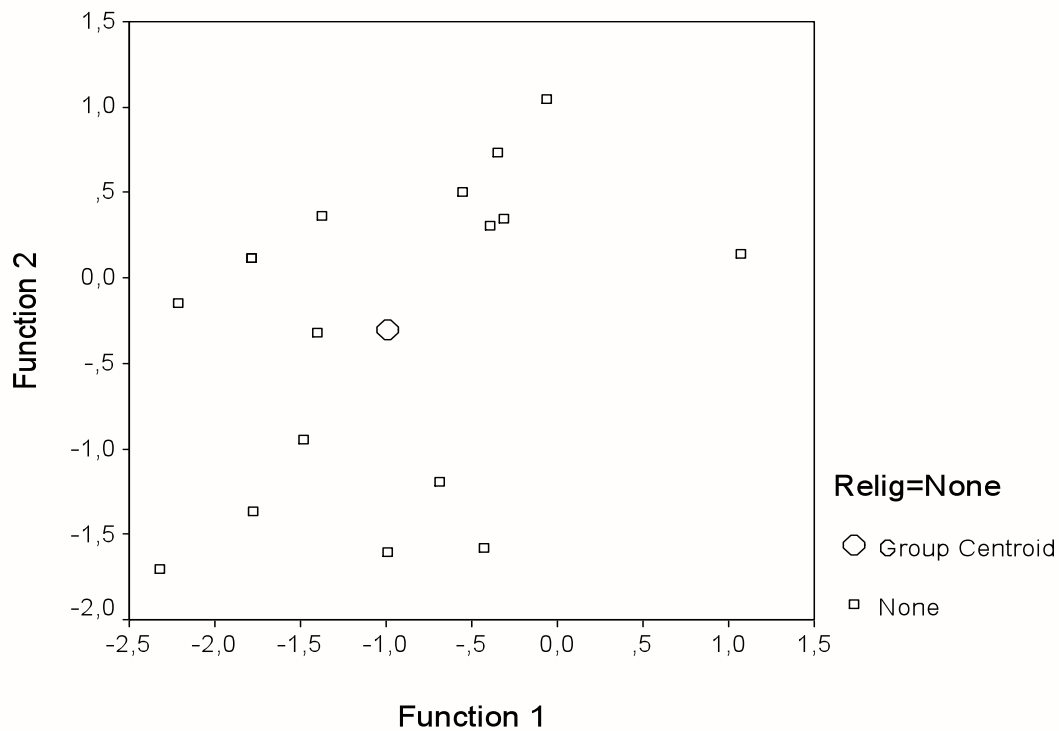
The differences between all the three groups may be explained by the status of tradition among the fishermen in Codfjord. The fishermen who are not religiously active themselves, but have close kin who are involved, may have inherited the asceticism and work-commitment of their religious relatives. When this work ethic becomes disconnected from the religious imperatives of Læstadianism, the fishermen in this group become hard workers who use the profit earned from the fishing operation for reinvestment and expansion. Læstadianism prescribes hard work with low personal consumption, as secular goods are being earned to grace God. This may be the reason why the group of religiously active fishermen is located below their non-religious relatives in intensity; intensity can be interpreted as committing oneself to the secular pleasures of profit. The group of fishermen that is religiously inactive are in a different situation, as they are disconnected from the cultural commitment to which the fishermen associated with Læstadianism are connected. This seems to result in an economic strategy which yields a less intense involvement in fishing. Looking at the locations of the three groups along both axes simultaneously yields a picture of a population of fishermen that can be classified into groups. One group consists of those fishermen who are not religiously active and who are mostly involved in fishing as the only occupation. These fishermen employ an economic strategy that is committed to fishing, but which is less focused on expansion than the strategy of other fishermen. Another group consists of fishermen who are not personally involved, but have kin who are religiously active. This group is located between the two other groups. The members of this group are also involved in occupations other than fishing, but are still the most committed to their fishing enterprise. Their fishing operation is run in an intense manner, that is, the fishermen have long vessels that they use as often as they can. Thus, they seem to work more than the other groups. The group of fishermen that is religiously active still holds on to a traditional approach to exploiting to the natural environment of the region. They are involved in several occupations, and are less intensely involved in fishing than the other groups, especially than those who have religious relatives. These findings may be interpreted as being contrary to the expectation, as it was predicted that the fishermen who came from religiously active families would be less intensely involved in both fishing and other occupations than those who were defined as not religious. However, the findings must be seen in light of the cultural history of Codfjord. When religion and culture become fractional, the work ethic in Læstadianism becomes separated from its religious context and instead transmits into spheres where it assume

a new meaning. The work ethic derived from Læstadianism, which contains norms that prescribe hard work, have become connected to the capitalist ethos of efficiency and profitability. Thus, the combination of asceticism and capitalist goal-orientation results in active and expansive fishermen.

The next step in the analysis is to examine each group with regard to internal variations. The first group examined consists of religiously inactive fishermen. As mentioned above, this group is defined by the criteria that none of the fishermen are involved in religious activities and that none of their relatives are involved. The group comprises 17 persons. In the discriminant space defined for the whole population, they were interpreted as having fishing as a single occupation, at the same time as their fishing operation in itself was run in a conventional manner, that is, with less intensity than other fishermen. However, this group of fishermen is not homogeneous with regard to the variables that defined the discriminant space. Figure 5.4 plots the discriminant scores of this group along the functions defined above.

The group is relatively spread, partly due to one case having the coordinates (1.075, 0.138). This case is predicted to belong to religiously active fishermen, but actually belongs to the inactive group. He is an outlier because he has 3 jobs and works 3 days per week at sea during the Winter. From a formal point of view, this case stretches the distribution to the right along the X-axis, giving an impression that the group as a whole is more skewed towards higher

Figure 5.4 Canonical Discriminant Functions

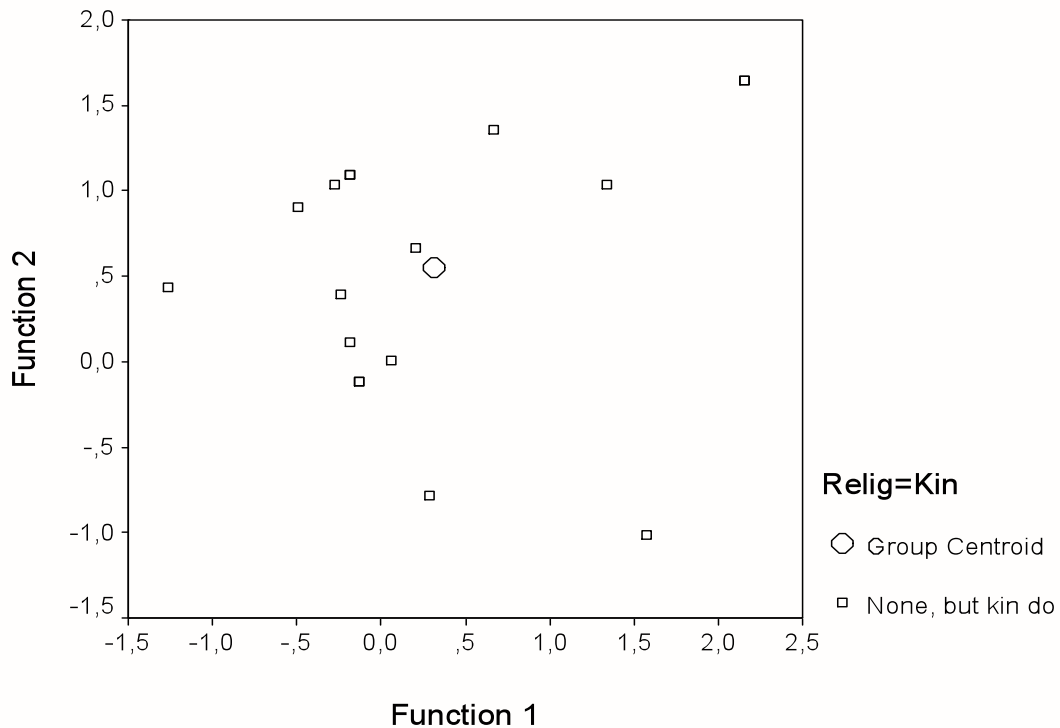


occupational involvement, than the group generally is. Excluding this case from the analysis yields a picture of this group as being even more distinct from the other groups than it was initially. However, the case is included in the analysis since excluding it would yield a non-representative picture of the population. The same will be done for other outliers in the analysis. Regarding the rest of the group, one can observe that it defines a space stretching 2.5 standard deviations in each direction. This indicates that this group is relatively heterogeneous along both axes. Regarding occupational involvement, all cases, with the exception of the mentioned outlier, lie to the left of the grand centroid of the distribution. This indicates that the group is generally less involved in multi-industrial activities than the population as a whole. In this regard, the group is homogeneous even if group members are more or less occupationally involved within the group. Along the Y-axis, the interpretation of the group is more ambivalent. The group varies strongly both internally and relative to other groups as to how intensely their fishing operation is run. The finding indicates that the group as such varies from high intensity to low intensity in fishing. On the other hand, the within-group variation does not exceed the between-group variation, in which case the group centroid would be insignificantly distant from the grand centroid. As a whole, this group seems uniformly to be less involved in other occupations than fishing, but group members do vary their fishing activity.

The picture is different for the group of fishermen who are not religiously active themselves, but have kin who are. This group, whose scores are plotted in figure 5.5, is characterized by a

cluster of cases that are closely centered around the group centroid, while several outliers lessen the homogeneity of the group. One case is located to the left of the group, having the

Figure 5.5 Canonical Discriminant Functions

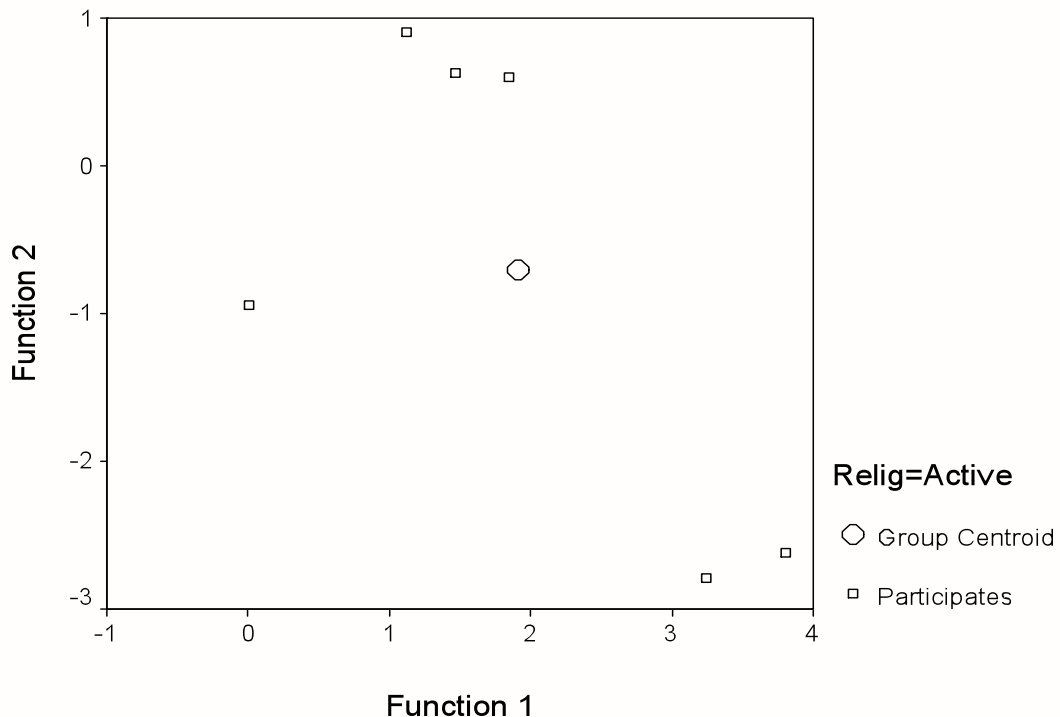


coordinates (-1.263, 0.433). This case does not deviate much from the rest of the group along the Y-axis, but he differs substantially along the X-axis depicting occupational involvement. This is related to the fact that fishing is his only occupation and accounts for all his income. The rest of the group is defined as being involved in other occupations than fishing, although most of their income comes from fishing. Another set of outliers is located to the right of the central cluster of discriminant scores. In the upper right hand corner, one point is defined by two cases having identical coordinates, (2.155, 1.645), and another case having the coordinates (1.338, 1.036). All three individuals are interesting because they are brothers who share many characteristics. All are relatively more involved in other occupations than fishing than the rest of the group, and at the same time they are relatively more intensive in the running of their fishing operation than the rest of the group. In addition to the findings of the discriminant analysis, ethnographic data show that all three work hard all year, being strongly committed to making their fishing operations profitable. Besides fishing, the two cases having identical coordinates have a farm, a construction business, do maintenance-work for the municipality and on a fish house that other fishermen are involved in as well. During the fishing season, they average more trips than the other fishermen because they are some of the few fishermen who fish several species in addition to cod. Their brother, who is located a little to the left of these two, is also very active as far as the number of occupations is concerned. He also fishes in a

manner similar to his brothers. Thus, their location along both axes is strongly interrelated since they all work more than the rest of the fishermen. Another case has the coordinates (1.574, -1.012), which means that this person has a high occupational involvement but low intensity in fishing. The reason for the location of this case is related to poor health.

The group as such is generally defined by being close to the grand centroid (0, 0) as far as occupational involvement is concerned. Most of the fishermen in this group have one or two jobs on the side, but none of the fishermen depend on such jobs; they vary from farming to work as an electrical engineer. Economically, the group depends on the fishing operation, and therefore fishes relatively intensively on the whole. Most fishermen fish 5 to 6 days per week during the winter season, and make most of their income during this part of the year. With the exception of the mentioned outliers, the group is relatively homogeneous.

**Figure 5.6 Canonical Discriminant Functions**



The last group, consisting of religiously active fishermen, is more unevenly spread in the discriminant space. This is shown in figure 5.6. The group of religiously active fishermen comprises six individuals. From a formal point of view, outliers are more prominent the fewer the cases as the effect of each case on the central tendency of the distribution is inversely proportional to the number of cases. This effect is clearly present in the group of religiously active fishermen. The group is located within a discriminant space stretching about 4 standard deviations in each direction. This signifies relatively large differences along the dimensions

defined by the discriminant functions. To the left of the graph, one case has the coordinates (0.008, -0.939). This case has a lower occupational involvement than the rest of the group, although the involvement along the X-axis is close to the grand centroid. His fishing intensity is circa one unit less than at the grand centroid, but the same as the average for his own group. These scores occur because the fisherman has health problems that prevent him from fishing during the Winter. He lives on welfare most of the time. The two points located at the lower right side are defined by the coordinates (3.244, -2.793) and (3.8, -2.623). Both are registered as full-time fishermen, but their intensity in fishing is low. Instead, they both make most of their income from farming, forestry and by working for the municipal administration. Thus, they are not full-time fishermen in the sense of being entirely dependent on fishing. The three remaining cases are located in the upper middle part of the graph near the coordinates (0.5, 1.5). All three are relatively active as fishermen: they are located slightly above the mean of the total population and well above the rest of the group. All three fish during the winter season, but not during the rest of the year. It is also interesting to note that all three have modern vessels, but they use them far less than many of their fellow non-religious fishermen do. The reasons for this are unclear, but they may feel that they need not use them as much as others would because their income is sufficient. They all have businesses on the side, ranging from tourism to farming and carpentry. Their occupational involvement is therefore higher than is the case for the total population. Ethnographic data suggest that none of these fishermen are dependent on fishing. Instead, they switch occupations during the year, and are only involved in fishing when the fish resource is abundant. With the exception of the person who depends on welfare, a high occupational involvement and varying intensity in fishing characterizes the group. On the other hand, the high degree of dispersion within the group indicates that the members are not uniform, mainly due to the fact that their dependency on fishing is highly variable.

### **5.3 Socio-Economics and Religion in Codfjord**

In sum, the analysis shows some interesting trends in the Codfjord fishery with respect to the relationship between culture and economy. In the sparse natural environment of North Norway, a functional need has developed throughout history to exploit nature in various ways. This is probably the economic reason why a structure of multi-industrial involvement has developed in the region because this lifestyle allows for a cyclical and flexible use of the environment. It also protects the community from being entirely integrated into a market economy as various subsistence goods are produced in the community. The Læstadianist ethic prescribes asceticism and commitment to your job, and wealth is earned to honor God. Also, the norms of this

religion can be transferred into the same scheme as the industrial traditions of Codfjord. Historically, Læstadianism has provided for normative justification and motivation for an lifestyle that could hardly bring the fishermen in the community material wealth and luxury in any case (Bjørklund 1985). People in the community have been more or less forced to save earnings and plan expenditures far ahead because the natural environment is unpredictable and unstable and has, historically, not resulted in prosperous businesses. The material simplicity following from this lifestyle is expressed in a normative maxim in Læstadianism, which holds that materialism, luxury, and the like are sins and a disgrace to God. Hard work, asceticism and simplicity have been regarded as a way of gracing God, showing that the individual is committed to living a life avoiding the sin of the flesh. Thus, from a functional historical perspective, Læstadianism has legitimized the economic mentality of fishermen, as well as probably also serving to give the inhabitants motivation and mental strength in hard times. Savings have had an important status in this system because they represented economic security during hard times. This may be the reason why earnings are saved, not reinvested, among the religiously active fishermen.

However, when the work ethic resulting from this ethos becomes disconnected from the institutional control of the church, and the material and technological framework of the fishery is altered, other processes start. When the work commitment becomes disembedded from the imperative of asceticism, the logic of hard work assumes a new meaning. To some of the fishermen in Codfjord, running a fishing enterprise is not done to honor God but to acquire status in the normative order of a secular society within which the demands of the bureaucratic system and capitalism represent the standard by which actions are evaluated. Both religion and formal law represent normative orders that dictate meaningful behavior and sanction illegitimate behavior. In the case of the vessel quota system, less active fishermen are excluded from participation by the income provisions of the system. Active fishermen are rewarded with high quotas, access to capital and occupational protection. The fishermen who come from Læstadianist families seem equipped with the normative tools, discipline and commitment which are necessary to be successful in the vessel quota system. They work hard and save their profit for expansion and potentially more success. These findings are also substantiated by ethnographic data. Many of the fishermen who come from religious families show an economic discipline that cannot be seen in the other two groups in the population. This is concretely manifested through thorough economic planning, both in fishing and other occupations. Many of these fishermen hardly ever take a summer-vacation, as is usual among the other fishermen, if there are opportunities to make money. Similarly, they never hold on to an occupation if it appears to be less profitable than the available alternatives. Those who do not come from

Læstadianist families seem to share the same determination to succeed in fishing, but appear to lack the moral devotion to economic success that is observed among those who have a Læstadianist background. Among those who are still Læstadianist, variations are large, but the group as a whole still holds on to a traditional mode of production, and are more careful than the other fishermen. The caution of these fishermen has been interpreted within the ethical framework of their religion. Being too offensive signifies a will to earn worldly goods, and this is a sin to them. The divisions between these three groups may also be related to some of the other structures present in the community that were discussed in the first sections of this chapter.

Compared to the historical material available from Codfjord, the general economic basis of the household has moved from subsistence to wage-labor employment. While the fishermen used to have an uneven working rhythm – at home for some time, then gone for weeks – most fishermen today start fishing in the morning and are back at dinnertime. The fishermen's wives work as wage laborers in different parts of the local labor market. The spin-off effect of small-scale fishing in Codfjord is marginal. In fact, only one company can be said to live from the fishermen. This is a one-man company which repairs motors, hulls and electronic equipment that the fishermen are unable to handle themselves. Even those who used to clean the fish are replaced by the captains themselves, who want to save expenses. All these different processes may be interpreted as economic rationalization, that is the process where the actor orients his actions in an economic matter in such a manner that they are meaningful. However, some fishermen still hold on to tradition, subscribing to the economic ethos of Læstadianism. How these different groups of fishermen have adapted to the vessel quota system is analyzed in the next chapter.





## **Chapter Six**

# **Economic Strategies in the Vessel Quota System**

The strategies applied by the fishermen after the vessel quota system was introduced is used to indicate one of the main attributes of rationalization. According to the theoretic framework discussed earlier, modern state intervention imposes standards and structures for economic behavior on the actors. Primarily, such standards encourage formal economic rationality through a system of reward and achievement. Thus, the reactions of Codfjord fishermen to the vessel quota system is an important factor when determining the extent to which this concrete form of state intervention has had an effect on the economic behavior of the fishermen. Consequently, the purpose of this chapter is to sketch some of the economic strategies employed by the fishermen in Codfjord. This will be accomplished by first showing some structural data on income and income distribution. These findings are then discussed in relation to the vessel quota system and other factors that are believed to have had an effect on the economic behavior of the full-time fishermen in Codfjord.

How do the quota systems generally affect the economic behavior of fishermen? Most resource management systems are introduced due to resource depletion. In many cases, limitations on harvest are a consequence of efforts to improve the conditions for recovery of the fish stock. This was the case with the vessel quota management system. When harvests are limited, one would expect incomes to decrease because the fishermen normally also have their catches reduced. However, this is not the case with the Codfjord fishermen. Some of the reasons for this are explored first. After this, the different factors that have had an effect on incomes and the underlying strategies of the Codfjord full-time fishermen are analyzed and discussed in turn, relying on different types of data.

### **6.1 Economic Strategies and Traditions**

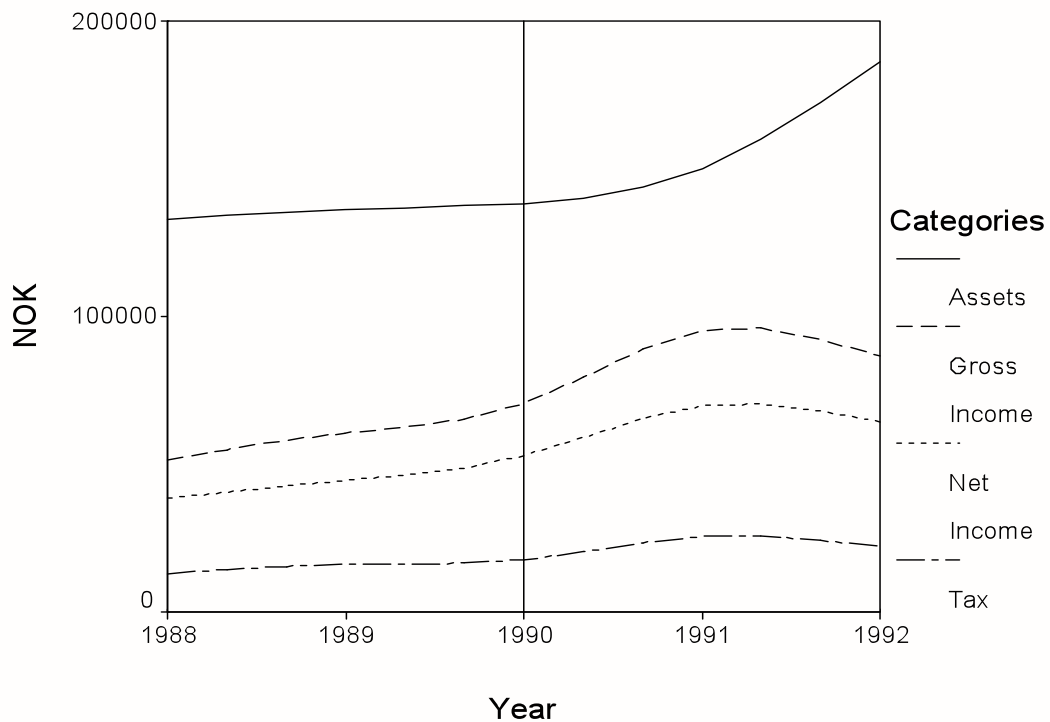
Figure 6.1 shows mean gross incomes, assets, taxes and net incomes for full-time fishermen in Codfjord from 1988 to 1992<sup>44</sup>. The line dividing the period in two halves represents the periods before and after the imposition of the vessel quota management system. According to the fishermen, before the vessel quota system was imposed their economic strategy was different to that which they adopted after the system was introduced. Prior to the vessel quota system, the

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<sup>44</sup>Data from public tax records. Gross income consists of income after all interest, deductible expenses, and other deductible items are subtracted from raw gross income. Raw gross income is unavailable in public tax records. Constant prices with 1988 as the base are used in the analysis.

fishermen employed an economic strategy that may be termed a «risky strategy». Fishermen migrated to different spots where they knew from experience that fishing was good. The

**Figure 6.1 Mean Incomes, Taxes and Assets**



economic principle behind this behavior consisted of risking the extra running expenses by staying away from home over long periods. When migrating, fishermen had additional expenses because they had a double household (one on the vessel and one at home), higher running expenses on the vessel (fuel, wear and tear on the vessel), payments to crew members, as well as lack of potential income from other forms of employment. In addition, the fishermen's leisure time with the family was reduced. According to the fishermen, migratory fishing could be seen as a form of «gambling». The fishermen risked the costs against the potential extra profit yielded from good catches.

During the resource crisis, cod was scarce along the coastline. Many fishermen responded to this situation by employing the risky strategy described. However, as cod was scarce this did not pay off for most fishermen since fishing was so bad that it did not cover the extra expenses involved in migratory fishing. This can largely account for the low incomes (both gross and net incomes) up to 1990. In the period 1990 to 1992, the fishery was regulated by the vessel quota system. Contrary to expectations, incomes rose after 1990 instead of decreasing. This may be explained by a change in the economic strategy of the fishermen. By employing a «defensive» strategy instead of the risky strategy, the fishermen started to fish as close to the home harbor as possible, dispensed with crewmembers, fixed their boats themselves, and took temporary

employment in other industries. As documented above, they reduced all operating expenses to a minimum. These efforts resulted in increased incomes for the fishermen, as shown in figure 6.1. For crewmembers, peripheral industries and others, this resulted in decreased incomes and unemployment. In sum, the risky strategy employed before 1990 consisted of the fishermen risking known expenses against potential profit. This is possible in a legal system where maximizing behavior is unrestricted. During the resource crisis, this strategy did not prove successful because the resource itself did not support the extra effort. In the vessel quota system, effort was limited through legal restrictions on behavior. From the beginning of the 1990's, resources became replenished. However, the mean incomes of the population of fishermen remained relatively stable since quotas were fixed.

However, further analysis of the data shows that differences are generated among the fishermen after 1990. Above, it was argued that the length of the vessel has become an important factor in explaining economic differences among the fishermen. Whether this claim applies to the Codford fishermen will be evaluated in the following analysis using multiple regression (OLS). This statistical procedure makes it possible to check the effect of one independent variable on one dependent variable while controlling for the effect of other independent variables. Thus, the explanatory force of vessel length can be evaluated along with the explanatory power of other variables. In order to predict gross incomes, a set of variables that have relevance in theory for explaining variations in income were used as independent variables. First, the age of the fisherman may contribute positively to the income, since experience enables the fisherman to run his fishing operation more profitably. However, younger fishermen may increase their income as compared to older fishermen because they have more energy and better health. Also, younger fishermen may need higher incomes because they have newly established households. Thus, mortgages may have an intervening effect between age and income. Second, the level of education may have an impact on income in two ways. Having an education may enable the fisherman to run his fishing operation in a more efficient manner. On the other hand, education is expensive, and the loans necessary to complete education may reduce his gross income (interests paid on educational loans are deductible from *raw* gross income, resulting in a lower gross income). Thus, the level of education may have an ambiguous effect on the gross income. Third, the length of the vessel is used as an independent variable, since longer vessels are favored in the vessel quota system. As shown in chapter 3, the quota is positively proportional with the length of the vessel, and it is expected that those with longer vessels have higher incomes than fishermen with short vessels. Fourth, the number of trips during the winter-season can be assumed to be positively related to the income of the fishermen since it is at this time of the year that cod is abundant. Fifth, the

number of occupations, including fishing, that each fisherman is involved in may have an effect on income as gross incomes are expected to be proportional to the number of occupations. The following model is specified for predicting gross income:

**Equation 6.1 Specification of the multiple regression model**

$$Income_T = \beta_{0T} + \beta_{1T}(Age) + \beta_{2T}(Education) + \beta_{3T}(Length) + \beta_{4T}(Trips) + \beta_{5T}(Occupations) + e_T$$

In order to establish whether the model can make an overall prediction of income for the whole period, the mean income for the whole period 1988-1992 was calculated (hereafter called  $Income_T$ ). Calculations yielded the coefficients in equation 6.2:

Table 6.1 Equations 6.2, 6.3 and 6.4			
Independent variables	Dependent Variables		
	Equation 6.2 <i>Income<sub>T</sub></i>	Equation 6.3 <i>Income<sub>88-89</sub></i>	Equation 6.4 <i>Income<sub>90-91-92</sub></i>
<i>Constant (β<sub>0</sub>)</i>	-27947.5	28857.2	-96210.6
<i>Age (β<sub>1</sub>)</i>	437.8	-47.4	998.1
<i>Education (β<sub>2</sub>)</i>	-9321.4	-5107.8	-8318.2
<i>Length (β<sub>3</sub>)</i>	10355.0	3199.4	14350.3
<i>Trips (β<sub>4</sub>)</i>	73.2	1538.0	821.2
<i>Occupations (β<sub>5</sub>)</i>	2300.1	732.4	8174.5

Function 6.2 yields an R<sup>2</sup> of 0.405 with an F-value of 3.676, which is significant (p<0.01, DF=27). However, of the coefficients, *Length* is the only independent variable that is significant (t=3.948, p<0.001). A 1-meter increase in length of the vessel yields a 10355 NOK increase in income, controlling for all the other independent variables. Of the other variables, *Age* yields an insignificant t-value of 0.186 (p<0.25), *Education* an insignificant t-value of -1.589 (p<0.125), *Trips* an insignificant t-value of 0.021 (p<0.99) and *Occupation* an insignificant t-value of 0.319 (p<0.753). Diagnostics of the equation were also examined. Calculating the partial correlation coefficients showed that some of the independent variables are marginally and insignificantly collinear. This does not substantially affect the model. Also, I checked for heteroscedasticity. Plotting the partial regressions shows that the OLS model is homoscedastic, that is, the Y corresponding to various values of X have similar variances<sup>45</sup>. They do not have the identical variances; however, there appears to be no reason to use remedial measures. No outliers that were detected had a significant distance from the rest of the

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<sup>45</sup> Thus,  $\text{var}(u_i | X_i) = \delta_i^2$ , that is, the conditional variance of the Y population is constant across different values of X.

distribution. Seven cases were missing from the analysis, however, inspection of their scores on the independent variables reveals that it is unlikely that they would have affected the equation statistically. The missing cases are located in different strata in the population, as the strata are defined by the independent variables used in the equation. Substantially, it is interesting to note that the vessel length is the only independent variable that has a significant effect for predicting incomes in the model in equation 5.3, because this shows that vessel lengths have been a determining factor for the incomes of the fishermen throughout the whole period.

However, incomes may be distributed differently across different periods. It is of substantial interest to establish whether the model which predicts mean incomes in the period 1988-1989 (called  $Income_{88-89}$  henceforth), that is, before the vessel quota system was imposed, is different from the model which predicts mean incomes in the period 1990-1991-1992 (called  $Income_{90-91-92}$  henceforth). This is accomplished by first calculating the model predicting  $Income_{88-89}$  (Equation 6.3 in table 6.1).

Function 6.3 generates an  $R^2$  amounting to 0.066, having an insignificant F-value of 0.379 ( $p < 0.86$ ,  $DF=27$ ). As none of the coefficients are close to being significant, they are not reviewed. None of the diagnostic measures used reveals problems with the model. One may conclude that variation in  $Income_{88-89}$  may have two causes. One, the model used is misspecified, and important independent variables are omitted from the equation. Two, there are no differences in  $Income_{88-89}$  across the variables specified in the model. Regarding the former, the data available do not allow for other inferences. However, when the same set of variables were successful at predicting incomes in  $Income_T$ , it seems unlikely that they should be inadequate for predicting  $Income_{88-89}$  since time span is the only difference between the models. Thus, there seems to be no relationship between  $Income_{88-89}$  and the independent variables in the model since there is no systematic variation in Y across the different values of  $X_1-X_5$ . The next step consists of calculating  $Income_{90-91-92}$  (Equation 6.4 in table 6.1)

Equation 6.4 have an  $R^2$  of 0.506, generating a significant F-value of 6.138 ( $p < 0.001$ ,  $DF=30$ ). Among the independent variables used, Age has a significant t-value of 2.64 ( $p < 0.05$ ), Education an insignificant t-value of  $-1.35$  ( $p < 0.19$ ), Length a significant t-value of 5.0 ( $p < 0.001$ ), Trips an insignificant t-value of 0.22 ( $p < 0.84$ ) and Occupations an insignificant t-value of 1.07 ( $p < 0.3$ ). The only independent variables that are significant are Age and Length. A 1-year unit change in age causes a 998.1 NOK change in income, holding all other independent variables constant. In other words, older fishermen have tended to have larger incomes than younger fishermen after the introduction of the vessel quota system. This can be

explained by reference to several different factors. Older fishermen may be more used to handling difficult times than younger fishermen, realizing the importance of working harder when fishing is difficult to avoid accumulating debts. Also, younger fishermen may have more expenses, especially loans for education and vessels, that are deducted from the raw gross income that makes it appear that they have less gross income than older fishermen. This is also reflected in the negative, although insignificant, relationship between income and education. Both explanations are plausible, and correspond with other observations in the community.

Concerning the effect of length on income variation, we can see that for a 1-meter change in length, income changes with 14350.3 N Kroner, holding all other independent variables constant. This effect of the length of the vessel is not only statistically significant; it is also of substantial importance. The introduction of the vessel quota system is the only plausible explanation for the amount by which income changes due to increased vessel length. This is especially true since there was no such effect before the vessel quota system was introduced (cf. Equation 6.3).

However, conclusions across models cannot be drawn without testing whether the equations are statistically different from one another. The models may look different due to random factors such as measurement error, incorrect data and various other sources of error. Testing for difference among the equations has been carried out by use of a Chow-test (Gujarati 1988, 443 ff.). The Chow-test establishes whether two regressions are statistically different from one another by using an F-test. In this case, an F-value of 5.92 with DF=6, 57 is significant for  $p < 0.01$ , showing that the regressions in equation 6.3 and 6.4 are significantly different from each other<sup>46</sup>. Thus, the relationship between income and the set of independent variables changed between the two periods. One should be careful about inferring conclusions about the changes in the effect of single variables between these two regressions, since the joint effects of the variables are evaluated in multiple regression. However, one can draw conclusions about single variables in each equation.

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<sup>46</sup> The Chow-test is based on the ratio of the Total Residual Sum of Squares ( $RSS_T$ ) (the RSS after a pooled regression has been calculated for the whole period 1988-1992), to the Partial Residual Sum of Squares ( $RSS_p$ ) (the sum of RSS from calculating equations 6.3 and 6.4). Here,

$$F = \frac{\frac{RSS_T}{k}}{\frac{RSS_p}{N_{88-89} + N_{90-91-92} - 2k}}$$

Entering  $RSS_T$  and  $RSS_p$  yielded  $F = \frac{\frac{309}{6}}{\frac{496}{36 + 33 - 12}} = \frac{51.5}{8.7} = \underline{\underline{5.92}}$  ( $RSS_T$  and  $RSS_p$  are reduced proportionally

to reduce the size of the equations).

Returning to the problem of establishing the effect of vessel length on economic differences, one can conclude that the variable has become important for explaining economic differences among the fishermen after the introduction of the vessel quota system. The findings from the canonical discriminant analysis are reinforced by these findings. Economic strategies that give priority to investing in longer vessels become increasingly important for remaining a successful participant in the vessel quota system. On the one hand, failing to earn the necessary amount of income leads to exclusion from the system since it defines a fisherman according to his income from fishing. For the fishermen, this is an adequate reason to maximize income by fishing efficiently, that means, taking the quota with the least possible effort. On the other hand, the same provisions of the vessel quota system which give the fishermen an incentive to fish efficiently also gave them an incentive to expand and capitalize their fishing operations. Since larger vessels are systematically given priority in the system, investing in a larger vessel becomes a response to the system's screening criteria: the longer the vessel, the more certain the fisherman is that he will be allowed to harvest an amount of cod which is sufficient to make a living. The regression analysis, along with ethnographic data, shows that some of the fishermen have realized the importance of this strategy in order to remain a participant in the vessel quota system. According to the fishermen, they extended their vessels even though they knew that this would make them less capable for handling difficult weather conditions. This occurs because such extension dislocates the state of balance of the vessel. Thus, those who have not been able to afford a new, large vessel are willing to risk their safety in order to make more profit and thus remain participants in the system.

### **6.1.1 The Informal Economy of Codfjord**

However, other strategies in addition to getting a longer vessel are employed by the fishermen in Codfjord. For some fishermen, the response to the vessel quota system was to begin fishing illegally. The trade off in this activity is between the known expenses of getting caught (fines, confiscation of vessel and gear) and the potential extra profit yielded from selling catches on the black market. However, there are degrees of illegal fishing. A fisherman who indulges in a little illegal activity has small chances of being caught because selling fish informally is, to some extent, institutionalized. Fishermen in Codfjord traditionally sell parts of their catches to neighbors and others. Many fishermen continued to sell catches to their neighbors after the vessel quota system was introduced. These catches are unregistered, and are not recorded against the fishermen's quota. In addition, such sales are not reported to the tax authorities. Consequently, the profit is much larger for catches sold in this manner than those sold formally. Many of the fishermen in Codfjord who were involved in this kind of activity saw this as a low-risk action, partly because nobody had been caught. In addition, none of those who were



interviewed could see anything wrong with illegal fishing. Different species are harvested at different times, mostly depending on the demand for them. One fisherman harvested flounder before Christmas because prices are good due to the fact that it is illegal to fish for flounder during this period. Another fisherman caught salmon during the closed season by only setting and pulling in nets at night. However, he never sold catches in Codfjord. Instead, he went to the closest town to sell salmon at the harbor. The same strategy is also used for harvesting halibut out of season. To some extent, those who sell the harvest illegally can be considered victims of criminalization. According to the fishermen, the sale of fish to neighbors is a tradition in which fish is exchanged for other goods. They therefore feel obliged to sell fish. Neighbors expect the fishermen to sell them fish, while the fisherman expects other goods, for example meat, in return. Thus, informal, or illegal, sales of fish can be considered a form of reciprocal exchange. The fisherman sells fresh fish cheaply to the neighbor, while the neighbor helps him repair the vessel, sells him meat cheaply, and the like. These reciprocal ties knit the fishermen into the rest of the community. Refusing to sell fish is almost the same as breaking away from the rest of the community because social ties are then weakened.

While this form of fishing may be considered marginally illegal, other more organized forms occur. One fisherman claimed that he made three times as much money from illegal harvest and sales of fish than from regular sales. He caught cod in addition to his quota, as well as halibut and salmon. After catching and cleaning the fish, he transported it to a designated spot, where a dealer who transported the fish out of the region and sometimes out of the country paid him for the fish. According to the fisherman, fish caught illegally is never sold locally, but transported to other counties for illegal sale. The concept of criminalization as used above hardly applies to this kind of fishing, because it has never been common in Codfjord to take part in such activities. The fishermen who are part of organized activities like these are fully aware of the risk involved, but they know that the risk is marginal because none of them has yet been caught. On the other hand, the profit involved is high. This especially pertains to species like halibut and salmon, since these are strictly managed and have short harvesting seasons. Knowing that profits are high and the chances of getting caught are negligible, they use the opportunity to make «easy money».

These forms of illegal activities may partially be regarded as responses to the vessel quota system. In the case of fishermen selling catches to their neighbors, it seems plausible to consider their actions as «criminalized» because traditional institutions have become criminalized. Given that one may look at local traditional institutions as a form of management institution because they regulate behavior, one may understand the process of criminalization

of local institutions as conflict of interest which arises when fishermen must choose membership in two conflicting systems. On the one hand, fishermen are subjected to the commands of a legal management system. On the other hand, the same fishermen are subjected to the commands of an extra-legal management system<sup>47</sup>. When these two normative systems are in contradiction, the fishermen must choose which system they should obey. Empirically, it seems that the majority of the fishermen follow the commands of local institutions, that is the extra-legal management system, mainly because it is tradition, it is profitable for the fishermen and the buyers, and the risk of getting caught is low. In the other case, where fishermen participate in organized illegal activities, the above explanation is misplaced because these actions are not generated by reference to the same local institutions as the other «milder» form of illegal activity. Rather, it may be understood as a continuation of the old risky strategy. The traditional risky strategy consisted of the fishermen «gambling» increased effort to get a potentially increased profit. The only difference between the organized form of illegal fishing and the risky strategy is the economic nature of the effort. In one case, the fisherman risks incurring increased operating expenses and not yielding increased catches. In the other case, the fisherman risks monetary loss in the form of fines and penalties. Fishermen who are Læstadianists, or come from Læstadianist families, also participate in the informal harvest and sale of fish. In spite of the fact that this activity is unlawful, and unlawful behavior is banned in Læstadianism, the fishermen still participate. This must be seen in relation to the political ethos of Læstadianism. The Læstadianists are strongly opposed to the secular state intervening in their matters. According to these fishermen, they do not regard informal and illegal fishing as a crime. Rather, the state is the criminal, because it uses the vessel quota system to «rob» the local community of «its» resources. Thus, the fishermen, Læstadianists and others, regard it as morally right to prolong the traditions that are currently criminalized.

In spite of the different local institutions, both forms of illegal activities may be explained by reference to identical principles of economic rationality. Both types of actions are anchored in the local normative order. Referring to Weber's perspective, the fishermen's actions may be considered substantively rational actions; their actions are explained and justified by reference to the action itself. Actions are meaningful because they are connected to the local normative order of meaningful economic behavior. However, one should not underestimate the instrumental component in these actions. It remains a fact that the fishermen make money from these activities, and they know that they will do so. Thus, involvement in these activities can also be explained as a form of formal economic rationality. The underlying principle behind

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<sup>47</sup>This must not to be confused with an extra-legal *fisheries* management system.

these actions are means-end calculations, where the fishermen calculate the output of these actions as being higher than the input. In this case, actions are explained and justified by reference to instrumental efforts for yielding as much profit as possible with the least possible effort. That is, it is universally good, fair and just to do whatever is necessary to make profit. This points to some of the features of the rationalization process discussed above. The economic actions of fishermen in Codfjord are in flux partly due to state intervention; they are moving from substantive economic rationality to formal economic rationality. This is occurring partly because the vessel quota system has forced the economic actions of the fishermen into a new form as strict regulations have made the fishermen more aware of the economic necessities of their fishing operations. This is examined next.

## **6.2 Economic and Ecological Strategies**

Above, it was shown how the length of the fishing vessel has become increasingly important for the fishing operation after the vessel quota system was introduced. I have also shown how economic attributes correspond to religious subgroups in the population. In the following, the characteristics of «modern» fishermen are compared to «non-modern» fishermen. «Modern» fishermen are those who have invested in a vessel 10 meters or longer, or who have extended their old vessel so that it became longer than 10 meters in the period after the vessel quota system was introduced. This comparison will be used to discuss the ecological implications of these investments, pointing to some of the consequences of the modern and non-modern strategies.

New vessels are financed by loans in private and public banks, as well as with financial support from different public funds. Today, vessels are generally not inherited from the family. According to the modern fishermen, their investment strategy is based on both financial and ecological circumstances. During the resource crisis, but also because of the vessel quota system, many previously expensive vessels were sold below market value. The «modern» fishermen gambled that the resource crisis would end, quotas would increase, and the management of the cod fishery would become more flexible. Thus, by investing savings during scarce times, the fishermen gambled that it would be profitable in the long run. Because their vessels were bought below market value, they can be sold with relative profit when resources replenish and the demand for vessels with quotas increases. Vessels that are sold with a quota have significantly higher value than non-quota vessels, and the fishermen who participate in the vessel quota system and have a vessel longer than 10 meters can expect to make a substantial profit when they sell it. However, these are not the only factors that have an effect on

investments in new vessels. It has been an explicit goal of Statens Fiskarbank (The Norwegian Fisheries Bank) to give priority to vessels longer than 10 meters (Fiskeridepartementet 1996). In addition to a small grant, these vessels are prioritized with low interest loans of up to 90 % of the value of the vessel. Loans for vessels shorter than 10 meters have a higher rate of interest, and cover only 60% of the vessel's value. The industrial fund established by the Codfjord municipal administration and the Saami Fund for Industrial Development also grants loans and economic support to vessels; such funding is proportional to the length of the vessel. Thus, the fishermen are given financial incentives to invest in larger and more efficient vessels because this investment requires less equity capital.

<b>Table 6.2 Cross-tabulation of modernity status and religious affiliation</b>			
<b>Invested in vessel</b>	<b>Predicted religious affiliation from discriminant analysis in chapter 5 (N=40)</b>		
	Not active	Not active, but kin is	Active
<i>Yes (modern)</i>	1	9	1
<i>No (Not modern)</i>	12	14	3

In table 6.2, 11 cases fit the definition of a «modern» fisherman. In order to explore and identify the economic and ecological differences among the fishermen, a  $\chi^2$  and a one-way ANOVA test are used. Nine of 11 modern fishermen belong to the group of fishermen who are not religiously active themselves, but who have kin who are. One modern fisherman belongs to each of the other groups. Among the fishermen who did not buy or extend their vessel, however, 12 are religiously inactive, 14 fishermen are not religious themselves, but have kin who are, and 3 are religiously active. Testing for differences between the groups yields an insignificant  $\chi^2$  of 4.131 (DF=2, p<0.13). However, one can observe that the majority of the modern fishermen come from religiously active families, but are not religious themselves. This finding strengthens the results of the discriminant analysis above, where it was found that these fishermen were those who were most intensively and effectively involved in their fishing operation. However, this analysis shows that the group is not homogeneous; this was also indicated by examining group differences in the discriminant analysis. Only nine of 23 fishermen predicted to belong to this group have actually followed the incentives of the vessel quota system and acquired a vessel that is of a modern size. The fact that we find one modern fisherman in each of the other groups underscores the fact that deviation from the general patterns of intensity exist. The religiously active fisherman who has invested in a vessel actually bought it for his son who plans to take over the operation. Thus, it was not the owner of the vessel who employed the strategy, but his non-religious son who falls into the category of fishermen who are not religiously active, but who have kin that are. The religiously inactive fisherman who bought a new vessel can rightfully be termed modern as his involvement is similar to that observed among fishermen who have religious kin. In conclusion, modern

fishermen are located as a subgroup among those that come from religious families, while two cases are found in each of the other groups. Some of the characteristics of the two groups of fishermen are compared in table 6.3.

Characteristic	Non-modern fishermen			Modern fishermen			ANOVA	
	N	Mean	SD	N	Mean	SD	F	P
<i>Age</i>	28	49.6	11.7	11	41.6	16.9	2.8	0.1
<i>Number of people in household</i>	29	2.4	1.2	11	3.0	0.9	2.3	0.14
<i>Education</i>	29	1.38	0.8	11	1.64	0.8	0.79	0.38
<i>Mean Income 1988-1989</i>	25	53904	28115	9	62544	29338	0.61	0.44
<i>Mean Income 1990-1993</i>	27	78703	36151	10	99456	41052	2.24	0.14
<i>Mean Income 1988-1993</i>	24	69529	31571	9	89533	26983	2.8	0.1
<i>Mean Assets 1988-1993</i>	24	154391	169111	9	168577	259655	0.03	0.86
<i>Mean Taxes 1988-1993</i>	24	17827	10533	9	24467	13479	2.2	0.15
<i>Income from fishing (%)</i>	29	72.34	26.45	11	75.0	30.17	0.07	0.79
<i>Number of occupations</i>	29	1.9	0.7	11	1.3	0.5	5.97	0.019*
<i>Operating expenses: Fuel</i>	29	5972	3692	11	10972	2826	16.4	0.00**
<i>Operating expenses: Gear</i>	29	9089	6297	11	11363	8318	0.87	0.36
<i>Operating expenses: Insurance</i>	29	6095	5410	11	13772	2639	20.1	0.00**
<i>Operating expenses: Other</i>	29	6948	7926	11	7636	4544	0.08	0.79
<i>Operating expenses: Total</i>	28	28395	17953	11	43745	10311	7.1	0.01*
<i>Trips per week: Spring</i>	29	5.5	2.0	11	5.9	0.3	1.4	0.25
<i>Trips per week: Summer</i>	29	1.4	2.0	11	1.7	1.6	0.26	0.62
<i>Trips per week: Fall</i>	29	3.0	2.0	11	4.0	1.9	2.1	0.16
<i>Trips per week: Winter</i>	29	5.3	1.5	11	5.7	0.6	0.63	0.43
<i>Trips per week: Year</i>	28	3.8	1.1	11	4.3	0.6	2.3	0.14
<i># months fishing Cod</i>	29	5.6	2.3	11	6.9	3.3	2.1	0.16
<i># months fishing Saithe</i>	29	3.3	2.3	11	5.2	2.4	5.4	0.026*
<i># months fishing Haddock</i>	29	2.3	2.4	11	4.5	3.1	5.5	0.025*
<i># months fishing Lumpfish</i>	29	0.6	1.1	11	1.0	1.4	0.94	0.34
<i># months fishing Redfish</i>	29	0.2	0.8	11	0.0	0.0	0.78	0.38
<i># months fishing Halibut</i>	29	0.5	1.1	11	0.3	0.9	0.46	0.5
<i># months fishing Salmon</i>	29	0.3	0.8	11	0.3	0.9	0.16	0.9

There are only minor, statistically insignificant differences in the mean demographic characteristics of the fishermen in the two groups. On average, non-modern fishermen are eight years older than modern fishermen, a difference which is statistically insignificant. On the other hand, the fact that the modern fishermen are mainly found in the younger cohort indicates that this investment strategy is an attribute found mainly among young fishermen. However, this is only a weak tendency; the standard deviation of the age of modern fishermen indicates a wide dispersion within the group. The mean number of people living in the household of modern fishermen is marginally higher than among non-modern fishermen. Correlating age with the number of people living in the households yields a significant coefficient of  $-0.365$  ( $N=39$ ,  $p<0.05$ ). Thus, the number of people living in the household is a negative function of the age of the individual since the children of older fishermen tend to have moved out of the household. Also, some of the younger fishermen still live with their parents, creating an inverse relationship between age and the number of people in the household. The level of education among modern fishermen is marginally higher than that of non-modern fishermen. There is no

significant correlation between the level of education and the number of people in the household and age, and one may assume that the mean level of education between the two groups is the same.

A number of variables reflect the economic differences between the two groups. The mean gross incomes between the two groups during the years 1988 and 1989 are not statistically different from one another. However, on the average, modern fishermen made almost 9 000 NOK more than non-modern fishermen during these years, with an almost equal dispersion in incomes within the groups. The difference in mean gross earnings during the years from 1990 to 1993 is not statistically significant either. However, the mean difference has increased by more than 20 000 NOK, indicating an increasing, although insignificant, difference in earnings between the two groups. For the whole period from 1988 to 1993, there is an insignificant mean difference of almost exactly 20 000 NOK. It should be noted that the groups are not homogeneous with respect to their gross earnings. The internal dispersion in the groups indicates that other factors than just the length of the vessel affect earnings. Variables such as housing expenses, car expenses and other items financed via loans affect the gross income of an individual. However, data on these variables are unavailable and cannot be included in the analysis. On average, modern fishermen have a slightly higher amount of assets than non-modern fishermen. The high standard deviations within the groups, especially among the modern fishermen, are probably generated by highly variable amounts of loans among the fishermen. Ethnographic data indicate that many fishermen have negative assets, meaning that their debts exceed the value of their assets. Also, one must take account of the fact that savings are not always registered by the tax authorities. It is a tradition among older fishermen in Codfjord to save money at home. As such savings are unregistered, one may suspect that the assets of many of the older non-modern fishermen are larger than depicted in the table, where the data have been acquired by inspection of public tax-records. On average, modern fishermen pay more tax than their non-modern counterparts. However, this difference is insignificant and rather small; it occurs as a direct consequence of the higher gross earnings of the modern fishermen. In sum, the mean difference in gross earnings between modern and non-modern fishermen has increased after the vessel quota system was imposed. In spite of these differences, the average proportion of income derived from fishing is almost the same for the two groups, indicating that incomes from other sources cannot account for inter-group economic differences. This occurs in spite of the fact that the average number of occupations that the fishermen are involved in is significantly higher for non-modern fishermen, as compared to their modern co-fishermen. Thus, on average, non-modern fishermen have a higher number of occupations, but the extra jobs do not seem not to represent a substantial

proportion of their income. While most of the mean differences between the two groups are statistically insignificant, they are noteworthy because they support and supplement the earlier findings which documented a significant relationship between mean gross income and mean length of the fishing vessel.

The inter-group mean operating expenses of the vessels give an indication of the ecological actions of the fishermen in the two groups. Usually, the higher the operating expenses, the more intense and active the fisherman is in his search for catches. This is indicated by the amount of expenses used for fuel. On average, modern fishermen use almost twice as much money on fuel as non-modern fishermen. This difference is statistically significant, indicating that the mean fishing operations of the groups are run differently. Ethnographic data suggest that modern fishermen are more active when fishing other species than cod. When fishing saithe, the fish is searched for by use of an echo sounder, and the fisherman may spend hours just looking for schools of fish. One may object to this use of fuel-consumption as an indicator of intensity, arguing that larger vessels burn more fuel than shorter ones. However, longer vessels have more modern multi-valve engines, which use less fuel than old single-valve engines. In fact, technical data from Volvo Penta, which makes engines for fishing vessels, indicate that a 25 feet vessel with a 15 year old engine generating 10 hp burns more fuel than a 35 feet modern vessel with 80 hp. Thus, it seems adequate to use fuel consumption as an indicator of intensity. On average, modern fishermen use insignificantly more money on fishing gear than non-modern fishermen. The small difference is mainly due to the fact that lines and nets are cheap, and do not represent any major investment for the fishermen. Mean insurance costs are significantly different between the groups, mainly because new and larger vessels have a higher insurance value than old and shorter vessels. The item «other» represents expenses such as maintenance and repairs. Most fishermen paint and fix minor damage to their boats once a year. The costs of the maintenance are almost the same and generally independent of the size of the vessel. The mean total operating expenses are significantly different between the groups, mainly due to the significant mean differences between the groups with regard to fuel and insurance costs. Thus, on average, modern fishermen use more money in running their fishing operation. However, the analysis above shows that they still have higher incomes than non-modern fishermen do. The reasons for this are partly related to their fishing strategy.

The higher mean gross income of modern fishermen, as compared to non-modern fishermen, is related to their quota. This was shown above, where the effect of vessel length on gross income was analyzed. Thus, a significant proportion of the mean variation in incomes between the two groups is strongly related to the length of the vessel, which is used in this analysis to



distinguish the two groups of fishermen. However, there are also differences in the way that the two groups harvest the different species. On average, modern fishermen spend 0.5 more days at sea per week throughout the year than non-modern fishermen. This difference is insignificant. During the spring, modern fishermen average 0.4 more days at sea per week than non-modern fishermen. In the summer, the mean difference is 0.3 days per week, during the fall 1.0 day, and during the winter, the mean difference is 0.4 days. None of these differences are significant. Nevertheless, modern fishermen generally spend more time fishing than non-modern fishermen, especially during the fall. During the winter, all fishermen are busy taking their cod quota regardless of their vessel size. Sometimes, the cod season stretches into the spring, making the fishermen busy taking their quota also at this time of the year. The summer is usually a «dead» time, as far as catches are concerned. The only species of economic significance that can be harvested during this time of the year is lumpfish. Traditionally, the fall used to be a «dead» time as well. However, some of the fishermen in Codfjord have started to use this time of the year to fish saithe. The market for saithe has been highly variable as demand for this species has fluctuated unpredictably. However, prices have never been so bad that the fishermen have lost the money they have invested by risking extra operating costs. Most modern fishermen put effort into catching saithe, gambling that prices will be good. Since fishing saithe is considered boring by the fishermen, mainly because one must spend a considerable amount of time looking for the fish, the non-modern fishermen do not bother to put any effort into this activity.

This trend is confirmed in the analysis of the number of months used for fishing different species. On average, modern fishermen fish for cod 1.3 months more than non-modern fishermen. This insignificant difference occurred because cod was a legal by-catch when the fishermen fished saithe and haddock during the fall of 1993, which was the time of the fieldwork. This was only possible if the catch of cod did not exceed 60 % of the total catch. Thus, the fact that the group of modern fishermen on average spends significantly more time fishing haddock and saithe also explains how the mean difference in cod fishing is generated. The significant mean differences in the time spent on fishing haddock and saithe can account for some of the economic differences between the fishermen, partly due to valuable by-catches of cod. In fact, some of the fishermen said that their only purpose with fishing for saithe and haddock was to generate bycatches of cod, since cod is five to 10 times as valuable as haddock and saithe. Fishing lumpfish is a relatively new activity which begun towards the end of the 1980's because of the scarcity of cod. The species is harvested for its roe, and both modern and non-modern fishermen participate in the fishery. The final three species are hardly harvested at all. None of the modern fishermen fish for redfish, mainly because of this species is scarce in



Codfjord. Usually, this species is by-catch. Halibut is traditionally fished before Christmas. However, occurrences of this species are too few that this can be relied on commercially, and most fishermen catch it for consumption in the family and in order to give it to friends who are not fishermen. The salmon fishery is exclusive, and cannot be compared to other salt-water fisheries in Norway. The Norwegian Ministry of the Environment grants exclusive licenses based on the «grandfather» method. The applicant needs to document a tradition for salmon fishing in the family before he is granted a license. Currently, only a few of the fishermen have such a license.

### **6.3 The Consequences of the Vessel Quota System in Codfjord**

The findings of this chapter may have looked different if informal and illegal harvest and sale of fish had been accounted for in the analysis. However, since no systematic quantitative data are available on this subject, they cannot be taken into consideration. However, ethnographic data indicate that illegal fishing occurs among those who have the highest incomes and lowest incomes. The reason why fishermen with high incomes fish illegally may be due to the need for capital necessary to service loans on the vessels. Among the fishermen who have the lowest earnings, the reason may be that illegal fishing compensates for low incomes. Returning to the available data, we may summarize the findings by pointing at some of the differences between the fishermen. It should not come as a surprise that modern fishermen make more money than the non-modern fishermen do. Modern fishermen have invested in new vessels and the investment forces them to fish more to pay for their loans.

These findings document some side effects of the vessel quota system that hardly contribute to resource preservation. As we have seen, the fishing strategy of modern fishermen consists of catching other species and using them to create loopholes in the management system. The largest of these loopholes is by-catches. When fishing saithe and haddock during the fall, it is inevitable that the fishermen catch cod. Cod prey on small saithe, and it is therefore often the case that catches of saithe also generate large catches of large cod. The management authorities have attempted to account for the fact that it is impossible for the fishermen to select species, and have therefore allowed by-catches up to a maximum of 60%. The alternative to allowing these by-catches would be to discard the fish. However, the damage is already done when the fish is caught, because most of the fish are dead when the net is pulled up. Thus, the ecological consequences of discarding by-catches are the same as when they are allowed them. However, the ecological connection between cod, saithe and haddock creates a loophole in the system, and the fishermen use it to harvest extra cod while claiming that they target saithe and haddock.

It seems evident that this strategy is most common among modern fishermen, who perceived the loophole as their chance to compensate for the freedom that they lost when the quota system was introduced.

The fact that the fishermen fish species other than cod represents a change of economic focus among the fishermen. In spite of their marginal value, the fishermen land saithe and haddock. Lumpfish, which is a species that the fishermen have recently started to exploit, has become a popular species. Thus, among the modern fishermen, the economic foundation is moving from a cod fishery to a multi-species fishery. This has resulted in an overharvest that has caught the attention of Norwegian fisheries managers, resulting in a proposal to manage all species – saithe, haddock, lumpfish, and the like – in a multi-species management scheme (Chief of Fisheries in Troms, personal communication). In this scheme, entrance and quotas will be allocated according to the same rules as in the cod fishery. The probable result will be that the modern fishermen in Codfjord, who can document a record of catching several species, will reinforce their fishing rights relative to the non-modern fishermen. Since modern fishermen have already branched into the harvest of several other species, and can document these catches, a multi-species management scheme will offer legal protection to the system of exploitation that they adopted due to the provisions of the vessel quota system. In summary, a chain of events have contributed to change the Codfjord fishery. The vessel quota system gave incentives for investing in large vessels. This caused the fishermen to branch into the harvest of other species in order to service their loans. And in the near future, a multi-species management system will offer legal protection to those who have caught several species, and will exclude those who cannot document participation in the respective fisheries. In this case, the interplay between the individual rationality of modern fishermen and the collective rationality of the management system results in a new economic and ecological system that is likely to reinforce differences in the population of small-scale fishermen in Codfjord; this follows because fishing rights increasingly become intertwined with success at complying with the behavioral standards of the management system.

Regarding the change from a risky strategy to a more defensive strategy, the findings of this chapter are of importance. The risky strategy was formulated in terms of tradition, knowledge and creativity. These factors were all embedded in local institutions, or were a result of these institutions, and were applicable to the specific economic and ecological circumstances to which the fishermen had to adapt. In this sense they were local, because the «risky» actions were meaningful within the local context. The current form of strategy, which consists of some fishermen becoming careful and defensive, appears as a consequence of uncertainty. On the one

hand, some fishermen appear confused as to how to relate to the new framework of the fishery because the «risky» framework is inapplicable to the current fishery and fisheries management system. On the other hand, those who invest in new vessels can be viewed as behaving in terms of formal rationality, and in the universal terms of profit accumulation. Their actions are not designed in accordance with local institutions and practices. Instead, they are coordinated with the vessel quota system, and calibrated so that the modern fishermen will profit as much as possible from the system. The fact that the fishermen have managed to find loopholes in the system indicates that they can be quite creative in planning their fishing operations. For the purposes of this text, it is interesting to note that the economic orientation of the fishermen to some extent dictates their ecological orientation. While the fishermen have traditionally coordinated their economic actions in accordance with the ecology of the local environment, the modern fishermen do just the opposite. They fish the species that, directly or indirectly, will give them success within the framework of the vessel quota system. The technological component has also assumed a specific meaning in the modern approach to fishing. The fishermen invest in larger vessels because they are part of a system that rewards such vessels, not because they have a practical need for a longer vessel. In fact, some of the fishermen said that the new and longer vessels were unpractical to handle and too big for one person. However, as long as the system rewards longer vessels, the fishermen give priority to investments that they know will generate profit.

It is difficult to assess the concrete forms of economic rationality that prevail among the fishermen in Codfjord without looking at how they behave specifically when fishing. This has been termed ecological behavior. Several questions link ecological and economic actions. For example, will the actions of the fishermen who are embedded in locally based normative systems - that is extra-legal fisheries resource management systems - serve to limit harvests? This and other related questions are explored in the next chapter.



## Chapter Seven

# Knowledge in Small-Scale Fishing

While Weber never explicitly stated the role of knowledge in his theory, the concept may be linked to his ideas about rationalization. In this chapter, traditional ecological knowledge is considered as the cognitive platform for orienting actions in and towards nature; we talk about *ecological* actions in this specific sense (Berkes 1993). Actions based on this knowledge will be treated as a subclass of economic actions since the knowledge is used for economic purposes. The quality of the ecological actions of the fishermen – that is, finding fish – is determinative for their economic success. The cognitive foundation of these actions is derived from their experience of interacting with nature.

In the first part of this chapter, the definition of the notion «traditional ecological knowledge» will be related to some of the available literature. After analyzing the empirical manifestation of the ecological knowledge of the fishermen in Codfjord, I will argue that the common definition of traditional ecological knowledge is too wide to capture some of the fundamental cognitive differences between fishermen; this follows since knowledge and behavior are often treated synonymously. Also, other factors such as the use of technology are not accounted for in the concept of traditional ecological knowledge. I argue that the concept is therefore inadequate for capturing some of the features of contemporary fishing operations. Finally, the fishermen's ecological actions are related to Weber's notion of rationalization.

### 7.1 Traditional Ecological Knowledge: Definitions and Implications

What is traditional ecological knowledge, and how is it manifested? Berkes (1993) defines the concept as the:

*[...] cumulative body of knowledge and beliefs, handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment. Further, TEK is an attribute of societies with historical continuity in resource use practices; by and large, these are non-industrial or less advanced societies, many of them indigenous or tribal (Ibid. 3).*

«Traditional ecological knowledge» refers to explanatory models, or theories, of how elements within the environment are classified and how they interact. According to Berkes, this knowledge is of such depth that it should be given a status equal to scientific knowledge and should be used more actively as the basis for the management of natural resources (Ibid. 5). However, one would expect the form and content of traditional ecological knowledge to vary

from one resource community to another. Theoretically, the form and content of the knowledge is dependent on contextual variables: for example, type of environment, who uses it (small groups, communities, social classes or nations), how they use it (type of technology), why they use it (subsistence, hobby or commercial) and when they use it (only when necessary, all the time, or specific times of the year). The concrete form and content of traditional ecological knowledge is largely an empirical question. The following discussion will be limited to traditional ecological knowledge in fishing.

Traditional ecological knowledge may be manifested in several different ways. Berkes (1993) argues that traditional ecological knowledge is found mainly in tribal and less advanced communities, upheld and maintained by the specific social structures present in these tribes (cf. quotation above). Within such communities, knowledge is transmitted through generations and groups of kin. Thus, the social distribution of knowledge follows tribal structures of ethnicity, religion, age and other criteria emphasized within the specific culture. Therefore, traditional ecological knowledge often serves to define one social group as distinct from another. Ruddle (1993a, 1993b) and Karlsen (1992) have argued that traditional ecological knowledge is also part of other, larger, social structures. In many cases, traditional ecological knowledge incorporates the technology and political economy of modern society, and is a synthesis of the cognitive dimensions of local and global factors (Giddens 1990). Thus, traditional ecological knowledge is also affected by the socio-economic classification system present in modern society, where the allocation of marine resources is subject to class-divisions and cultural hegemony (Doeringer, Moss and Terkla 1986). Global structures, such as class-divisions, prescribe local distribution of traditional ecological knowledge, in addition to local social structures like those present in local communities. This is especially the case when groups in a given social system have specific social and economic interests and limit the social distribution of traditional ecological knowledge to their group, using it strategically to benefit their own interests (Sider 1986).

Ruddle (1993b) presents an example of how traditional ecological knowledge is linked to a community based fisheries management system. By limiting traditional ecological knowledge to networks of close kin, it is possible to exercise authority and power in the community. Thus, traditional ecological knowledge can be used as a means of exercising social control. Johannes (1989) shows how traditional ecological knowledge generates large taxonomic systems in a tribe in the Solomon Islands. He holds that the traditional ecological knowledge of the tribe is more inclusive and exhaustive than the knowledge of any marine biologist in the area. In another article, Johannes (1993) argues that traditional ecological knowledge often is developed

in accordance with the management routines of the tribe or community, thus confirming the findings of Ruddle (1993a). However, beyond exercising social control, the tribe uses this knowledge to secure their subsistence needs. In this case, traditional ecological knowledge represents the basis for tribal or community based fisheries management systems and contributes to resource preservation.

In the literature, there are few descriptions of the substance of traditional ecological knowledge. Most authors focus on the use of traditional ecological knowledge without commenting on precisely what it is that the resource users know. However, fragments of a complex understanding of the environment by resource users are described in some of the literature. In most places where fisheries represent the economic cornerstone, traditional ecological knowledge is knowledge of how to find and harvest fish. Johannes (1993) describes how tribal people locate spawning grounds. The fish school when spawning, and this makes it easy to catch large quantities with relatively little effort. This leads to knowledge of how and when species spawn. In sum, the need for subsistence goods and the experience of providing them generate a cognitive superstructure of traditional ecological knowledge where data on singular species and their corresponding attributes are systematized into a system, or theory, used for predicting occurrences of fish.

Eythorsson (1993) holds that fishermen in a community in North Norway have their «own» fishing spots - or territories. Fishermen have generated knowledge of currents, depth, temperatures and other geophysical attributes of fishing grounds. The complexity and variation in these geophysical attributes of the environment limit the validity of the knowledge to certain territories. Knowledge of the physical infrastructure which affects fishing in one spot is often inapplicable to another. Thus, when a fisherman tries to fish at another spot than his own, fishing tends to fail. In this sense, traditional ecological knowledge may be called local ecological knowledge since it has limited geographic and social validity. In this case, the knowledge includes an understanding of the effects that the particular physical infrastructure of the environment has on fish. The correspondence between the physical and dynamic attributes of the environment and the behavior of the species harvested must be understood as these represent an important basis for predicting fish occurrences. Traditional ecological knowledge also extends into geophysics, in the sense that the fishermen predict occurrences of fish based on environmental parameters.

Traditional ecological knowledge is often linked to a broader cultural framework in which the knowledge of nature is part of pantheist religions or embedded in other contexts of meaning,

identification and classification. The social substance of knowledge means that it is embedded in institutions where it can be transmitted and shared, either singularly or as part of a larger system of knowledge. A case in point is the recruitment patterns in fisheries. Knowledge of fishing has often been transferred from father to son; by fishing with the father, the son learns how and where to fish. He is introduced to the knowledge needed to be a fisherman. After some years of apprenticeship, the son may inherit his father's fishing operation or obtain one himself, and the process repeats itself in the next generation (Karlsen 1992). In this process, both learning by discourse and practice are involved. Traditional ecological knowledge is a «package» in which skills and knowledge are part of the social institutions of the community or tribe. In the following, the concrete manifestation of this knowledge among the fishermen in Codfjord will be examined.

## **7.2 Fishing Cod**

Fishermen from Codfjord mainly restrict their cod fishery to their fjord which stretches about 15 kilometers inland, and has several smaller sidefjords. In the fjord, settlements are scattered in clusters, mostly located in close proximity to the waterfront. People have used the fjord for hundreds of years; originally, those of Saami heritage settled in Codfjord (Bjørklund 1985). Their exploitation of the natural environment of the fjord has followed the «traditional» pattern of Saami fjordal fishing, which consists of using small vessels (15-35 feet), and tools such as gillnets, long lines and hand lines.

In the following, different activities related to finding and catching fish will be described. First, the use of gillnets is sketched, and the knowledge component of using this tool is introduced. Second, fishermen's prediction of the best fishing times is analyzed. Third, determination of the best fishing spots is explained with reference to the use of fishing tools and the fishermen's prediction of fishing times. These factors are given particular attention because they involve actions that employ traditional ecological knowledge according to the theoretical framework referred to above. Analysis of these activities and actions enables us to describe the substance of such knowledge. Finally, the fishermen's ecological actions are related to other variables. It is argued that a notion of a «modern» fisherman can account for some of the differences in ecological behavior among the fishermen.

### **7.2.1 Behavior at Sea**

Gillnets are the principal gear used by the Codfjord fishermen during the cod season. Gillnets made of cotton were used until the 1950's, when nylon nets were introduced in this region. Cotton nets absorbed water and were therefore heavy to handle. In the winter, they froze easily.



Nylon nets are several times lighter and much easier to work with. The fishermen say that the conversion from cotton to nylon nets represented one of the biggest changes in the local fisheries as major health problems from pulling heavy nets were reduced.

Parts of the fishermen's preparation involves attaching several nets to one another, thus forming a chain of 14 to 18 nets hooked together on a thick rope. Each fisherman carries between 5 to 20 chains, depending on how much effort is put into this activity and boat size. These chains are set manually, but are pulled by a hydraulic winch. When setting the net, fishermen first locate cod with the help of an echo sounder. This piece of equipment is indispensable because there is no other way of predicting the exact depth at which the fish are located. The fisherman then arranges the length of rope needed for the net, and is then ready to set it which is done by first throwing a large buoy into the water. The buoy has a long stick with a streamer attached at one end and a thick rope attached to a stone at the other. The rope, which is submerged in the water all the time, represents the end of the net and stays in the water vertically. The stone functions as the mooring of the net, anchoring it into position. The streamer identifies the owner of the net as each fisherman has his own color combinations and/or name/registration number painted on it. When the buoy is in the water, the fisherman starts moving the vessel slowly in the desired direction while setting the net. This is done until the end of the net is reached. A smaller buoy marks the end of the net. When pulling the net, the fisherman approaches the main buoy, stops the vessel, and takes it on board. The rope is then attached to a hydraulic winch. After pulling the rope, the net is reached. The fisherman releases the fish while pulling the net. The net is kept in one place in the vessel and catches in another. When he is finished, the net is ready to be reset. After the catches have been gutted, the fisherman is ready to go home.

Different technological innovations have changed the catching equipment. The transformation from cotton to nylon nets has already been mentioned, but the ease of handling nylon nets has also had consequences other than just those pertaining to reduced health risks. According to the fishermen, the energy saved by handling lighter and more practical nets was put into using more nets instead of making their work easier. Therefore, the fishery became more efficient. Also, new forms of technology have changed the cognitive foundations of fishing in Codfjord. Today, fishermen can locate the fish with the help of echo sounders. In the old days, fishermen had to rely on previous experiences and practices. By utilizing hydraulic devices, fishermen today have the capacity to set and pull more nets than before. Thus, they can afford a smaller catch-per-net ratio than their predecessors, who were naturally limited by their threshold of physical exhaustion. It is also evident that fishermen today are less dependent on traditional

ecological knowledge than their forefathers were, mainly because technology has replaced local experiences and practices as the only cognitive platform for the fishermen's orientation at sea. However, the form and content of the traditional ecological knowledge of fishermen in Codfjord are also related to the topography of the fjord and seasonal variations. These factors are discussed next.

### **7.2.2 Predicting Fishing Times**

Ocean maps reveal that the topography of the bottom of the fjord varies from steep underwater hills to shallow slopes covered with sand. In some places the sea stays calm most of the time, whereas in others streams and harsh winds make it hard to fish. The weather varies by season. In the summer, the sea usually stays calm. During the winter, especially in December and January, frequent blizzards make fishing difficult or impossible because the vessels are too small to handle such conditions. Although the weather is highly variable, it is also predictable due to its seasonal character. Due to years of experience with the weather conditions of the fjord, the fishermen know when and where the sea will stay calm. They also know when different species will usually be present in the fjord.

Several species of fish are harvested in the fjord, but the economically most significant is the Norwegian Arctic Cod. Cod is generally harvested during the winter. From February to May, all of the full-time fishermen in the sample, forty in number, are engaged in the cod fishery. The cod comes from the Barents Sea to the Norwegian coast to spawn in the winter. The spawning time for this species is also the period of the year when the full-time fishermen in Codfjord make most of their income. During the summer, occurrences of cod are few, and the few kilos landed are mostly by-catches. None of the fishermen target cod during the summer, but catch other species such as lumpfish and saithe. In the fall, the cod fishery rebounds, but catches consist of local cod (non-migrating cod which lives and spawns locally) and hardly ever Norwegian Arctic cod. From September to October, twenty fishermen, notably those who were called modern in the previous chapter, are involved in the harvest of local cod.

An analysis of the catch history of the present full-time fishermen reveals constancy over several years. Cod, saithe and haddock represent the most harvested species in the fjord, according to the number of fishermen involved. However, cod is by far the most important species economically. Seasonal variations are large, but these variations repeat themselves every year, and in this sense, the fishery remains relatively stable over years. Thirty-six of the forty fishermen who harvested cod in 1993 also harvested cod in 1985, twenty-eight of the thirty-two fishermen who harvested saithe in 1993 harvested the same species in 1985, while

twenty-two of the twenty-five fishermen who harvested haddock in 1993 also harvested this species in 1985. While the Codfjord fishermen's fishing pattern has remained stable over years, it also appears to be uniform across the population of fishermen. The fishermen tend to be involved in the harvest of the same species at the same time of the year. Claims that harvest cycles are relatively stable for most of the fishermen over the years should be made with one reservation however. As the sample does not include those who left the fishery over the period, other forms of harvest may have been omitted from the analysis. Nevertheless, records from the fisheries advisor show that the current general trends have remained stable for as long as forty years<sup>48</sup>.

In sum, stable seasonal variations make the prediction of good fishing times uncomplicated. The same logic applies to finding the best fishing spots. This is discussed next.

### **7.2.3 Finding Fish**

Knowledge of where to find fish in Codfjord is based on three main factors. One is that species arrive and depart from the fjord at regular times. The second factor is related to the migratory behavior of the species harvested inside the fjord; cod, saithe and the other species tend to stay in the same spots every year and these spots are known to the fishermen. The third factor is related to the topographic features of the fjord. The size of the fjord makes it possible for everybody to see where other fishermen set their nets. One may therefore estimate precisely where good fishing spots are without much prior knowledge of the fjord. The substance of these three interrelated factors will be discussed in turn.

First, the yearly cycles of different species represent the basis for the harvest pattern of the full-time fishermen of Codfjord. The harvest cycles of the fishermen follow the ecological cycles of the species harvested; their knowledge of these ecological cycles guide their ecological actions. At Christmas time, the fishermen prepare vessels and equipment for the months of January and February which is when the cod arrives. In April and May, some of the fishermen start preparing their lumpfish nets as the spawning season for this species is about to begin. In the fall, the fishermen prepare their vessels and nets for the arrival of saithe. In addition, some of the fishermen's involvement in other occupations follows the ecological cycles of the species that they harvest, for example, they may work as carpenters during the summer. The ecological stability of fishing minimizes the risk of reduced incomes, and allows for involvement in other

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<sup>48</sup> The fisheries advisor is a civil servant who is employed at the inter-municipal level for monitoring local fisheries, serving as a representative of the public fisheries authorities. See Appendix 1 for a closer description of the role of the fisheries advisor.

occupations. This factor is directly related to the second factor, migratory behavior.

Cod may be found scattered in small areas all over Codfjord. However, it is mostly harvested in two of its smaller side-fjords. Sometimes, the cod moves from one location to other, but migratory distances are never long (1-5 km). If fish are not found at one location, fishermen move to the next until they register on the echo sounder; this equipment is used to locate the exact depth of the cod and then the fishermen set their nets. The first vessel to arrive at the spot also has the right to use it in accordance with the first come - first served principle. The same procedure is applied in the harvest of saithe. This species is fished during the fall, and is again located with the help of the echo sounder. When asked why fish move from one spot to another, most of the fishermen admitted that they did not know. Most of them returned the question by asking why they would need to know this. The fishermen have adapted to the ecological cycles of the species harvested, basing their predictions on experience and not as a theory about the behavior of the resource and/or its interaction with other environmental factors. The fact that cod, saithe and other species are always found in a few selected areas every time makes locating the fish easy. By use of technical equipment such as the echo sounder, accurate predictions of occurrences can be made.

The geophysical attributes of the fjord is the third factor that has an effect on the fishermen's ecological actions. It is easy for outside fishermen to fish in Codfjord because most vessels are usually located in one or two clusters which are visible over long distances. By following local fishermen and setting his nets next to them, an outsider can be sure that his catch will be of the same size as those landed by fishermen from Codfjord. Fishermen from other places who harvest in Codfjord sometimes employ this strategy. However, in most cases, the outsider can simply ask someone where the local fishermen harvest, because the location of harvest grounds is commonly known in the community.

In sum, fishing - including finding fish and using the gear necessary – is rather uncomplicated in Codfjord. Can the ecological actions of the fishermen then be analyzed using a notion of traditional ecological knowledge, or are other concepts more suitable for analyzing their actions?

### **7.3 Knowledge, Experience and Territoriality**

The fishermen in Codfjord use the most recent types of technology. Echo sounders have significantly aided the search for finding fish. Hydraulic winches have improved the efficiency

of the setting and pulling of nets and have helped the fishermen to save energy. It seems difficult to relate the use of such equipment to traditional ecological knowledge. Instead of orienting actions in terms of a praxis that is derived from experience and interaction with nature, nature is seen through the lens of technology. It seems appropriate to use the concept of technical knowledge here since technical know-how is becoming increasingly important to the fishermen. It is not only important to know how to use the equipment, it is also important to understand the technical workings of such devices. In this way the fisherman can do repairs himself and save expenses. However, another aspect of this transformation is more important. Technology serves to change the cognitive basis of fishing. Since traditional ecological knowledge is also partly local knowledge as well, the fishermen's basis for knowledge about the sea had geographical limits. The technology employed, however, has no such limits since it works accurately independent of geographical settings. Thus, the technical modernization of the fishery serves to eliminate the local limitations of the fishery, as a more universal scheme of technological concepts is being employed. In spite of this modernization, the fishery does not only rely on the use of technical equipment. The fishermen orient themselves at sea on the basis of stable yearly cycles that make the prediction of fishing areas quite accurate. These predictions are so accurate that the fishermen are able to prepare their vessels and equipment, as well as their involvement in other occupations, before the fish arrive.

The Codfjord fishermen's experience of biological cycles does not imply a deep understanding of why these cycles occur and how they are interconnected with geophysical phenomena. The findings from Codfjord do not indicate that the fishermen's behavior at sea complies with Berkes' definition of traditional ecological knowledge. Codfjord fishermen have based their behavior on a set of empirical observations, that is experience, about the occurrences of fish – without constructing exact knowledge and/or a theory of how these observations are connected to one another. To be more precise, the fishermen in Codfjord only know where and when fish may be found, but they cannot explain why fish show up in certain spots, why they move and why they stay at variable depths. Neither can they explain how certain geophysical attributes of the environment, such as weather and water temperature, affect the behavior of fish. If one claims that an action is based on traditional ecological knowledge, one must also be able to show the knowledge component which guides the act. The fishermen in Codfjord cannot do this. This points to an important conceptual division that should be employed in the analysis of fishermen's behavior when fishing.

Being aware of where, when and how to find fish – that is, the fishermen's behavior towards the resource – is not necessarily based on knowledge or a theory of the ecological system of

which they are part. The fishermen in Codfjord have adapted their behavior to the empirical fact that fish are found at certain spots at certain times. This could be called ecological *experience* and should not be confused with ecological *knowledge*. As shown above, the fishermen orient their actions based on habits, experience and technology. Without any prior knowledge of the area, technology such as echo sounders locate the fish for the fishermen. Positioning devices remember exactly where it was caught. Hydraulic winches work for the fishermen, while relatively new, stable vessels provide a comfortable and safe work-environment in bad weather. In sum, few of the actions of the Codfjord fishermen can be traced back to any form of traditional ecological knowledge. However, some of the fishermen from Codfjord are Saami. Today, they combine a traditional occupation with modern technology. Because of this historical dimension, one should leave open the possibility that they may have based their actions at sea on traditional ecological knowledge. However, technical modernization serves to disconnect the Codfjord fishery from its local sphere of application, bringing it into a conceptual scheme of a more universal character. In this sense, the rationalization of the fishery makes the fishermen's concept of nature more technical or scientific. Thus, the Weberian notion of rationalization is also reflected in the relationship between fishermen and nature, as the fishermen view nature through the lens of technology.

Eythorsson (1993) argues that fishermen in a community close to Codfjord practice a territorial system. The system is based on the gatekeeping of traditional ecological knowledge, and fishermen are excluded from fishing by excluding them from the flow of information. The fishermen in Codfjord argue that a territorial system has never been practiced in their fjord. According to them, it would be impossible to create an informal system of territoriality as long as the harvest is based on adherence to commonly known ecological cycles. These cycles are not only known among the Codfjord fishermen; interviews show they are generally known by those fishermen in the region who go to Codfjord during the cod-season. The fishermen's claim is also substantiated by the fact that the harvest cycles of fishermen in Codfjord co-occur with the Lofoten- and Finnmark fisheries in which several thousand fishermen participate. Traditional ecological knowledge can thus not represent a barrier to entrance and/or participation in the local fishery. All the fishermen in the sample were asked whether any form of territoriality, or any other social institutions based on local traditions in the use of natural resources limited their harvest in Codfjord or elsewhere. They all denied the existence of any institutions of this type, holding that access to the fjord is open to everybody who wants to fish there.

The open access to Codfjord as a fishing ground can be viewed as a result of the traditions of

migratory fishing. Fishermen from Codfjord have a long tradition of fishing together with fishermen from other communities. Some of the fishermen used to go to the Lofoten Islands during the winter months and to the coast of Finnmark in the early spring. Even though the fishermen stopped migratory fishing for economic reasons and because of the introduction of the quota- and limited entry system, the social traditions and the culture of migratory fishing remains present in the population of fishermen in Codfjord. When going elsewhere, fishermen from Codfjord established friendships with fishermen from other places. Exchanging information about the fishery was a part of social conversations. These social relations resulted in reciprocal ties where if you visited one fjord, this would be returned by visits in your own fjord. Fishing away from home often occurred in conjunction with visiting friends and family living in other places. In sum, open access is one of the basic attributes of the institutional aspects of migratory fishing. Fishermen from different districts fish in each other's fjords and this interaction serves to maintain social relations between friends. As fishermen from one place harvest areas which are located near several different resource communities throughout their career, a large web of social relations develops into a system of open access. Fishermen harvest wherever and whenever they want, because nobody sees themselves as having a right to exclude others. Thus, reciprocal social relations are not connected to reciprocal rights in this case, as nobody is in position to grant rights in the first place. In addition, exclusion would be hard to enforce because you never know when the fish resource becomes abundant in another fjord. Also, the fact that it is generally easy to find fish makes it hard to exclude others.

Seen in relation to the literature reviewed at the beginning of this chapter, the current Codfjord fishery is based on other forms of knowledge than that usually assumed among small-scale fishermen, especially because the fishermen are dependent on technology for finding and catching fish. There are many reasons why the fishermen have adopted different types of technology. Some types, for example automated cabin-heaters, contribute to a more comfortable work environment. Other types, such as echo sounders and hydraulic pulling and setting devices, increase the efficiency of the fishing operation. However, it does not appear that the Codfjord fishery had adopted an exceptional amount of technology. There is nothing in special about the fishery that triggers a need for more technology, either. One may therefore look for other explanations than the special features of the Codfjord fishery. It may very well be the case that the fishermen have started to use some of the technological devices without considering their consequences, or without having had a particular need for them. Like everybody else, the fishermen are subjected to the marketing efforts of several companies that attempt to sell technological innovations. When some fishermen start using new devices, others soon follow. This may be the reason why so many fishermen have advanced navigation

equipment that they hardly ever use. It does not seem necessary to use satellite navigation equipment when fishing 10 minutes from the home harbor. However, knowing how to use this equipment enables the fishermen to fish in other, unknown areas if they want to. The fact that the knowledge base of the fishermen is no longer limited to local, known areas is also the foremost consequence of use of technology in the Codfjord case. All these technological devices have given the fishery a more universal character, making it possible to find and catch fish virtually unrestricted by locality. The form of universal knowledge that is generated from these actions is one of the facets of a rationalized world as it appears in Weber's perspective. Knowledge, just as other cultural expressions, becomes increasingly homogenized and invariable, serving to lift the actor from his particular local affiliation to a more universal level. While the fishermen in Codfjord are by no means in possession of universal knowledge, they are a part of the process since their ecological actions follow prescriptions derived from universal technologies.

On the other hand, actions are limited by normative orders that sanction unwanted behavior by imposing standards for normatively valid behavior. The next chapter analyzes some of the norms in which economic actions in Codfjord are embedded.



## Chapter Eight

### Direct and Transitive Authority

In this chapter, authority is analyzed by tracing relations of social control in one village in Codfjord, contrasting the effect of the legal authority of the vessel quota system with local relations of authority. This will help assess the extent to which the fishermen find legal and/or traditional authority legitimate, and the factors that affect whether they subject themselves to these forms of authority. Government initiated fisheries resource management systems control fishermen by subjecting them to a social order that represents a legal authority guaranteed by law. Fishermen are assumed to ascribe legitimacy to the order by legal enactment. In contrast, in an extra-legal fisheries resource management system, fishermen are subjected to and controlled by a social order that represents a traditional authority which is guaranteed by convention. In both cases, the relations of authority to which the actors are subjected may be called *direct*, because the management systems can affect the behavior of the fishermen by direct intervention in their actions. However, a third type of authority may also be present. Authority in one social field may be transferred into other fields. For example, those who have authority in religious spheres may extend their authority to the fisheries of a community. This form of authority may be called *transitive*.

The economic behavior of the fishermen will be seen in relation to the distribution of authority in the community. This will be accomplished by means of a network analysis and by examining ethnographic data. First, the main concepts used in network analysis will be presented along with their specific operationalizations<sup>49</sup>. The sample of people studied is changed from all full-time fishermen in Codfjord to a population living in one small village in Codfjord; this facilitates analysis of the patterns of relationships among both fishermen and other inhabitants. The village will be called Seglvik. Second, economic behavior is seen in relation to the different forms of authority that control the fishermen's behavior. The distribution of jobs will be used to illustrate this phenomenon. The chapter concludes with a discussion of how the behavior of the fishermen is guided and controlled by both direct and transitive authority, and the effects of the vessel quota system versus other forms of authority in the network will be analyzed.

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<sup>49</sup> The concepts are provided along with operationalizations in the same section because they are inextricably linked.

## 8.1 Some Important Concepts and Constructs in Network Analysis

Often, the purpose of network analysis is to detect and explain how populations of individuals become segregated into groups and cliques. This may be called the study of how social stratification is generated at the actor level. In both modern and classical social science, social stratification has been defined and interpreted as the basis of the formation of groups (Mead 1990), classes (Marx 1967), segments (Edwards 1979), and social strata (Edwards, Reich, and Gordon 1975) in society. Various theories have attempted to explain how members of society become divided into groups that often share social, cultural, economic, and/or ethnic characteristics. The following discussion will be limited to network analysis (Burt et al. 1982, Freeman, White, and Romney 1992, Knoke and Kuklinski 1982, Marsden and Lin 1982, Wasserman and Faust 1994). Following this tradition, the concept of social stratification will be used synonymously to the concept of group structures in this chapter.

Lorrain and White (1971) discuss how groups can be regarded as aggregates of the structural characteristics of each of the individuals in the group; these authors formulate and develop a model for understanding groups as analytical and empirical units. Group-members share structural characteristics by having the same relations to others and each other, and relational variability leads to the development of distinctive subgroups (Boorman and White 1976, Burt et al. 1982, Johnson 1986, White, Boorman, and Breiger 1976). This model is called a blockmodel, which consists of detecting subgroups by calculating the convergence of iterated correlations in a sociomatrix (Wasserman and Faust 1994, 376). The result is an image of the various positions that groups in the network have to each other. Some of the authors who have written within this tradition are especially concerned with how roles are assigned reciprocally between the members of the. In addition they are concerned with how groups are structured in relation to each other (Freeman 1978, Freeman, Roeder, and Mulholland 1979).

The conceptualization of the «structural characteristics» and their relation to group characteristics has been an object of controversy among those interested in network analysis (Freeman 1978). Concepts such as «centrality», «role», «groups» and «information» are all related to the concept «authority». Centrality remains one of the most important concepts in network analysis, as it serves to measure one aspect of authority. By using direct and/or indirect social relations as an indicator of centrality in a network, the relational aspects are captured in relatively concrete observable patterns of behavior (Granovetter 1992). Social relations and attitudes often come in sets. It is likely that if we find one individual with a specific set of behavioral attributes, we also find these attributes across a group of individuals that have a

similar, but not necessarily identical, set of social relations to the same others. For example, those who are religious are also likely to have the same views on abortion, divorce and remarriage, and gender roles. If those who are religious are members in a network and they have the same relations to the same others, they are also likely to have social relations with each other. Variations in attributes and behavior occur, but they rarely appear as singular attributes. Rather, they come in sets that reflect the individual's position in the social system.

While sets of behavioral attributes represent one issue, sets of social relations represent another, related issue. People with common interests tend to aggregate themselves into groups. Consider the example in the previous paragraph, and assume that it represents an «average» community in North Norway. In that case, we expect to find that those who have similar religious attitudes cluster together in distinctive subgroups in the population. However, this does not necessarily mean that they do not relate to other groups in the community. For example, some of those who are religious may also be fishermen. If the fishermen in the community cluster together in one group, that is, they relate to each other, groups within the community overlap. Overlapping group membership is one facet of multiple roles, that is, the phenomenon that one person's relations vary in content from one relationship to another (Goffman 1969). The concept of centrality captures the authority involved in these aspects of social relations because the probability of achieving authority increases with the number of social relations in which the actor is involved and also with the number of which the actors belongs.

Among other things, Freeman's (1978) relational approach to group characteristics measures one member's centrality in a group relative to that of the other members in the same group. Freeman is concerned with how social control is exerted in social networks, focusing on how some members in a group control other actors. To illustrate the notion of centrality, an example of rudimentary centrality is in order. Group  $G$  consists of 20 members. In this group, 12 members refer to actor  $k$  as the leader of the group, and 5 refer to actor  $l$  as the leader of the group. According to this approach, actor  $k$  is more central in  $G$  than is actor  $l$ . Freeman discusses how different forms of centrality are generated in groups, depending on the route that a social relation has through the network. These forms include centrality as control, centrality as independence, and centrality as activity (Wasserman and Faust 1994). Of these measurements, centrality as control and centrality as activity are used in the following analysis since they, in combination, capture some of the aspects of authority that are related to group inclusion and exclusion. Centrality as control has to do with how much control one member of a group has over other the members of the same group. This can be revealed by accounting for the social relations that pass through the particular actor. This form of centrality is also referred

to as the *betweenness centrality* of the actor and is operationalized as:

$$C_B(n_i) = \sum_{j < k} \frac{g_{jk}(n_i)}{g_{jk}},$$

where  $C_B(n_i)$  is the betweenness centrality of actor  $n$  of  $i$  possible actors,  $g_{jk}$  is the number of communication paths between actors  $j$  and  $k$  in network  $g$ , including indirect communication paths.  $g_{jk}(n_i)$  is the number of communication paths between  $j$  and  $k$  in which actor  $i$  occurs between these actors; in these case  $i$  can control communication between  $j$  and  $k$  because their communications go through him. The betweenness centrality is an index of the sum of the relative number of communication paths going through  $i$  proportional to the number of communication paths between any  $j$  and  $k$  in  $g$  (Wasserman and Faust 1994, 190). In order to account for group size, normalized betweenness centrality is used. This coefficient,  $C'_B(n_i)$  is arrived at when dividing  $C_B(n_i)$  by the possible number of pairs, not including  $n_i$   $[(g-1)(g-2)/2]$ . This yields a centrality index of the network with a minimum of 0 (not a member in any relations) and a maximum of 1 (member of all relations) (Ibid. 190).

Centrality as activity reflects how relationally active one member is compared to other members of the same group. This is referred to as the *degree centrality* of the actors. In the standardized form,  $C'_D$ , that accounts for the size of the group, this is defined as (Wasserman and Faust 1994, 179):

$$C'_D(n_i) = \frac{d(n_i)}{g-1}, \text{ where } d(n_i) = \sum_{j=1}^L I_{ij},$$

where  $I_{ij}$  represents the sum of the relations that the  $ij^{\text{th}}$  element in  $\mathbf{I}$  have to other actors in  $g$ .  $\mathbf{I}$  is an incidence matrix showing the incidence of relations between those members of  $g$ .

While the different forms of centrality give an indication of authority, other measurements are used to analyze group patterns in networks. Lorrain and White (1971) and Burt et al. (1982) approach social networks from the point of view of structural equivalence. This approach measures how two or more actors relate similarly to a specific set of other actors; that is, if actors  $i$  and  $j$  both refer to actors  $a$ ,  $b$ ,  $c$ , and  $d$  as their friends,  $i$  and  $j$  are structurally equivalent. In the present analysis, structural equivalence is operationalized using the Pearson product-moment correlation coefficient as the measure of identity in social relations to the same set of other actors. If the relations of  $i$  and  $j$  are identical, then  $r_{ij}=1$ . If they are not identical at all (no match of similarity in relations),  $r_{ij}=0$ . Rewriting the Pearson product-

moment correlation to fit the network notation used above, the  $ij^{\text{th}}$  correlation coefficient in the matrix of correlation coefficients shows the structural equivalence of actors in the network; this may be generally expressed as (Wasserman and Faust 1994, 368):

$$r_{ij} = \frac{\sum (x_{ki} - \bar{x}_{\cdot i})(x_{kj} - \bar{x}_{\cdot j}) + \sum (x_{ik} - \bar{x}_{i \cdot})(x_{jk} - \bar{x}_{j \cdot})}{\sqrt{\sum (x_{ki} - \bar{x}_{\cdot i})^2 + \sum (x_{ik} - \bar{x}_{i \cdot})^2} \sqrt{\sum (x_{kj} - \bar{x}_{\cdot j})^2 + \sum (x_{jk} - \bar{x}_{j \cdot})^2}},$$

where  $\bar{x}_{i \cdot}$  represents the mean of the values in row  $i$ , and  $\bar{x}_{\cdot i}$  is the mean of the values in column  $i$ , when diagonal elements (self-loops) are excluded. During the analysis, the structural equivalence of the actors will be presented as a multidimensional scaling (MDS), which plots the correlation matrix in a two-dimensional vector space (Kruskal and Wish 1978).

The measurement of social relations is one of the largest problems of network analysis (Granovetter 1981; Kumbasar, Romney and Batchelder 1994). Here, it is assumed that social relations are non-directional. That is, it is assumed that whenever people have a social relation, it exists for both actors in the relation. The criterion here is that both actors independently refer to each other, after everyone in the sample had been asked to name everybody to which they have a social relation. This approach has been chosen because there may be many reasons why people ‘receive’ relations from people to which they do not relate themselves. They may forget them, take them for granted, hide the relation, or not acknowledge the relation; there may also be measurement errors made by the researcher. On the other hand, there are many reasons why actors claim relations that are not reciprocated by the other actor. Isolated individuals may not want to give an impression of being isolated, others may try to hide conflicts or to appear as more important than they are. All such factors may lead to an asymmetric image of the network in which many ties appear to be directional. Therefore, an analysis based on directional measurement of social relations may turn into a situation in which the researcher ends up examining the reasons why individuals do not refer to actors that referred to them. While such analyses certainly may be interesting, the objective here is not to discuss the background of non-reciprocal ties. Rather, the objective is to sketch the relational skeleton of the community, as it appears when only the acknowledged relations are included. Thus, the analysis of this section is more conservative than if directional ties had been used, because a stricter criterion is employed to select relations.

Some of the network literature is based on analyses of the effect of strong and weak ties, implying that it is possible to differentiate the quality of social relations (Granovetter 1974).

However, there are some fundamental problems related to measuring social relations. To illustrate the problem, consider an example. A person, A, has a friend, B, who helps him through school by tutoring him in mathematics so that A can study engineering after high school. A's grandfather pays for accommodation, groceries, and other living expenses during high school. A likes his grandfather and B equally much. To whom does A have the strongest tie? Say that these ties are regarded as equally strong. In that case, one ignores that the content of the relations is different, pushing the measurement problem one step further. In this case, it is a problem to consistently argue which contents of a social relation can be regarded as identical in importance and which cannot. One must argue that the help that A receives in the form of mathematical tutoring, which may ultimately be determinative for A's career, and the financial support from the grandfather, which will also be determinative A's career, are identical. However, how can they be regarded as identical when their contents differ? Thus, assume that they are regarded as non-identical ties and can be ranked on a scale. Another problem occurs in this case, because one must select a criterion that differentiates between the relations. If the frequency with which the relation is active is used as a criterion, the actor is more strongly tied to his friend than his grandfather. If kinship is used as a criterion, the opposite would be the case. If financial support is ranked higher than mathematics tutoring, the A-grandfather relation is stronger. In short, an infinite number of criteria exist that could be used; this makes it difficult to rank ties. Here, the measurements used assume that relationships are binary. That is, they either exist or they do not, and all sorts of ties are regarded as equally strong. While this approach certainly misses the finer points of social relations, it serves to give more conservative measurements because the strengths of ties are not evaluated. Rather, ethnographic data is used to examine the relations and to discuss their contents. Consequently, the  $i^{th}$  row is identical with the  $i^{th}$  column in the adjacency matrix, that is, the matrix of the social relations in a network which represents the social relations between actors in the network. Specifically,

$$(R_{i1}, R_{i2}, R_{i3}, \dots, R_{ig}) :: (R_{1i}, R_{2i}, R_{3i}, \dots, R_{gi}),$$

where  $R_{ij}$  is a relation from actor  $i$  to actor  $j$  and  $R_{ji}$  is a relation from actor  $j$  to actor  $i$  in network  $g$ .

Social control is the phenomenon in which individual behavior is controlled by the social environment, such as the other actors in the network. An actor's behavior may be controlled in a variety of ways: physical and psychological punishment, legal prosecution, isolation from information, and the like. For the purposes of this section, we may differentiate between formal

and informal social control. *Formal social control* is the form of behavioral restriction that is institutionalized and enforced by public institutions such as the court system and the police. This concept is an operational derivative of authority guaranteed by law. *Informal social control* is the form of behavioral restriction which has been institutionalized and enforced in groups, local communities, families or any other informally organized social institutions. This concept is an operational derivative of authority guaranteed by convention. These conceptual differences will be utilized in the analysis.

## 8.2 Economics and Religion

The sample used includes 32 persons living in a village in Codfjord. This village is geographically delineated from the rest of the settlements in the fjord, as it is only accessible by boat. Minors below ten years of age and persons who are infrequent inhabitants of the studied location were excluded from the sample. Among the 32 individuals comprising the network sample, there are eleven fishermen. The remaining 21 persons are relatives of the fishermen. While the unit of analysis for most of the present study is fishermen, a change of focus is necessary in this section. Social networks focus on relations *between* individuals, and not individuals *per se*. Since individual actions in this framework are examined from a relational perspective, it is social relations which comprise the unit of analysis. Since both direct and indirect relations are of equal importance, everyone's relations are of equal importance (cf. operationalizations of centrality and structural equivalence). In order to protect the integrity of the informants, all names used in the analysis are fictitious. The naming follows a system whereby those who are part of the same family have identical first letters in their names. Thus, names starting with the letter A represent one family, names starting with the letter B represent another family, and so on. In the following, the group structures of the community will be presented and analyzed, focusing on structural equivalence among the actors. The focus of the analysis will be economic and kinship ties since these are the overall focus of the study.

This village population has received some attention in recent years because it is one of the few remote communities along the Norwegian coastline where the population has increased. The concept «remote» refers to communities that are only

**Table 8.1 Actors and primary families**  
**Name**

1-Arne  
1-Astrid  
2-Bjørn  
2-Bjørge  
3-Chris  
3-Carla  
4-Dag  
4-Dagros  
4-David  
5-Dagobert  
5-Dagrun  
6-Dino  
6-Dina  
7-Ditmar  
7-Dorthea  
8-Eric  
8-Edvarda  
8-Eskil  
8-Egil  
8-Elly  
9-Egon  
9-Elvira  
10-Emil  
10-Eldrid  
11-Dolly  
12-Frank  
13-Gunda  
13-Gunnar  
13-Gustav  
14-Hallvard  
15-Hubert  
16-Heidi

infrequently accessible by boat, and never by car. The most common occupation among males in Seglvik is fishing. Some of the fishermen combine fishing with farming, while others are retired, on welfare, or are unemployed. Farming is the most important form of employment for women as they are, in many cases, responsible for the farming part of the household economy. Some of the women have also started producing home crafts, such as woolen gloves and socks. These are sold privately or through a sales organization for home crafts.

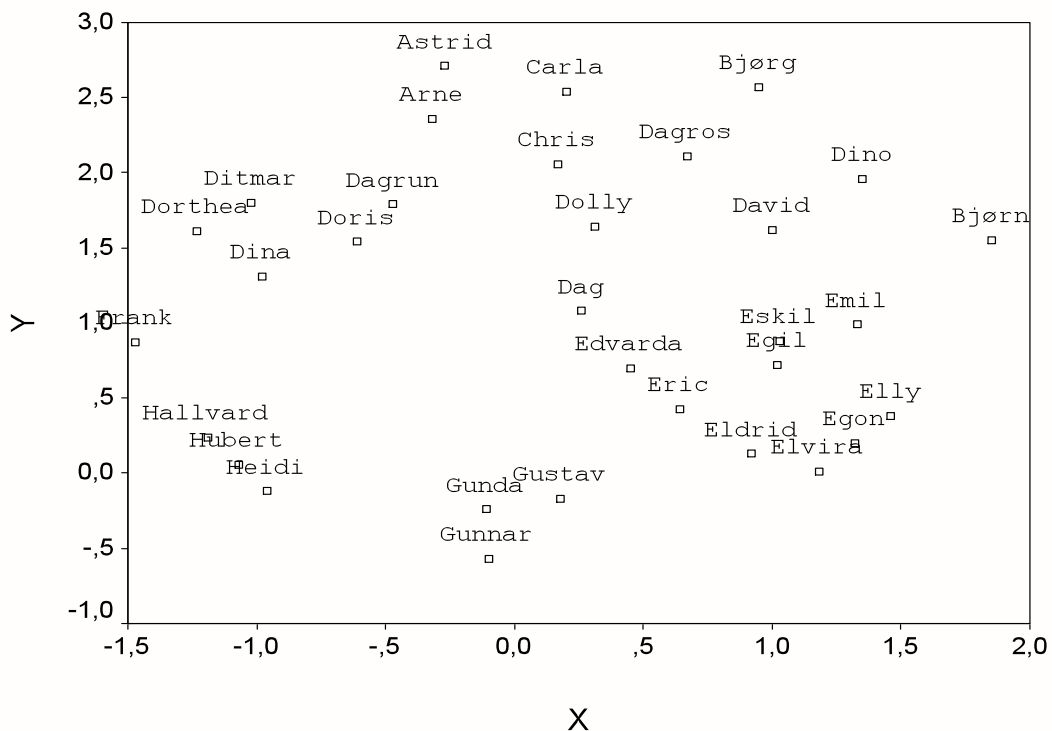
The population comprises 16 households, which are shown in table 8.1 by the number that precedes the name. These households stem from eight families, but some of the children have established households of their own. The oldest members of the D family consist of two brothers and the widow of a third brother. Dag and Dagros have one son, David. Dagobert and Dagrún have two sons, Dino and Ditmar. Dino is married to Dina while Ditmar is married to Dorthea. Both sons live in separate households with their families. Eric and Edvarda have four sons, Eskil, Egil, Egon and Emil. Egil is married to Elly, Egon is married to Elvira while Emil is married to Eldrid. Everybody but one of the sons lives in separate households. The families ranging from C to G are related in that either the wife or the husband of the household is the sibling of one person from one of the other households. Gunda, Carla, Dag, Dagobert and Edvarda are all siblings. Dolly is the widow of another of these siblings, and lives by herself. However, the father of these siblings was married several times and some of the siblings are only half-siblings. They also have siblings in other communities in the municipality. Most of the other older inhabitants in Seglvik have lived there all their life, while most of the younger persons have lived outside Seglvik for periods, such as when they were getting an education. Geographically, families A, B and C live on the north side of the main settlement. D through G live in one cluster of houses, constituting the main settlement in the community. Here we find a port, fish houses, and a small grocery store. The remainder of the population, family H, lives in separate houses on the southern side of the main settlement.

Everyday life in Seglvik is peaceful and relaxed. While most fishermen in Codfjord start fishing at 06.00 in the morning, the fishermen from Seglvik wait until sometimes between 09.00 and 10.00 am. If the weather is rough or rainy, most of the fishermen from Seglvik stay at home rather than pulling their nets. At the same time, sheep live outside for most of the year, while other farmers in the fjord place them in barns during the winter. All these attributes give the impression that the inhabitants live according to their own pace and have developed their own working rhythms. At the outset, the population seems culturally homogeneous because they have similar occupations, habits, clothes, and even a dialect distinct from the rest of Codfjord. Figure 8.1 is a multidimensional scaling of the relations between the inhabitants of



the island based on the computation given in equation 3.

**Figure 8.1 Structural Equivalence of Actors in Seglvik**



First, structural equivalence in the community will be examined in relation to family ties. The rings in figure 8.1 are drawn by freehand to show the main family patterns in the population. In group 1, Gunda is an older woman living together with her two sons Gustav and Gunnar. Gunda is retired, Gustav runs a small farm and fishes on the side while Gunnar is a full-time fisherman. In group 2, Hallvard, Hubert and Heidi are all members of the same family. Hallvard and Hubert are brothers, but only Hubert, who is retired, lives permanently in Seglvik. Hubert lives most of the time in Seglvik, but works occasionally outside of the village. Heidi, who is also retired, was married to the brother of Hallvard and Hubert, but her husband is deceased.

Group 3 consists of Edvarda, Eric, Eskil, Egil, Elly, Egon, Elvira, Emil and Eldrid. All are part of the same family, as Edvarda and Eric are the parents or parents-in-law of the rest of the group. Edvarda is unemployed while Eric runs the local fish house. Egil and Eskil own and run a fishing operation together, while Elly occasionally works at a processing plant in another part of Codfjord. Egon and Elvira have just moved to Seglvik after living outside the community for a while. Egon owns and runs a fishing operation together with his older brother Emil. Emil is

married to Eldrid, and they have three children together. The high structural equivalence of this family may be traced back to several factors. Each of the four brothers runs his fishing operation together with one of the other brothers, and all four often fish together, departing from and arriving at the port at the same time. In addition, their parents often take care of the grandchildren in the family. Thus, most family members relate to the same others, and these are mostly members of their own family.

The next family cluster, called group 4, consists of Dorthea, Ditmar, Dina, Dagobert, Dagrún, Dag, Dolly, Dagros, David, Dino and Frank. Dagobert and Dag are brothers of approximately the same age. Both are fishermen in their sixties, and spend a lot of time together. Dagobert and Dagrún have two sons, Dino and Ditmar, who have both established their own households. Dino is married to Dina, and they have two children together. Dino runs a fishing operation together with his father. In addition, Dino runs the local grocery store together with his wife, who is also in charge of the local firm which produces home crafts. Ditmar is married to Dorthea. Ditmar combines fishing with farming, but it is his wife who is responsible for the farming part of the household. Dag is married to Dagros, and they live together with their son David. Dag and Dagros combine fishing with farming, but Dag seems to be the one who is responsible for both activities. Their son, Davis, is the local mailman and caretaker of the port. Dolly is the widow of Dag and Dagobert's brother. The final member of this family group is Frank who is a retired widower living alone. This family group is relatively heterogeneous with regard to their relations to the same others, especially when compared to group 3. The differences in this group regard how and why they relate to the members of groups 1, 2 and 3. These relationships will be returned to below.

Group 5 consists of people who live outside of the main settlement, and comprises three families. Chris and Carla are married and live a few kilometers from the main settlement. Chris has a small fishing operation that he runs in addition to the largest farm in the village. The responsibility for the farm, which amounts to about fifty sheep, is shared between the couple. Chris and Carla are neighbors of Bjørg and Bjørn, and are tied together by the bond of neighborhood because they visit each other frequently. In addition, Bjørn occasionally helps Chris to fish. Bjørg is Bjørn's mother. She is divorced and lives alone most of the time since Bjørn frequently works outside of the community. However, Bjørn has been unemployed for long periods; when he is unemployed, he prefers to stay with his mother. Astrid and Arne are two older siblings who live about five kilometers from the main settlement. Both are in their seventies and retired. While not involved in any economic activities at the time of the fieldwork, Arne owns large areas of grazing land that are partly rented by Chris. This ties Arne

to Chris. In sum, most of the members of group five seem to be tied together by both social and economic relationships.

To some extent, group patterns in Seglvik follow family patterns. However, other bonds are of importance because different economic and social factors reinforce family ties. Economic ties can be observed where brothers and fathers run fishing operations together, or where families run farms together; the latter largely applies to mother and daughters-in-law, with the exception of Chris who runs a farm with his wife. Also, other social bonds serve to tie families together. Grandparents take care of their grandchildren if necessary. Different leisure activities such as shooting and hunting are usually done collectively. Despite being 32 persons, they are able to run several different organizations. For example, they run a rifle club that arranges different activities, as well as a home crafts union; the people who belong to this meet in a house that has been built using voluntary communal work. The joint effect of these relations is a community that is strongly tied together. However, several conflicts can be found if one tries to trace some of the singular relations between the members. This is the subject of the next section, where some of the factors that generate non-equivalence between families and persons are examined.

### 8.2.1 Getting a Job: Opportunities in the Network

The concept «nepotism» is used to refer to the phenomenon in which individuals who have a central structural position use this to give preference to their own kin when distributing scarce social goods. While the use of the concept has negative connotation in everyday use, it will only be used to refer to kinship preferences in the distribution of social goods in this section. The social good discussed here is employment. Not counting self-employment, the local labor market

in Seglvik is small; five positions are financed or subsidized by public funds, and these jobs are considered attractive because they are the only jobs that yield a stable income. Thus, when fishing or farming is bad, the holder of one of these jobs has a constant income that she/he can rely on. The analysis shows the correspondence between the likelihood of getting one of these

Table 8.2 Centralities

Name	Degree	Between
Arne	.2258	.0178
Astrid	.0968	.0000
Bjørn	.1613	.0060
Björg	.1613	.0041
Chris	.3871	.0566
Carla	.2258	.0146
Dag	.6129	.1623
Dagros	.2581	.0088
David	.3548	.0156
Dagobert	.3548	.0401
Dagrun	.3226	.0307
Dino	.3226	.0215
Dina	.2581	.0153
Ditmar	.2581	.0105
Dorthea	.1613	.0000
Eric	.4516	.0343
Edvarda	.5484	.0985
Eskil	.4839	.0427
Egil	.4839	.0427
Elly	.2581	.0000
Egon	.2581	.0000
Elvira	.2581	.0000
Emil	.4194	.0264
Eldrid	.3226	.0117
Dolly	.3871	.0245
Frank	.0645	.0000
Gunda	.1613	.0030
Gunnar	.0968	.0000
Gustav	.2258	.0091
Hallvard	.0645	.0000
Hubert	.0645	.0000
Heidi	.0645	.0000

jobs and the individual's structural position in the community; this, in turn, demonstrates the correspondences between local culture, authority and economic opportunities.

In table 8.2, the degree centrality measure shows that members of families D and E are especially connected to the network. With the exception of Chris, the other families are marginally connected to the network compared to families D and E. This is partially explained by the fact that the members of these families have relations to each other. Because these families are larger than the other families, the members of families D and E will consequently have more ties. The fact that the degree coefficients represent a more direct measurement than betweenness centrality is reflected in a wider range among the between centrality coefficients. The between coefficient may be regarded as a measurement designed to detect so-called «bridges». Bridges are actors who tie together other actors who have no direct contact; they are thus mediators. Three persons, Chris, Dag and Edvarda have such a role, as they appear in between many sets of relations. As a group, these three persons are characterized by being some of the older persons in the community. They also have important roles vis-à-vis actors in the rest of the community. These roles will be reviewed in turn, and then employment opportunities will be discussed.

Both Dag and Edvarda have mediated in a conflict involving Dagobert and Gunda, as well as their respective families. All of these individuals are siblings. The conflict has its source in old inheritance problems. While the substance of this conflict is irrelevant for the rest of the analysis, the centrality of Dag and Edvarda may be attributed to the fact that they have contact with clusters that do not have any contact with each other. This is also the reason why they are relatively structurally equivalent. While this seems to be the main explanation for Edvarda's high centrality, there are additional factors that make Dag central. Dag's important position in the community seems related to his political involvement and religious position. Dag is the only person from Seglvik who holds a political position in the local government; specifically he is on the board of politicians that deals with church and religious questions in the municipality. Religious involvement is important for many people in Seglvik, because many are Læstadianists. By representing Seglvik among the religious élite of Codfjord, Dag is regarded as an important person in his home village. Dag also has political influence in Codfjord as he is often the representative from Seglvik who meets in the municipal assembly. In this assembly, goods, such as roads, kindergartens and other forms of publicly financed infrastructure are distributed among the communities in Codfjord. Dag's son David has a less central position in the network. In addition to being responsible for shipments to and from the local port, David holds the position of mailman in Seglvik. These are two of the five jobs in the public sector in

the village. Because David is the mailman, and therefore visits every household regularly, he, and consequently his father as well, is informed about many of the happenings in Seglvik. Dag is the brother of Dagobert. Dagobert's between centrality score is significantly smaller than that of his brother. This may be due to the conflicts that he is involved in. However, because he has such a close relationship to his brother, Dagobert knows much of what Dag knows; they are also tied through having organized several projects in the village together. The first was the establishment of a fish house, in which the families in the village are shareholders. The fish house serves as a landing station for the fishermen in the village, but also for other fishermen in the fjord. It was built by a voluntary communal effort. Their second project was to build a house, together with others, where the production of home crafts could be located. Previously, the women in the village worked on their home crafts in an old house that became inadequate when production volumes increased. Dag and Dagobert then initiated the construction of the house. Even though Dagobert holds a lower structural position than his brother, he remains an important factor in the community because he can state his views through his brother.

This is partly reflected in the economic position of Dagobert's son, Dino. Dino has the largest and most expensive boat of all the fishermen in Seglvik, he lives in one of the newest houses, he owns the local store and his wife is in the charge of the home crafts business on the island. When Dino bought a new boat, his father helped him to finance it. When the grocery store was established, the decision as to who should be allowed to run it was taken by the local council where his uncle is a representative. The store, which is subsidized by the municipality, represents extra income<sup>50</sup>. As Dag and Dagobert had organized the construction of the house for home crafts, they also had a say in the discussion about who should run it. The position, which is partly sponsored through different public funds, was given to Dino's wife. In sum, the sons and in-laws of these two brothers fill four of the five publicly sponsored employment positions available in the community.

The third person with a high centrality score is Chris. His position may be traced back to his religious involvement. Particularly among the older generation one finds Læstadianists who belong to the conservative fraction of the movement. Chris aspires to be the religious leader in Seglvik, but faces competition for this position from some of the other elders, notably Dag and Dagobert. It seems that some of the elders compete to be the most religious. When they discuss religious matters, they try to outdo their opponents by presenting viewpoints that are more conservative than the last speaker. It is important to note that only men participate in these

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<sup>50</sup>The grocery store is subsidized by the local administration as an instrument for maintaining the settlement in Seglvik.

discussions since women are excluded from leading positions within the Læstadianist congregation. This competition among the Læstadianists in Seglvik escalated during a discussion about where church services should be held. There is no church in Seglvik and consequently the services needed to be held in someone's home. Here, Chris won an important victory, since the minister in the municipality chose to hold services in his and Carla's house. According to Chris and Carla, the reason for the minister's choice was that they were the only ones who had an electric organ, and this is an instrument that is frequently used during Læstadianist services. The overall consequence of this is that the rest of the Læstadianist population in Seglvik must go to Chris and Carla's house for services. This is reflected in a high between centrality score. It is also reflected in some of Chris' economic actions. In addition to being the religious leader, he is also responsible for clearing the roads in Seglvik of snow. This is the fifth and economically most significant of the jobs funded by the public purse, as it gives the holder a free tractor. This has many economic advantages, because a free tractor saves the holder of the job an investment of about 200 000 NOK. In addition, Chris gets all expenses for maintenance and fuel covered in addition to being paid a yearly wage. The decision of who should get the tractor was taken by the local council, many of whom are strongly involved in the Læstadianist movement themselves.

Of the five jobs distributed among thirty-two potential jobholders, all are either held by the kin of or directly by a person with a high and prestigious religious position<sup>51</sup>. While the data cannot prove that nepotism has been a significant factor in the distribution of social goods in Seglvik, they indicate that there is a strong relationship between the structural position of the individual and his/her ability in acquiring economic benefits. While those who receive these benefits are not structurally equivalent, that is, they do not make up one distinct group that is defined by the same relations to the same other, they are related by social relations to people who are central in the community. Thus, religious authority seems transitive because it extends to economic matters. Despite the fact that Edvarda has a high between centrality score, none of her family members were given any of the positions available. While Dag can use his role as a bridge between individuals in a conflict to acquire religious standing, Edvarda cannot. This must be attributed to the gender doctrines of Læstadianism which exclude women from having a say in religious questions. In this case, religious and economic matters become intertwined, and thus she is excluded from representing those to whom she is connected. While the distribution of social goods may be traced back to these attributes of the community, some of the conflicts between those living in Seglvik can also explain the structural segregation (that is, the structural non-equivalence), of the community. This is discussed next.

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<sup>51</sup>For the sake of clarity, it should be added that many of the inhabitants wanted these jobs.

### 8.2.2 Losing a Job: Conflicts in the Network

Conflicts among the inhabitants of Seglvik are of two main types, one of which will be emphasized here. In the category that is not emphasized are those conflicts that are «inherited» in the sense that they are old conflicts about matters that hardly any of the involved parties can remember. A case in point is the conflict between the families of Dagobert and Gunda. Even though it remains unclear what exactly the problem is, the parties hardly talk directly to one another. They never visit one another and only meet when Dagobert and Gunda attend church services. The dimensions of this conflict affect the interaction between these two families severely. Because Dagobert's son, Dino, owns the local grocery store, nobody from the G-household will buy groceries there. They would rather travel 30 to 40 minutes by boat to the closest grocery store outside Seglvik. While such conflicts are certainly important because they affect the interaction between the people in the village, they may also be rooted in the particular psychology of the involved parties. Therefore, I will focus on conflicts of a more economic character, that is, conflicts where the distribution of social goods is at stake. These conflicts are analyzed because they represent one possible path to a firmer understanding of the divergent concepts of economic rationality, as well as how such divergences are handled socially. The conflict analyzed involves three parties, Arne, Chris and Emil, and arose from a demand for more grazing land for sheep. Grazing land is a scarce resource in Seglvik as most of the area is infertile and covered with stones and bushes. In fact, the scarcity of this resource is the foremost obstacle preventing more extensive farming in Seglvik. Both Chris and Emil wanted to buy/rent more grazing land because they both wanted to expand their holdings of livestock. The only person who had grazing land available to rent was Arne. He has retired from farming himself and leaves his land unused. The conflict evolved through two stages that will be reviewed in turn.

Chris has always been the farmer with the most sheep in the village, but his farm was severely damaged by fire in 1992. When rebuilding the barn, he received financial support that was sufficient to build a bigger barn than the one he had previously. Because of this, he had the capacity to increase his stock of sheep, but he did not have enough farmland. At the same time as he entered the market for more farmland, several persons belonging to the younger families who established themselves on the island with separate households at the beginning of the 1990's, also entered the market for more farmland. Emil in particular needed more farmland because his wife needed a job. Consequently, he approached Arne about leasing some of his land, sending him a formal request by letter. This way, the competition between Chris and Emil to lease Arne's farmland started. Chris and Carla started visiting Arne and his sister Astrid.



These visits started at the same time as Emil sent the letter to Arne, requesting to lease Arne's land. Chris and Carla's visits also included different services, for example helping Arne and his sister with practical matters such as getting firewood and buying groceries. In addition, Arne, but not his sister Astrid, attends religious services at Chris' house. So, while Emil used formal tactics to be allowed to lease the land, Chris' tactics consisted of integrating Arne and his sister through the use of services and religious participation. At this stage of the competition, Chris' tactics proved successful and he was permitted to lease the land. Emil, on the other hand, was still in need of more land because Arne refused to lease any land to him.

The second phase of the conflict uncovered deeper splits between the inhabitants in Seglvik. This time, the conflict between Chris and Emil was different. Again, Emil wanted to lease some land from Arne, and this time he did not face competition. But again Arne refused to lease the land to Emil, in spite of the fact that he did not use it and leasing it would bring him additional income. Emil reported that he did not understand why Arne refused to lease him the land. However, two other informants, neither of whom have any interest in this case, reported that Chris and Carla had visited Arne a few days after Emil had approached him regarding the lease. According to them, Arne had initially planned to lease the land to Emil, but Chris had talked him out of it. Chris had argued that Emil had enough assets, and that it would be better just to leave the land alone. Chris also openly criticized Emil and his brothers for being too preoccupied with making money. The same attitude was expressed about Emil by some of the other elders in Seglvik; they thought he was a «capitalist». The result was that Emil was not allowed to lease the land. While this conflict certainly may contain elements of a personal character, the underlying structure of the conflict, as well as the reasons given by Chris for encouraging Arne to turn Emil down, can be traced back to some of the normative aspects of Læstadianism. However, before these aspects are discussed, the economic behavior of Emil and his brothers will be described since this was part of the background of the conflict.

After having studies outside the municipality and marrying a woman from another municipality, Emil moved back to Seglvik around 1990. They built a new house, and rapidly had several children. When he came back, Emil invested in a small vessel and started fishing. Although he started during the resource crisis, he was able to accumulate a significant amount of capital by reducing his expenses to a minimum. In 1993, he invested this capital in a new vessel together with his brother Egon. Emil's two other brothers, Eskil and Egil, also run a fishing operation together. According to all four brothers, the strategy has been to invest together in order to get a larger vessel and thereby a larger quota. When they have accumulated enough profit from these investments, they will get separate vessels in order to increase their



individual profit. In figure 8.1, the members of the E-family are located in group three. Relations in the family are close; the family seems to have the closest social relations of all the families in Seglvik. The family is «headed» by Edvarda, whose position in the Seglvik network was discussed above. There are several factors that distinguish the fishermen of the E family from the other fishermen in Seglvik. The E-brothers get up at 06.00 in the morning to pull their nets, and bad weather rarely prevents them from fishing. The rest of the fishermen start the day between 09.00 and 10.00, and they prefer to leave their nets one extra night if the weather is rough. The reasons for the behavioral differences between the E brothers and the rest of the fishermen may be traced back to their cultural background. First, all of the other fishermen in the village inherited their fishing operations from their fathers, while the E brothers have had to accumulate the necessary capital themselves. Second, their mother's position as a mediator in resolving conflicts and disagreements in the village conflicts with the paternal structures inherent in Læstadianism. This fact also puts her at odds with the interests of the older men who are the religious «leaders» in Seglvik. Therefore, the E brothers are used to overcoming obstacles and tackling criticism. Third, the fact that all of the E brothers have lived outside the village for periods seems to have changed their values compared with the other fishermen in the village. Three of the four brothers have worked on trawlers and seiners, learning how to fish efficiently. The result is that the E brothers work harder than other fishermen do. They belong to the group of fishermen which was described as «modern» in chapter six, partly because they used the resource crisis and the vessel quota system to invest in large vessels when such vessels were relatively inexpensive. Fourth, the E brothers have tried to branch into farming because their wives want jobs. In addition, they are also known to oppose some of the elders. According to the brothers themselves, they find the sanctions of the others irritating and annoying, but they refuse to give in to such pressure. As hindrances became more prominent, the E brothers became even more determined to free themselves of the power of the elders. However, this case shows that this is not easy.

The second last conflict about the leasing of land, which resulted in Emil's wife remaining unemployed, may be understood in light of these differences<sup>52</sup>. Emil's expansive behavior, as well as the group to which he belongs, is perceived as a threat to the fundamental economic action-orientation by the elders. On the one hand, his expansion may generate economic differences between the inhabitants of Seglvik. In addition, Emil's behavior may have come

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<sup>52</sup>The reason why his wife was left without a job is a consequence of the subsidization system which is used for Norwegian farms. Emil and his wife had too few sheep to meet the minimum requirement for receiving financial support for their farm. Currently, a farm must have at least 50 sheep to be eligible to receive subsidies which amount to one half-day position.

into conflict with the economic ethics of Læstadianism. The Læstadianist ethic may be considered «egalitarian» in a particular sense of the term. Some of the most important doctrines relate to expenditures. Excessive expenditure is considered to be a «sin of the flesh». The consequence of this ethic is reflected in the investment strategies of «traditional» fishermen. There are no differences between investments and costs. Both are considered expenditures subject to the ascetic ethics of the religion. Empirically, one may observe a variety of consequences of this among those fishermen, farmers or forestry workers in Seglvik and Codfjord who belong to this religious group. A fisherman who was eighty years old died while the fieldwork was being carried out. This man lived in an old, small house which was sparsely furnished with old furniture. Under the bed, his heirs found over 1 000 000 NOK. In another case, one of the Læstadianist fishermen wanted to get a larger vessel since the old one was inadequate for fishing in bad weather. He had the choice between buying a new vessel or extending the old one. The first option was the most secure and inexpensive. However, the fisherman decided to extend the old boat, because buying a new one could be interpreted by his peers as excessive consumption. This action demonstrates the economic logic of the traditional fishermen. Spending money on a new vessel when the old one will do is a case of *conspicuous consumption* and is regarded as a sin (Veblen 1965). In the case discussed above, Chris may have stopped Emil because he committed a «sin», that is, he followed a behavioral pattern considered illegitimate among Læstadianists. The obstruction was possible because of the transitive character of religious authority in the community.

The conflicts described in this section may be explained by reference to conflicting forms of economic rationality and authority. Religious leaders in the Læstadianist movement regard it as their responsibility to guide their congregation. Stopping Emil is one form of normative action guidance. The lines of authority in the Læstadianist movement are the key to the social control mechanisms in Seglvik. One aspect of this structure of authority is the absence of a distinction between authority and power. The actions of religious leaders are legitimate by default. The religious leader has the sole right to intervene in personal matters in the Læstadianist congregation because he is the person to whom others confess. The transitive character of the leader's authority is not only transferable to other spheres of the lives of the members of the congregation; it is also transferable to people outside the congregation. The network analysis contributes to demonstrating this by showing that the high centrality and structural position of the religious leaders allow for intervention in other social relations. In all cases, the actions of the preacher are legitimate because his overall task is to guide the congregation towards salvation. This is reflected in some of the rhetoric used by Læstadianists towards each other during the conflicts reviewed in chapter four. It is also reflected in some the actions taken

towards other people in the community. Recently, the Læstadianist leaders in a municipality in the Codfjord region decided to close the church for a funeral because the deceased person was a Methodist. The result was that the bishop had to intervene and open the church after the family of the deceased had waited for two weeks for the funeral. The structure of authority among the Læstadianists is strong, probably due to its particular organization, as described in chapter four. It is also interesting to note that Dino, Dagobert's son, is protected from these sanctions. Dino has several assets, but these have been acquired by different means, and in a different normative context. Dino's assets have been acquired with the help of his father and not from the modern investment strategy described. Because Dino's assets are consequently also Dagobert's assets, Dino is protected from the sanctions of the movement through Dagobert's authority as a Læstadianist. All these attributes of the interaction between the inhabitants of Seglvik may be extended into a discussion of the consequences of the vessel quota system on the local relations of authority. This is discussed next.

### **8.3 Traditional and Legal Authority**

The impact of the vessel quota system on the interactions between the fishermen in Seglvik is of a twofold character, both of which have certain consequences for the concepts of authority by which the fishermen orient their behavior. The formalized nature of the system made it an object of formalized economic strategies for some of the fishermen. The vessel quota system intervened in the vessel market, and reduced the prices of the vessels of those fishermen who were excluded from fishing because of it. Some fishermen, like Emil and his brothers, used this opportunity to get larger and more efficient vessels. This may have the ultimate consequence that the average fishing vessel in Seglvik became more efficient. The second aspect of the vessel quota system has to do with the prediction of income. As a lot of the competition was eliminated due to the reduction in entry, those fishermen who are still working in the new system can plan their fishing operations towards future goals. The logic of the vessel quota system is externalized to a specific action orientation among some of the fishermen. The E-brothers, along with some of the other «modern» fishermen in Codfjord, carry out economic actions that may be termed formally rational in the Weberian sense. This is possible in a formalized fisheries management system that is predictable and subject to calculation. However, as described, this action orientation conflicts with the normative guidelines of the traditional authority, in this case Læstadianism.

The knowledge that one is guaranteed participation in the fishery in conjunction with access to the material means necessary, make the fishermen conscious of the fact that running a fishing

operation is a business enterprise whose aim is to accumulate profit for reinvestment. However, it seems unreasonable to infer that the vessel quota system is the only factor causing such an effect. In fact, the effects of the vessel quota system may have been marginal as compared to many of the other institutions that these fishermen are part of. When financing fishing operations, fishermen relate to banks and different public sources of funding, such as the Saami Fund for Industrial Development. If they are unemployed, they go to the local branch of the Employment Office, a public office whose task is to find jobs for unemployed persons. If they are sick, they go to the public health care system. When selling their fish, they deal with fish buyers who are integrated in an international market and Råfisklaget, a sales organization.

These are but a few of the institutional contexts in which the fishermen also play a role. Fishermen are part of these institutions in the sense that they interact with them frequently, and thereby become integrated elements. Indeed, the fishermen *must* interact with them if they want loans, unemployment benefits, health care, and if they want to sell their fish. The result is that the fishermen become socialized into the principles of actions present in the bureaucracy and the market, that is, formal economic rationality. In this sense, the vessel quota system is just one among to several state institutions to which the fishermen must relate. This effect comes in addition to the fact that the vessel quota system is a system working *for* the fishermen who are already participating in the system. The vessel quota system is advantageous for those whose economic action orientation can be considered formally rational because it represents a predictable and reliable institutional context that makes it possible to plan a fishing operation in a formally rational way, as is the case with the modern fishermen in Codfjord. The vessel quota system may therefore be considered a direct form of authority because the fishermen can relate to it as a known, formalized structure. These findings also underscore the importance of a modern form of work ethic. The E-brothers, who have been used as an example here, are all part of the group of fishermen that come from Læstadianist families, but who are not active in the movement themselves. Their actions exemplify how this work ethic can manifest itself. The fishing operation is a means of bringing the highest possible incomes into the household, and their actions are structured accordingly. In order to secure their investments, they follow a strategy in which they fish together on one large vessel for some years, saving their income. After some time, they plan to split their investments, and get one vessel each. Thus, a plan of economic expansion directs their behavior, and all actions are synchronized in accordance with this goal. Emil's demand for more grazing land must be seen in this perspective because his intention was to use the profit from farming to expand his fishing operation. In sum, the E-brothers exemplify a secularized form of Læstadianism which consists of working hard, but they use their profit to expand towards planned goals. By investing, the fishermen also

demonstrate their freedom and, in effect, undermine the authority, or power, of the religious leaders in their community.

As observed, the modern action orientation comes into conflict with the economic and normative heritage of the community. Older fishermen perceive it as illegitimate to behave in formally rational ways because it contradicts the moral maxims they perceive as legitimate. The basis of legitimacy among those who are «traditional» is based on a small-scale fishing operation which covers the subsistence and cash needs of the household. The normative foundation of this way of running fishing operations, and any other economic actions for that matter, is based on specific religious maxims which have been translated into an action orientation. The behavior of modern fishermen is *meaningless*, in the Weberian sense, in the eyes of traditional fishermen, and vice versa. It is important to note that the physical objects which are the results of the actions of the modern fishermen, like large vessels, are not meaningless. It is the intentions behind the behavior in which these objects are embedded that are meaningless. As a result, the behavior of the modern fishermen is seen as illegitimate due to its incompatibility with local moral maxims. The transitive character of traditional authority makes it possible to exercise informal social control by manipulating other actors in the social network. This is demonstrated by the network analysis, which depicts the structure of the enforcement of authority and power in Seglvik. To some extent, kin cluster in groups of structurally equivalent individuals, while the between-group structure reveals conflicts between kin. While such conflicts certainly contribute to tearing the community apart, they also contribute to the division of families.

‘Bridges’ often mediate in such conflicts; three persons perform this role in Seglvik. One of these has the status of a bridge due to her position in her own kin group, while the other two have this status due to their religious involvement. Being a mediator results in a relatively high betweenness centrality for the two male bridges, mainly because there appears to be a strong relationship between authority in the congregation and authority in the village. However, the structure of authority in the congregation is reflected in the relatively low between centrality of the female mediator, because women are generally excluded from leading positions in the Læstadianist movement. The analysis also shows how sanctions of deviant behavior, in this case economic behavior, can be arranged. Since religious authority is transitive, i.e. it reaches outside of the specifically religious sphere, it is even possible to sanction actors who are not within immediate reach. Since the network consists of actors having multiple relations with several other persons, those who are adversaries can punish each other *through* others. Consequently, this is not only the means by which mediation occurs, it is also used to arrange

sanctions. A person with traditional authority can force one actor to punish another one by threatening to impose sanctions on him. In this fashion, an informal hierarchy of authority is created which is legitimized by the leader's right to supervise his congregation. On the other hand, strong within-group relations result in tightly-knit kinship groups. In these groups, actors help each other out in various matters. In this case, it has been shown how jobs tend to be distributed within these groups. Seemingly, those who have authority consider it legitimate to use this to help their closest kin, but those excluded from such opportunities consider these actions illegitimate. This can explain some of the conflicts among the inhabitants in Seglvik, as new concepts of work ethics, labor and investment, which partly are the results of the incentives of the vessel quota system, are at odds with traditional rules of proper economic behavior.

Contrary to Weber's expectations with respect to Calvinism, one can observe that informal Læstadianist religious authority serves to decelerate the modern economic development of the fishermen in Seglvik. Traditional fishermen are still in a structural position to create hindrances to the expansion of modern fishermen. On the other hand, those who come from Læstadianist families, but do not participate themselves, are the main exponents of modernization in the community. This occurs because the economic means for fulfilling the religious ethic are controlled by another, secularized ethic. Concretely, it is guided by success in the market and a modern management system which considers formal rationality to be meaningful. In that sense, the findings are consistent with Weber's conclusions with regard to Calvinism, because this is a reflection of the fact that religious means assume new meaning in a modern world, and become important factors for driving economic development forward by giving the individual a motivation for accumulation and expansion. As described, these different goals create tension and conflicts in the village. These conflicts take place not only in Seglvik, but they are also present in other places in Codfjord. As a consequence, this is also the content of some of the different political discourses taking place in Codfjord; this is the subject of the next chapter.



## **Chapter Nine**

### **Small-Scale Politics and Small-Scale Fisheries**

A central part of Weber's social theory concerns the notion of a normative order. Such orders contribute to guiding actions by translating normative maxims into behavioral rules. In this chapter, the normative implications of economic behavior among fishermen and others in Codfjord will be analyzed in three case studies. To increase the external validity of the description, three cases are used to illustrate the empirical manifestation of normative order in Codfjord, as well as the normative content of the economic behavior of those living from fishing in Codfjord.

The economics, politics and culture of fisheries are integrated into economic, political and cultural orders other than those specifically pertaining to fisheries. External institutions and normative orders, which at the outset may seem to have no relationship to fisheries, may have a profound effect on transactions in the fisheries. This section narrows the general focus down to the politics of fisheries in Codfjord. In this study, a community perspective means that the analyses focus on political processes at the community level. The political «community» consists of everybody living inside the administrative borders of Codfjord municipality, because only these can have their voice heard in the municipal administration. «Politics» may, among other things, be considered as normative discourses where those involved argue for what they perceive as being the definition of a «good» life. How people define a «good» life is an empirical question that depends on several economic, social, cultural and political factors and personal preferences. These factors will be accounted for in the analysis.

By looking at the Codfjord fishery from the «community» perspective, relations between the politics of fisheries and the politics of the municipality are connected. This analysis will be used to discuss how the politics of the community serves to uphold normative principles which underpin specific economic behavior by the inhabitants in Codfjord. Also, the effects of the vessel quota system are discussed since this is one of the components that has had an impact on both local labor structures and the political discourse in Codfjord. The chapter ends by relating formal public management to the Saami cultural heritage of the community, and I reflect over the reasons why some of the described cases are manifested the way they are. It is discussed whether some of the tensions created between the legal administrative system and the traditions of people in Codfjord can be traced back to the traditions and norms of the Siida, the Saami extended family.



## **9.1 Authority and Authorities in Codfjord Politics**

The three cases shed light on different aspects of normative discourses in Codfjord. In the first case, some of the problems which occur when legal authority is applied in a tight network are described. This serves to illuminate some of the difficulties that arise when formal bureaucratic authority becomes intertwined with the informal authority present in informal networks and kinship groups. In the second case, some of the problems which occur when someone decides to establish a business are discussed. In this case, conflicting economic interests between groups translate into normative claims referring to local norms of justice. In the third case, the social dimensions of economic transactions are analyzed. This case also discusses some of the underlying principles of economic rationality which link villages in the Codfjord community. This section is based on archival documents as well as interviews. While all documents used are of public record, direct references to the specific documents used are avoided to protect informants.

### **9.1.1 The Case of the Fisheries Committee**

Each municipality in Norway that has any fisheries activities within its borders establishes a political and administrative fisheries committee; this consists of politically active citizens who are interested in fisheries and who are appointed by the local council. The citizens who are most politically active in the fisheries sector of Codfjord are usually fishermen themselves. Analyzing transcripts from the meetings of the Fisheries Committee in Codfjord for the period 1957-1994 confirms this tendency. The task of the committee is both political and administrative. Political tasks consist of representing the interests of fishermen, fish farmers (there are 4 aqua cultural operations in Codfjord) and fish dealers. The committee has a say when the local council allocates funding to different industrial sectors and projects. It is also responsible for making statements on behalf of the community when the municipality is asked for recommendations on new regional and national policies regarding fisheries, such as new rules for entrance into fisheries. The administrative tasks of the committee consist of keeping track of the Fishermen's Census and registration/approval of commercial fishing vessels for the Norwegian Directorate of Fisheries. The recommendation of people who apply for financial support and loans from municipal, regional or national banks and/or funds are also delegated to the committee; all financial institutions demand such a recommendation from the committee before funding is granted. The local council monitors all these tasks.

The decisions of the committee have not always been popular, as the committee holds a

position that allows it to exercise authority and power. Dissatisfaction with the Fisheries Committee is at the core of a newspaper article written by a fisherman who supports the suggestion of the Norwegian government to abolish these committees:

*If exaltations did not reach the volume heard when the last World War ended, they were not much lower when we heard that the Fisheries Committees (for us [the local fishermen], one of the worst nightmares of all times) was recommended to be removed from the administrative system [...].*

*One may notice that the Fisheries Committee has often been governed by captains who used the committee as their barricade, using it to exercise power and control over colleagues who harvested the same fishing areas as themselves. One has often suspected that young fishermen were stopped by the committee because they were regarded as troublesome [My translation].*

The fisherman goes on to describe a situation that occurred when he was hospitalized. While in hospital, the local Fisheries Committee erased him from register B on the Fishermen's Census. This was done in spite of the fact that the fisherman filed a medical certificate, which, according to the law, is a valid reason for being absent from the fishery and should not lead to the fisherman being erased from the census. The result was that the fisherman in question lost his fishing rights until the committee changed its ruling. It is hard to tell what the exact interests and sentiments were in this case. However, it shows some of the problems which can occur when formal authority is delegated to members in a social network that is normally regulated by informal rules, and which implies that other members of the network will be subjected to their authority. One problem lies in the confusion of informal with formal authority. Because those subjected to the decisions made by the committee also have informal relations to committee members, there is a «double» relationship and decisions may not be made in accordance with the legal framework that legitimizes legal authority. The universal principles of the law are confused with local principles of kadi-justice. Most likely, this occurs because committee members are influenced by informal structures of authority. Another problem lies in the social structure of legal capacity in tight communities such as the one in Codfjord. In a community with tight social relations, legal *incapacity* may be an obstacle for legitimate, just and equal rulership, because all actors are intertwined in multiple formal and informal social relations. In the following, the dynamic between formal and informal authority is discussed using the legal capacity of committee members as the platform.

Transcripts from meetings, which are a matter of public record, show how the committee proceeds when processing applications. To analyze these transcripts, some excerpts that are regarded as typical for given subjects have been chosen to represent all cases of the subject. It is problematic to select an «average» excerpt. However, this is the only way of compressing a

written material that exceeds 1000 pages, partly because quantification of the material is virtually impossible. The analysis will be limited to those cases where the committee passes recommendations on behalf of fishermen in Codfjord who have applied for funding. In such cases, if one of the members in the committee has a vested interest in an application, for example, his wife applies for enrollment in the Fishermen's Census, the member leaves the meeting during the discussion of that particular application. This procedure follows from the provisions of the Norwegian Law on Public Management [Lov om behandlingsmåten i forvaltningssaker, 10 februar, 1967] § 6, regarding legal capacity in decision making in public administration. This law states that:

*A public servant is legally incapable of creating the premises for a decision or making the decision in a management case if:*

- a) he is one party in the case himself;*
- b) he is related by cousinhood upwards, downwards or sideways as close as sibling, with one of the parties in the case;*
- c) he is or has been married, engaged, foster father, foster mother or foster child to one of the parties in the case;*
- d) he is or has been the guardian or proxy of one of the parties in the case after it has started;*
- e) he leads or has a leading position in, or is a member of the board of directors or the corporate assembly, a company which is a party in the case and which is not completely owned by the state or the municipality, or a foundation, association or bank, being a part in the case.*

*He is also legally incapable when other particular conditions are present which may call into question his impartiality; among other things it should be emphasized whether the decision in the case may imply particular advantage or disadvantage to himself or anyone he has a close relationship to. It should also be emphasized whether the claim of legal incapacity comes from one of the parties to the case.*

*If the superior civil servant is legally incapable, a decision in the case cannot be made by his subordinates in the same department.*

*The rules of legal capacity do not come into effect when it is obvious that a servant's affiliation with the case not will have an effect on the decision in the case and neither public nor private interests demands that he leaves the deliberations.*

*The King may further establish the scope of the second and fourth paragraphs*  
[My translation].

The idea of the law is that legal incapacity follows the same lines as kinship and/or capital. If one of the parties in the case is related to or has economic interests in the decision, he or she is legally incapable. However, the problem of legal capacity becomes more problematic when, for instance, the neighbor of an influential member of the committee applies for a loan to buy a new vessel. It also becomes problematic when a member of the Læstadianist congregation decides in cases where the interests of other Læstadianists, or, for that matter, non-Læstadianists, are affected.

The transcripts analyzed here span over a period of 37 years, but none show that any of the members have left the meeting because he/she has had strong sentiments, negative or positive, towards an applicant. On some occasions, members have left because applications from persons who are the close kin of a committee member, as defined in the law, have been processed. Normally, if the committee supports an application for funding to buy a new vessel, analysis shows that the recommendation generally looks like the one from this transcript <sup>53</sup>:

*The committee recommends that (person X) is granted a loan of (Y) kroner [My translation].*

In other cases, where the applicant can be shown to have had a positive relationship with the committee members, the recommendation may sound like this one:

*The applicant is a very hard worker and is highly appreciated at his workplace both by his employer and his co-workers. He also possesses experience from fishing vessels. In the view of the committee, his skills indicate that he will be a good fisherman [My translation].*

or

*The applicant is regarded as a persistent and very active fisherman, and has, together with his son, all the abilities needed to run his operation well [My translation].*

Normally, the applicant himself is not described and the recommendation contains no adjectives or adverbs. Instead, the recommendation contains one confirmatory sentence, as in the first case above. The description of the applicant is different in the second and third case. Here, the recommendation contains characterizations that put the applicant in a favorable light. Tracing the social relations of these last two applicants show that they had good friends on the committee which processed the application. In both cases, the applicants have been members of the same social group as some of the members of the committee. The committee underlines that this person should be given precedence in the allocation of funding by adding superlatives to the recommendation. It is often the case that there are more applicants than there are funds, and positive recommendations are usually given weight if there is competition between applicants. When the committee turns down an application, the reply may look like this:

*These persons are not registered as fishermen, and the committee does not regard it as realistic that they can run their own operation [My translation].*

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<sup>53</sup> All citations refer to cases that are older than 15 years. This is done to protect the anonymity both of the applicants and the committee members.

Here, the use of negative description puts the applicant in a non-favorable light. This application concerned two fishermen who wanted to get a recommendation from the committee when they filed an application for a private loan for a vessel. Considering the fact that the application was processed during a time when registering as a fisherman was a formality that always ended with approval, the validity of the argument is weak. The applicants had already been active fishermen, but had left the occupation to take employment as construction workers. When they left the fisheries, they sold their vessel. However, bad times for construction workers forced them back to fishing. Interviews reveal that there had been a long-lasting conflict between one of the applicants and one of the committee members at the time when the application was being processed. The end of the story was that the applicants returned to construction work because they did not receive funding for a new vessel. This case is not unique; other cases reveal similar relations between the applicants and those making the decision.

These cases show some of the problems that occur when formal authority is applied in a community where many inhabitants have intertwined social relations. Strong informal social relations, positive or negative, serve to generate differences within the community when subjective views based on personal preferences are given precedence in decisions. However, these decisions are legitimized by the positions acquired in a formal hierarchy of legal authority, creating a double structure of authority. While the concrete actions of the committee can be considered as an exercise of traditional authority, the same actions are legitimized by the decision maker's formal position in a legal hierarchy, that is legal authority. Certainly, these transcript excerpts do not *prove* that it is impossible to govern municipal institutions in a legitimate way in which everybody is subjected to the same set of rules. However, it shows some of the problems that can occur when there are informal linkages between committee members and clients. Having legal capacity means being impartial and just. Both impartiality and fairness are relational phenomena which exist to the extent that those who judge criteria for legal capacity and justice have a social relation to each other and agree on the definition of the concepts in operation during their interaction. However, opinions about others are also formed through social relations. The more connected people are, the more opinions they tend to form about others because they have access to more information about other persons (Freeman 1978). Thus, it is hardly realistic to expect the committee members not to consider their personal preferences. The application of rules and the «hard facts» of the case do not form their opinions of others, as the law assumes. Instead, close personal relationships form pictures of others, and it is hard to «forget» these when put in a situation that, from a legal perspective, assumes that no individual preferences should be expected.

In Codfjord, accusations of legal incapacity have generated several conflicts in the municipal administration. In most of these cases, the question of legal capacity is translated into a question of legitimacy. Do those making the decision have a right to decide in the case? «Why should my neighbor rule me?» Among other factors, legitimacy is based on correspondence between prescriptions for proper action and the act itself (Habermas 1972). When people sense that decisions reached in formal arenas may be based on information that stems from informal relations, these decisions are likely to be regarded as illegitimate. This is especially the case when these decisions, which are supposed to account for everyone's best interests, are perceived to represent the interests of particular groups within the population, or are perceived to have been made to create obstacles for other people. In such cases, it seems that it does not matter whether these decisions really represent the will of groups within the population. The problem is that formal institutions such as the Fisheries Committee are always subject to the scrutiny of outside observers who have strong relations to both the committee itself and to others in the community. Also, these «others» have interests that they want to see advanced. Claiming that decisions are illegitimate may be used strategically to create obstacles for the municipal administration, reducing its legitimacy. When such claims translate into attitudes, they may result in people generally refusing to obey the decisions made by these institutions. Thus, refusing to obey the legal authority of the committee can be used to legitimize rule-breaking behavior.

### **9.1.2 The Case of the Fish House**

While practicing authority may be difficult in a small community, transactions between different members of the community may be equally difficult to accomplish. In the following, the local version of «barnraising» – «fish house raising» – and some of the ensuing problems will be described.

A fish house is a place for landing fish, not for processing it. After catches are landed at the fish house, the raw and cleaned fish is sent to processing plants. Transportation from the fish house is usually by truck or local transportation boats, which are vessels that visit different places in and outside Codfjord according to preset schedules. Fish houses are crucial in the economic infrastructure of Codfjord and other municipalities which depend on coastal and fjordal fisheries. Having one of these in proximity to the homeplace or fishing ground makes it possible for the fishermen to sell catches quickly, enabling them to save both fuel and fishing time compared to a situation in which the fish house is farther away. While the price obtained for the fish may be lower at fish houses as compared to landing it directly at processing plants,

the costs saved by landing catches quickly counterbalances. Another factor relates to the weather. During the fishing season, the weather can be harsh, and sometimes it is impossible to go to the closest processing plant. Having a fish house nearby means that the fishermen can continue fishing in the fjord in spite of bad weather conditions. In sum, having a local fish house is cost-efficient and convenient. The Norwegian government regards these fish houses as crucial to the infrastructure of coastal and fjordal fisheries and offers its financial support. Funding for building and running fish houses is also available from other national, regional and/municipal funds, such as the Saami Fund for Industrial Development.

In principle, there are three types of ownership structure of fish houses. In one case, the fish house is a satellite of a larger fish processor; here the processing plant also owns the fish house. In the second case, it is owned and run by the municipal administration as a commercial enterprise. In the third case, it is owned privately, sometimes by a fishermen's cooperative. In Codfjord, we find 4 fish houses and 2 processing plants, and all three types of ownership structure are represented. In the following, a story about one of these fish houses will be presented. This fish house, which is situated at a location hereafter referred to as Island, is the only one in Codfjord owned solely by fishermen. The process of establishing it indicates some of the economic relationships among the villages in Codfjord.

*Fishing has always represented the main income for people in this village. Fishing grounds have traditionally been farther out in the fjord [than where the village is located], and catches have normally been landed in the Fjord [«Fjord» is another village in Codfjord]. This awkward delivery situation has resulted in longer trips than necessary, as well as time wasted waiting to land the fish. Due to changing weather conditions, vessels have often been forced to stay overnight in the Fjord. Another, and maybe bigger problem, is that vessels, due to bad weather, have had to stay at home with their catches for several days, unable to cross the fjord for delivery [My translation].*

This quotation is from a letter to the municipal administration, where the fishermen from Island ask for financial support to establish the fish house. The rationale that the fishermen give for establishing a fish house is practical. The fishermen on Island argue that they lose both time and money by crossing the fjord to deliver fish. It takes between 1 and 2 hours by fishing vessel from Island to the processing plant in Fjord. Fishing grounds vary, but the closest ones are only 5 minutes away from the home port of the Island fishermen, while it takes up to 4 hours to reach the outer fishing grounds. The time spent going back and forth between fishing places and delivery sites is short for these fishermen as compared to other fishermen in Codfjord. Some fishermen in Codfjord use between 4 and 8 hours to get to their fishing grounds, and fish buyers are as much as 3 and 4 hours away from home. The fishermen from Island were seemingly in no position to complain compared to other fishermen in Codfjord because they



have relatively short distances to fishing grounds, processors and fish houses. However, the municipal administration granted the fishermen from Island financial support and in 1991 the fish house was completed.

In this case, building, owning and running a fish house was a joint venture between the fishermen on Island, including their families. Many, but not all, fishermen in the village set up a company and bought shares. They also obtained financial support from state, regional and municipal funds and were granted municipal low-interest loans. Through a joint effort, the fishermen built the fish house. During two summer months, men and women, old and young, worked on it. Working together has cultural and social effects. It serves to reinforce already-present social relations among the members of the village, and is a symbolic manifestation of the village as a coherent group.

The fact that the fishermen wanted to have their *own* fish house points to an important cultural and ideological feature of the fisheries of Codfjord, namely «self-sufficiency». By being self-sufficient, they remove themselves from others' authority and power. The fishermen on Island, but also in the rest of Codfjord, argue that one should be able to take care of oneself. This must partly be understood metaphorically, because the fishermen are dependent on one another and on their families and friends in many respects. However, this group of significant others is incorporated in the group to which the individual fishermen also belongs, resulting in a notion of «us» and «we», and not «I» and «they». This ideology is also reflected in some of the rhetoric applied during the establishment of the fish house. During this process, several conflicts arose.

When the fishermen on Island proposed building the fish house, several protests occurred. The person who runs the processing plant in Fjord, to which the fishermen from Island previously delivered their fish, is kin to some of the fishermen on Island. People from Island also have many other kin in Fjord and vice versa. When the municipality processed the application for the building of the fish house, they arranged a public meeting to initiate an open discussion about the consequences of constructing the fish house on Island. People from Island and Fjord attended the meeting, as well as representatives from the municipal administration and fishermen from other places in Codfjord. Transcripts from the meeting and interviews of the participants reveal the rhetoric used by the participants. During this meeting, the arguments quoted above were presented by the fishermen from Island. However, their kin from Fjord claimed that the fishermen from Island only wanted to construct the fish house because they



were «lazy<sup>54</sup>» and therefore unwilling to spend time going to Fjord to deliver catches. The person in charge of the processing plant in Fjord argued that it would be «a waste of taxpayers' money<sup>55</sup>» if the municipality granted the fishermen on Island financial support. While other fishermen in Codfjord used 3 to 4 hours to deliver catches, the fishermen on Island needed only 1 to 2 hours. The processor also said that the fishermen on Island were «greedy<sup>56</sup>», because they were unwilling to support the processing plant in Fjord by delivering raw material, preferring to take the profit themselves. A family conflict started, where the Island fishermen with kin in Fjord said that they never would speak to these relatives again.

However, this also generated conflicts among the Island fishermen which show that the group of people who live on Island is not as coherent as it may appear. Two of the fishermen on Island felt that the people in Fjord and the people on Island should support each other because they «were in the same boat». The metaphor points to the fact that the two places are two out of three places in Codfjord where the population only has access to the community center by boat. They agreed with the people from Fjord, saying that the fishermen from Island should land their fish in Fjord to maintain employment there, thus sharing the value of the fish between remote villages. The result was that the rest of the population on Island ostracized the two fishermen from Island who disagreed with them. Even 5 years after the fish house on Island was completed, the two fishermen refuse to land their fish there, rather making the extra trip to Fjord. Their resistance is underlined in a letter to the municipal administration, where they ask for financial support for the extra costs that they have by carrying the catch across the fjord.

*We have always landed our fish at the processing plants in Fjord, and we intend to continue this practice. In our view, deliveries have always been unproblematic at all the places in Fjord, at least during the past few years. Our demands are that as long as the processing plants in Fjord are functional, we should receive the same financial support for freight as the fish house does [My translation].*

Conflicts like these seem to touch part of the ideological, and thereby political, core of Codfjord. What may seem like straightforward economic processes are strongly intertwined with several distinct ideological features of the community. While the fishermen on Island may have intended to establish the fish house to reinforce their own economic infrastructure, they also generated a significant amount of anger and bitterness in the process. The bitterness and anger on both sides may be traced back to the discussed structures of authority and the notion of egalitarianism that are part of the Codfjord culture of Læstadianism.

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<sup>54</sup> This is a quotation.

<sup>55</sup> This is a quotation.

<sup>56</sup> This is a quotation.

The reasons that the fishermen gave for investing in the fish house were not economic, but practical. Keeping in mind that openly parading a profit motive is the same as committing the sin of «the lust of the flesh» in public, the fishermen from Island avoided using the profit argument and relied on the argument that the fish house would be a practical improvement. However, when first caught in this chain of quasi-argumentation, counter-arguments from people from Fjord followed the same structure. The charge of greed and laziness made by people from Fjord follows the same argumentative structure, because both of these characteristics are condemned in Læstadianism. However, it remains a fact that the people in Fjord were in danger of losing jobs when the fish house was established on Island, and that they had an economic interest in retaining the deliveries from the fishermen from Island. Thus, also people in Fjord used quasi-arguments when they attempted to stigmatize the economic interests of their opponents. This initiated a process whereby the parties tried to convince each other and outsiders that their actions were more consistent with the local norms of egalitarianism and a life free of sin. Another interesting feature of the debate is that not all of the actors are confessing Læstadianists. However, this religion manifests itself in the local culture as a normative order which has a strong grip over most economic actions in Codfjord. This is also evident in the next case where the process of selling fish is considered.

### **9.1.3 The Case of the Choice as to Where to Sell the Fish**

This case concerns the process by which the owners of the fish house on Island tried to decide to which processing plant they should deliver their fish. This process began after the fish house had started its operation.

When the municipal administration decided to support the fish house with a financial package, it included some clauses in the contract. One of these said that the fish house was obliged to deliver fish to a processing plant in the municipality if the price offered by the plant was identical to or better than the one offered by processing plants outside the community. According to municipal officials, the justification for this clause was that the municipality, as an investor in the fish house, made provisions in the form of an increased number of jobs in the local processing industry. There are two processing plants in the municipality. One is located in Fjord and the other one is located in Coast, a place close to the community center. The other processing plant is run and owned by a person from a municipality to the south of Codfjord. He has had some success in running it, as the number of employees has increased during the past few years. This may be due to the fact that the processing plant has branched into salmon farming, along with the conventional production of salt fish. Earlier, this processing plant also

processed shrimp landed by local vessels. However, business slowed down when local shrimp vessels were sold out of the fjord, making it necessary for the owner to branch into aquacultural industry to avoid bankruptcy.

Having only two processing plants in Codfjord to choose between, the fishermen on Island decided to also ask for offers from processing plants outside the municipality. One of these is a large industrial plant in a municipality south of Codfjord. The processing plant in Fjord dropped out of the competition due to the low prices it offered for the cod. The other processing plant, on Coast, gave the fishermen the best offer. However, the fishermen from Island decided not to send their fish to this processor. Instead, they sent their fish to the industrial plant south of Codfjord, even though they knew that they would make less money. The rationale for this decision was based on characterizations of the owner of the Coast processing plant. Repeatedly, the fishermen on Island described the owner of the processing plant on Coast as «making too much money». When the fishermen on Island received an offer from the owner of the processing plant on Coast, they asked him whether he was willing to supply the fish house with weights, buckets and some other inventory in exchange for getting the contract for their catches. The owner said he agreed with the clauses, but that he would consider taking the fish after examining his processing capacity first. However, the fishermen on Island said that they regarded this answer an insult. According to them, the owner of the processing plant attempted to show his social status as a successful businessman by not accepting their offer immediately. Displaying social status in this fashion triggers the ideological mechanisms described above. Those who try to generate wealth should be punished, because this implies that they think they are better and more important than everybody else is. The other side of the ideology is that you should help those in trouble, because those who have less than everybody else are entitled to the same as the rest. The ideology prescribes both rewards and punishments with emphasis on economic criteria.

This viewpoint may also be traced back to the cultural and ideological fragments from Læstadianism that remain an important component in the Codfjord normative system. Among the Læstadianists, as well as in the writings of both Luther and Læstadius, the Christian maxim «All are equal before God» is often cited. This and similar maxims are translated into a normative order which prescribes decisions in cases pertaining to the social distribution of goods, such as fish. Fish is a social good because it is scarce and processing it can increase its value. By refining the product, employees can work and the employer can generate profit. In times of scarce access to raw fish (which was the case during the period of the fieldwork), processors competed for raw material. When the owner of the processing plant on Coast did not

give the fishermen the answer they wanted, he was interpreted as violating the prescriptions of this normative order. Considering that the owner comes from another community and has made a considerable profit from his business, his reply to the fishermen only confirmed their suspicion that he fell into the category of people who think that they are better than everybody else in the community. The fact that this ideology is strong among the fishermen is reflected in the fact that the fishermen who own the fish house would rather run it at a loss than see their fish deliveries increase the owner's wealth. The fish house is run at a loss because the agreement with the industrial plant brings less income than needed to cover the operating costs of the fish house. If the fishermen had signed a contract with the processing plant on Coast, the fish house would have yielded profit because the price difference would have covered the deficit.

The strength of these attitudes is also manifested in a letter sent by the fishermen on Island to the municipal administration. The fish house needed a new floor because the old one did not meet the hygiene standards set out by the Norwegian Directorate of Fisheries. The owners did not have enough capital to make this investment, notably because they deliberately ran their business at a loss. They sent a request to the municipal administration for a grant. The municipal administration provided the grant, again with the stipulation that they delivered their fish to a local processing plant. The administration also referred to the fact that the local plant had given them the best offer. However, the fishermen on Island sent a letter back to the municipality administration, saying that:

*We are sorry, but we cannot receive a grant on the conditions given. [...] We will not under any circumstances agree to lose the property-right and the sovereignty of the fish house, which would be the consequence of the conditions attached to the grant [My translation].*

The consequence of this decision is that the fish house is on the verge of bankruptcy, and this will have the consequence that the fishermen will lose the capital they have invested in the fish house. Thus, they risk losing control over the fish house. Although these alternatives have become more realistic every year that they accumulate a larger deficit the fishermen still refuse to sell their fish to the processor on Coast.

## **9.2 Authority in Economic Transactions**

These three cases represent different aspects of the socio-cultural difficulties encountered by economic activities at the community level. The first case, where the processing of applications in the Fisheries Committee was analyzed, shows some the difficulties which occur when double

social relations, in this case legal authority and informal social relations, become intermingled. While decisions in the Fisheries Committee are supposed to follow the provisions set forth in Norwegian Law regarding legal capacity, strong social relations, positive and negative, as well as traditional authority, serve to reduce the legitimacy of the legal authority of both the committee and its decisions. This is a two-way process. Those on the committee may use their legal authority to enforce kadi-justice. On the other hand, those subjected to the authority of the committee may, by accusing the members of the committee of being legally incapable, reduce the legitimacy of the committee and its decisions.

In the second case, where the process of establishing a fish house on Island was discussed, another facet of the structures of authority in Codfjord was analyzed. In this case, opposing economic interests and arguments became translated into a discourse regarding local norms. The local normative order may be traced back to some of the moral maxims of Læstadianism which condemns conspicuous consumption. The case of the fish house on Island indicates that these normative imperatives have two effects. First, it makes purely economic arguments invalid because use of such arguments implies committing a «sin». Second, it makes the discourse bitter because arguments which appeal to this aspect of the local culture are perceived as attacks on groups of persons as such and not only the economic activities of these groups. Arguments are felt as attacks on the group and not only its economic activities because these moral maxims apply to all actions and thereby the social constitution of the individual as a member in the community. The result of this double-sidedness of the argumentative structure between villages makes it difficult to cooperate, because the real economic arguments are invalid, partly due to the authority of religious maxims.

In the third case, the process of selling and buying fish between villages was described. Having fish is the same as having authority in an economic system where there is a deficit of raw material. Processing plants need raw material to make profit themselves, and are therefore subjected to the will of the fishermen who can sell catches. This case shows how the fishermen on Island use this authority to punish those who are perceived as not acting in accordance with the normative orders which the fishermen themselves regard as valid. This concrete process has had two outcomes. First, the processor on Coast lost raw material and potential profit, and his employees lost potential employment opportunities. Second, the fishermen on Island lost profit themselves, since the processor on Coast offered them the best economic conditions. This has had the consequence that the fish house on Island is run with an accumulating deficit.

Together, these three cases point to some of the difficulties which are encountered when

administrative and economic activities are based on legal authority in a tight community structured by informal relations and traditional authority. There are no indications that the vessel quota system has had an effect on these structures, however, except as an intervening and reinforcing component. The concrete problems discussed in this section may rather be subscribed to a collision between two different normative systems. The fishermen in the community are forced to act on the premises of legal authority because they are members of a social and economic system whose logic is based on formal economic rationality. Acting according to the concepts of formal economic rationality may be the only way to accumulate profit. That is, the fishermen must orient their behavior so that economic actions have profit; compliance with local normative orders is thus not their goal. However, this is difficult because the fishermen are also raised in a social system where the authority of religious maxims remains valid and strong, partly due to the informal authority derived from tight social relations. However, some of the traditions in the community may also have an effect on the formation of economic actions. In the following, some of the traditions of the Saami are examined and related to the findings of the rest of the chapter.

### 9.2.1 Colliding Traditions?

The history of the Saami people was summarized in chapter four, and the importance of the Norwegian assimilation policy towards the Saami was described. Many authors have claimed that this process contributed to the abolishment of Saami culture (Bjørklund 1986: Bjørklund and Brantenberg 1986: Eidheim 1994: Høgmo 1986: Jernsletten 1986: Minde 1980: 1986: Thuen 1980: 1986). In a treatise on the culture of the inhabitants of the Coddjard region, Bjørklund (1985) argues that:

*One characteristic feature of life [in the community] struck me immediately when I started to write this book: the past was an embarrassment to people in their daily lives. In fact, there were many [...] who insisted on not having any form of past or culture at all. Such self-images are a heavy burden to bear and may be the source of many problems during life. An historical treatise must therefore start by grasping this «non-historical» situation as people experience it in their daily lives, and show how it has evolved (Bjørklund 1985, 410 [My translation]).*

Bjørklund further claims that «during this time [the post-war period] the population experienced an increase in welfare previously unheard of. But the welfare had its price: The Saami and the Kvæn had to put aside their native languages and their culture, in fact, their whole past (Ibid. 108 [My translation])». During the postwar years, the Norwegian state was modernized. This modernization process consisted of several components, the making of the welfare state being one of them (Furre 1992). Other factors were extensive programs for

industrialization and for rebuilding the infrastructure of the region, such as roads and housing. In Finnmark and the northern part of Troms, the Germans burned all houses, ruined all ports, and damaged as much of the physical infrastructure as possible when escaping from the allied forces at the end of WWII (known as the scorched earth policy). These areas included Codfjord, which was left in ruins after the occupation from 1940 to 1945. The postwar government planned to rebuild Codfjord and other damaged areas in Norway with partial funding from the Marshall plan (Furre 1992). However, as Pedersen (1995) has shown, the area was not rebuilt in the literal sense of the term. Rather, the area was restructured. The plan was to centralize industries and settlements. In central settlements, different industries would be established with funding from the state. Within central settlements, communications - telegraph, ports and roads - would be built. The region, where people previously had settled in small clusters with large distances between each cluster and lived from a subsistence type of economy, was industrialized. This seems to be the core of Bjørklund's argument as to how Saami culture was abolished. Since the Saami were forced to be/accepted being part of the Norwegian state, they had to «forget» that they were Saami. By removing the material foundations of Saami culture, the Saami culture itself was abolished. In addition to this, people became ashamed of being Saami because this culture itself was subject to racial prejudice according to Bjørklund (1985). These claims will be contrasted with the findings of the present study.

All the respondents in the population of full-time fishermen and several others were asked whether they considered themselves Saami, Norwegian and/or Kvæn during a session of open-ended interviews. Everybody answered the question by referring to the descent of their relatives as far back as eight generations. Those with Saami relatives said that they were Saami<sup>57</sup>. Those who did not claim a Saami background said that they were Norwegian, with the exception of those with relatives who were Kvæn, in which case they claimed to be partly Kvæn. Generally, people answered that they are multicultural, as most stem from genetically «mixed» families. People were also asked whether being Saami embarrassed them or anybody they knew. Everybody said no. In fact, most respondents said they were proud to be Saami or partly Saami. Then the respondents were asked to define what being Saami exactly is. Most people answered that to them being Saami consisted of having Saami relatives. Many were vaguely familiar with

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<sup>57</sup>There are several methodological problems involved in questions of the type where people are asked to confirm or disconfirm statements about an empirical reality that cannot be double-checked by the researcher. Since it is impossible for the researcher to actually trace the kinship lines of each of the respondents, one must take the respondents' answers at face value. In this case, there were no indications that the statements were inconsistent with other responses or those of other respondents. Whether Bjørklund (1985) compared his responses to factual records remains unknown, since his study lacks an explicit statement of the methods used.



the language, but only a few could speak it themselves. However, confusion occurred when they were asked to give a definition of Saami *culture*. Nobody gave a clear answer to this question, and most returned the question to the interviewer asking what culture is. In sum, the respondents revealed a different picture than that of Bjørklund. In fact, people talked many times about their relatives and about being Saami. This may partly be attributed to the time lag between the studies. However, it may also be due to Bjørklund overlooking the fact that some of the social traditions and practices among the Saami may still be vital in spite of being repressed by the Norwegian State and Norwegian culture. The administrative processes described above may point to one of the problems which occurs when the cultural features of the Saami, and their particular social organization, come into conflict with the rules of the bureaucracy. Specifically, the remaining traditions of the *Siida* conflict with the rules of the bureaucracy.

The *Siida* is an extended family. On a larger scale, it is also the basic nomadic unit for reindeer herding (Eidheim 1971). In an article on the subject, Erke (1994) emphasizes some of the characteristics of the Saami way of organizing the family:

1. *The Saami divide their relatives into year-classes. The nomenclature differentiates between siblings of the parents being younger or older than the parents of the object* [That is the aunts and uncles of the object]<sup>58</sup>.
2. *Collateral relatives* [sideways relatives such as sibling, cousins, aunts, and uncles] *are heavily emphasized in Saami families. For example, cousins of the parents in Norwegian families are considered siblings of the parents* [that is the object's aunts and uncles] *in Saami families.*
3. *Ritual* [people joining the family through rituals such as godparents by baptism] *and affinitive* [those married into a family such as in-laws or siblings-in-law] *relatives are more emphasized than in Norwegian families. For example, the godfather and godmother do not only have a family relationship to the child, but also to the parents of the child* (Erke 1994, 32 [My translation]).

The *Siida* was organized in such a fashion that most people who were part of it were relatives in one way or another. From a functional perspective, the organization of the *Siida* has several advantages in an existence as nomadic pastoralists. In situations where the *Siida* operated as an economic unit, for example as reindeer pastoralists, family ties reinforced lines of authority. This served to unite the *Siida*, especially in cases where conflicts occurred between different *Siidas*. When involved in conflicts, whether internal or external to the *Siida* itself, family relations served to tie people together by the fact that duties and expectations followed a known

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<sup>58</sup>The «object» is the self that describes his/her family.



and recognized genealogical system. Another advantage to the system lay in the distribution of social goods such as property. Since social rights, such as access to fishing spots, followed from the structural position in the family, internal conflicts could be avoided because everybody was subject to the same known and recognized rules. A final advantage lay in the social distribution of responsibility. People living in a subsistence type of economy, as most Saami reindeer pastoralists did, are often dependent on their family when they get old. The family helps them to cover their subsistence needs. The Siida provided for an organizational structure where such tasks could be distributed more flexibly than in the Norwegian system. Because people in the Siida were tied to one another in multiple relations, care-taking responsibilities could be accomplished in many ways (Erke 1994, 36).

The Siida was often led by a council of older men who had the final say in most matters within the jurisdiction of the Siida. This generated a small social system which was transparent to those who belonged to the system, but which may have been invisible to those outside the system. To outsiders, the genealogical algebra of the system is complicated. An outsider tended to relate to the Siida as such and not the individuals in the Siida. The Siida was the object for interaction and not the individuals which constituted it. This was due to the fact that the Siida operated as one unit towards the outer social world. Erke (1994) emphasizes that the Siida, as a family system, probably has ceased to exist among the Saami who are not reindeer pastoralists. Among those who are still reindeer pastoralists, the Siida system remains strong because it represents the basic management nucleus in this industry. Consequently, when nobody in Codfjord is involved in reindeer herding, is it reasonable to assume that some of the problems which occur in the administrative matters of the municipality can be traced back to some of these assets of Saami culture? No concrete institutions in Codfjord can be rightfully called a Siida and none of the informants call any present institutions for a Siida. However, some of the social processes analyzed may be understood against the background of the traditions of the Siida, especially since many of the inhabitants say that they are Saami.

In the case of the Fisheries Committee, legal capacity has been a problem. While those having interests that formally contradicted § 6 a), b), c) and d) in the Norwegian Law on Public Management are required to leave the deliberations when the nature of the decision so demanded, the problem of legitimacy remained. The Saami family system may explain some of the problems which arose. While the Siida, as a concrete social organization, has ceased to exist in Codfjord, the traditions that follow from the Siida seem to remain strong. Those in elected positions feel obliged to give preference to people to whom they are tied because this is customary. This form of behavior conflicts with the judicial traditions of Norwegian law.

Norwegian law sees it as morally offensive to work for the best of one's relatives when one is in a position that allows this. In Weberian terms, impartiality is meaningful in a modern administrative system because it serves to create an efficient, predictable and «objective» system of decision making. However, to work for the best of one's relatives, and to acquire a structural position that allows for this, is a moral imperative in the Siida because it contributes to the survival of the whole family and therefore the acting individual himself. In Weberian terms, it is meaningful for the Siida that persons from the family give preference to their own group, because the group as such acquires an advantage when competing for scarce resources. The contradiction between these two normative orders, one legal and the other traditional, gets even more confused in the case of the Fisheries Committee. The legal definition of a relative does not correspond to the Saami definition of a relative. Accordingly, the law does not fully represent a barrier against nepotism. This may also be one of the reasons why public management in Codfjord seems to strive with frequent problems of legitimacy. The Saami tradition of giving preference to one's relatives remains strong but creates two problems. First, it is regarded as illegal in the Norwegian judicial system to use a position in the bureaucracy to promote the interests of one's family. Secondly, the law fails to capture the differences between Norwegian and Saami genealogy. This makes it difficult to come to terms with the administrative problems of the municipality.

In a general perspective, the end of the Siida as a concrete social organization in Fjord Saami districts, in addition to the three cases discussed above, point to some of the effects of the Weberian notion of rationalization. Traditional actions are replaced by actions which are driven and fueled by formal economic rationality, partly due to the effect of changes in the prevailing form of authority. As the system of authority is changed from traditional to legal, actions are «pushed» in new directions. In this case, they are pushed from traditional to instrumentally rational actions. On the other hand, the findings of this chapter show that Codfjord, as a normative system, certainly rests on traditional institutions also. In particular, Læstadianism remains an important platform for the actors' orientation in the social system. While political discourses hardly ever directly refer to the normative maxims which form part of this religion, the religion is present as a latent structure, being translated into concrete actions when the actor needs to legitimize his/her actions. Since the derivatives of religious maxims remain the dominant platform for legitimizing behavior, arguments based on instrumental principles are invalid. In fact, they are often condemned. This creates a paradox as actions which are oriented to formal economical rationality usually are legitimized by reference to norms that are anchored in substantive economic rationality. This is accomplished by constructing a series of quasi-arguments. However, the normative hegemony of religion and substantive economic

rationality, as well as the political organization that follows from this orientation, is put under pressure from actors who orient themselves in terms of formal economic rationality. The reasons why these «modern» actors find it necessary to undermine the hegemony of tradition may be many, but it remains clear that many of the obstacles traditional fishermen create for others represent hindrances to the accumulation of profit for those who run their fishing operation purely as a business operation. Another factor may be that «modern» fishermen strive for recognition of their values, lifestyle and perspectives. In short, rationalization assumes a form where actors strive to get their normative life-world recognized as valid within the material and cultural context of the Codfjord fishery.

# **Chapter Ten**

## **Economic Actions of Fishermen in Codfjord**

At the core of Weber's notion of rationalization lies an analysis of different types of economic actions, as discussed in chapter 1. The two ideal types of economic action, substantially and formally economically rational actions, point to two different forms of normative coordination. Substantially rational actions are coordinated with traditions and the specific norms that are generated from the actors' cultural heritage. On the other hand, formally rational actions are coordinated with the norms and behavioral guidelines that exist in a capitalist production system. These two types of actions may or may not be opposites, since it is quite possible that the traditional rules may be consistent with the rules of capitalism. However, this is an empirical question and must be analyzed on the basis of observations of a concrete set of actions. This chapter will serve this purpose, discussing the economic actions of fishermen in Codfjord by use of the concepts developed in chapter 1. The intention of the chapter is to establish an understanding of how the Codfjord fishermen orient their economic behavior, and to locate the different factors which affect it.

The economic actions of the fishermen in Codfjord may be split into a variety of types depending on their intentions. Behavior at sea and behavior when investing in a vessel are two different empirical types. Consequently, the logic behind the strategies employed in each case is different. In this study, all possible empirical areas where fishermen deal with economic matters are not described; the discussion is limited to the areas that the data presented above represent. The chapter starts by discussing different economic strategies and actions among the fishermen in Codfjord, emphasizing how different economic behavior is related to other phenomena in Codfjord. This discussion is used to establish an understanding of how economic actions are guided by different normative orders and authority and how the economic actions, in turn, contribute to creating new normative orders.

### **10.1 Economic Actions and Strategies**

In Weber's perspective, economic actions may be considered as belonging to either one of two ideal types. Substantially rational actions are situated, and performed in accordance with, local norms, values and institutions (Weber 1978). «Local» means valid within a delineated social space, in this case Codfjord municipality<sup>59</sup>. Formal rational actions are based on means-ends

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<sup>59</sup>This does not mean that the norms, values and institutions in Codfjord are unconnected to norms, values and institutions outside the borders of Codfjord. It means that the data used here do not allow for

calculations where the maximization of individual utility assumes the structure of a universal normative imperative, and thereby universal validity, in capitalist states. When behaving in a formally rational manner, the individual disconnects himself from the local norms and institutions because actions are only meaningful to the extent that they contribute to maximizing individual utility, regardless of the consequences this behavior may have for the social and cultural context of the actor. This goal is normally connected to the universal norms of capitalism, not traditional, local norms, unless local norms and the norms of capitalism are identical.

Concepts such as «traditional» and «modern» have been used to describe factors that segregate the population of fishermen. The concepts are understood as representations of types of economic behavior. For example, nobody explicitly refers to himself or herself as «modern», but the characterization of actors as «modern» rests on a general definition of «modern», as it is understood in this text. Empirical behavior occurs as degrees of these ideal types: those considered «traditional» behave in a more substantially rational way while those who are «modern» act in a more formally rational fashion. This conceptual division is employed to underline the factors that have an effect on economic behavior. Since economic behavior is connected to several other phenomena, such as culture and individual psychology, it is necessary to use wider concepts than Weber's ideal types to examine this relationship. In the following discussion, the concepts «traditional» and «modern» indicate a wider array of social phenomena than just those pertaining to economic behavior, and the discussion will clarify the content of these concepts.

### **10.1.1 Traditional Fishermen**

The economic behavior of fishermen labeled «traditional» is marked by an interconnected set of behavioral attributes. While they have accumulated savings through years of hard work and have had an ascetic life-style, they show reluctance to reinvest profit. Rather than reinvesting for adaptation to a management system that rewards an efficient and «technified» fishery, they rather save their profit. This economic strategy both pertains to their fishing operation and their personal expenditures. These fishermen often use older fishing vessels that are inherited and they tend to stay with their vessels for long periods, often until it breaks down completely. The economic strategy of traditional fishermen lacks a distinction between investments and costs, as both are regarded consumption. Concerning personal consumption, especially «modern» goods such as cars, large houses and leisure such as vacations, traditional fishermen show temperance.

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inferences about populations other than Codfjord.

Buying these «modern» goods is seen as conspicuous consumption which is regarded a «sin». Their response to the vessel quota system consisted of reducing costs and attempting to catch fish with the lowest possible expenses. However, some of the traditional fishermen never took their quota, partly because the quota exceeded the amount of cod they used to catch before the vessel quota system was introduced. While traditional fishermen employed the risky strategy prior to the vessel quota system, their response to the system was to maintain the profit of the fishing operation by reducing costs. Summarizing the empirical findings yields a picture of these fishermen as economically careful and following a defensive strategy. These strategies can be seen among those who are religiously active, but also among those who are not religiously active at all.

The reasons for this behavior may be traced back to the different historical, cultural and normative structures that have an effect on the fishermen's behavior. People of Saami heritage have traditionally inhabited the Codfjord area. According to Bjørklund (1985), many of the traditions in the area can be seen as typical for this ethnic group. The economic behavior of the Saami consisted of switching between different industries, and keeping in phase with economic and ecological cycles. This approach was strongly centered on the household as the basic production unit. Production was directed towards covering subsistence needs, as opposed to the need for capital. Accordingly, market conditions had less effect on the production of the household than ecological conditions, because many of the products generated by the household were made for direct consumption and use and not for exchange on a market (Brox 1964). Ecological conditions had the effect that these subsistence needs ultimately could be threatened, because the ecology of the local environment represented the basis for covering the subsistence needs of the household. Instead of using cash incomes as the basis for the economic activities and subsistence needs of the household, cash incomes were used as an economic guarantee against ecological recession. When incomes from fishing and farming became reduced, cash savings made it possible to survive. Thus, money has not been an object of reinvestment and speculation. Instead, it has been used as a buffer against ecological recession. This may also be the reason why some of the fishermen never caught their full quota. When the quota exceeds the amount perceived as needed to cover the subsistence needs of the household, the fishermen spend time on other activities than work, like hunting and different recreational activities.

The emergence of Læstadianism as an important normative factor among the Codfjord fishermen can be explained in two principally different ways. It may have been purposely adapted because its normative imperatives are consistent with the economic culture of the

Saami. This seems a reasonable explanation since its founder adapted many biblical texts to its target group, which mainly was Saami (Sivertsen 1955). On the other hand, the consistency between the local culture in Codfjord and Læstadianism may be a latent function of Læstadianism becoming manifest through its confirmation by economic, cultural and social traditions in Codfjord. Choosing between these explanations is hard because it requires an historical overview beyond the scope of this text. However, it seems clear that Læstadianism, as a normative factor, has served to reinforce the economic behavior of traditional fishermen in Codfjord. The particular emphasis that Læstadianism puts on pureness and asceticism before God, combined with a strong emphasis on the punishment of deviance, serve to constitute and reinforce the specific economic action orientation found among traditional fishermen. From an economic perspective, the action orientation consists of fishermen following actions prescribed in Saami culture, that is, subsistence, legitimized by reference to derivatives of the normative maxims and imperatives of Læstadianism. However, it is interesting to note that not only those who are religiously active comply with traditions. Many fishermen who are not religiously active behave similarly to those who are active. This finding shows the prevalence and strength of traditions in Codfjord, as well as the impact that Læstadianism has on economic behavior among the fishermen in general. The economic traditions of Læstadianism must be seen separately from Læstadianism as a system of faith. In one sense, Læstadianism has become bigger than itself. Its prescriptions for economic behavior also represents the fundamental economic tradition for more actors than just those who subscribe to its system of faith. This must be seen in relation to the history of the Codfjord region, where Læstadianism was a general system of religious faith and had more participants than it currently has (Bjørklund 1985). Thus, the logic of economic action seems to prevail, while its system of religious faith has ceased to be as dominant as it was.

The traditional action orientation has become increasingly manifested, that is, turned into a recognized normative order by its guarantees. The guarantees of the normative order which prescribes traditional actions consist of the rights of informal leaders to sanction those who deviate from their prescriptions. Sanctions vary, but most are informal and organized through direct and transitive authority in the community. This system of authority resembles the one present in both the Læstadianist congregation and the Siida. In the Læstadianist congregation, the preacher's authority includes the right to supervise its members. This is concretely manifested as the perceived right of those who claim religious righteousness and thereby the authority to sanction others whenever this is found to be appropriate. The influence of the Siida – as a form of social organization – on local authority is unclear. It appears that the relational foundation of the Siida as an economic organization is presently manifested both informally (as

in the case of the Seglvik network) and formally (as in the case of the Fisheries Committee). Norwegian law fails to grasp the kin structure of Saami family relations and many actors still comply with traditions. Thus, the traditions of the Siida remain important as a structural foundation of authority in Codfjord because it cannot be connected to the genealogical assumptions present in Norwegian law. It is important that Læstadianism and the Siida are not explicitly referred to when justifying use of authority. Rather, these acts are justified by reference to the validity of traditions and thereby the acts themselves. These acts, that is, both exercising and subjecting oneself to the authority, can therefore be labeled traditional in the Weberian sense, because their purpose is to act in accordance with the prescriptions of the acts themselves and they are sanctioned by convention.

Traditional economic behavior can still be found among some of the Codfjord fishermen, mainly because strong authority relations protect this approach. However, this approach is put under pressure by actors who behave differently and who are outside the reach of traditional authority. Such actors can therefore only be sanctioned partially, and sometimes not at all. These actors contribute to altering the limits of accepted behavior. The traditional economic approach also experiences pressure from other sources, especially changes in the economic context of the local fisheries. One of the most important changes is that the household has largely ceased to be the main production unit among fishermen. Fishing, farming and other occupations have been subjected to state intervention and market integration, causing these to become directed towards producing commodities for sale on a market rather than consumption in the household. These processes contribute to connecting the individual fisherman to a bureaucratically governed market economy. State management systems regulate effort, prices and production cycles. The result is that the fishermen have jobs with fixed incomes governed by regulations that the state can change at any point in time. One of the consequences is that traditional fishermen become increasingly dependent on economic conditions on which they previously were not dependent. Nevertheless, traditional fishermen in Codfjord seem to maintain their economic strategies. The result is a situation where the fishermen accumulate an increasing amount of profit, due to saving, but refuse to use it unless they are replacing subsistence goods. While the structural context of these fishermen may adequately be termed «capitalist», the traditional fishermen still behave as if they were located in traditional economic context. This is possible because the fishermen use capital to protect themselves from a capitalist state and market, instead of using the capital to become integrated in this production process.

### **10.1.2 Modern Fishermen**



Modern fishermen are first and foremost marked by their specific adaptation to the continuously changing economic, political and ecological context of the Codfjord fishery. Changing ecological contexts are one of the most distinct contingencies in fishing, as compared to other business enterprises. The modern fishermen in Codfjord are those who adapt their fishing operations to these changing ecological circumstances, with the overall intention of making the most possible profit. This is concretely manifested as planning further investments in accordance with projected economic and ecological trends. Some fishermen used the negative ecological and economic development towards the end of 1980's to «invest» themselves out of economic problems. While traditional fishermen saved on all expenditures, modern fishermen used savings, loans and economic support to invest in larger vessels. This was a calculation in which the fishermen took advantage of low prices and a management system that gave economic preference to those with larger vessels. The importance of this behavior is not whether it was successful or not; the importance lies in the strategic aspects of the process of investing. Instead of relying on the tradition of cutting costs and living from cash savings during hard times, modern fishermen invested in their fishing operation so that it would be better adapted to the management system and ecological contingencies. This is a qualitatively different strategy than that employed by the traditional fishermen, since it relies on factors that are external to the community (politics, ecology and economics), instead of tradition.

However, fishermen in this category are also distinguished by other behavioral attributes. The need for and focus on capital, as opposed to subsistence, have led some to become involved in illegal fishing. As noted above, these actions may be explained by the same mechanisms as those that generated the traditional risky strategy, an approach that was employed when deciding whether to fish elsewhere. However, instead of «gambling» the extra expenses accumulated by fishing elsewhere against increased profit by good catches, the fishermen risked the costs of being caught against the profit stemming from illegal sales of fish. In that specific sense, the structure of the act of fishing illegally may be considered traditional, because it involves a traditional logic of risking costs. However, this comparison must take account of the significant change of means used for reaching the traditional goal, which is increased profit. While the act was originally based on projections of ecological trends, which in themselves rest on an ecological exploitation, the «new» orientation rests on predictions and calculations about the legal system, which is a modern phenomenon. One may therefore consider this an instrumental use of traditions, where the logic of substantively rational actions is maintained, but where the act itself become formally rational through a change in the relationship between means and ends. Instrumental use of traditions is also present in other areas. Paradoxically,

modern fishermen also keep the old tradition of combining different industries alive. Some fishermen spread economic risks by being employed in different industries. However, the income limitations imposed by the vessel quota system restrict the fishermen's involvement in other industries. More importantly, the fishermen are not involved in several occupations because it is tradition, but because other industries are instruments used for covering the capital costs of the fishing operation. Thus, the reasons for combining industries are not substantively rational but formally rational, since the goal of these actions is to generate profit and not to comply with local moral/cultural traditions.

What has triggered this economic approach to fishing, and when did it occur? An answer to this question must probably account for both several changes in the Codfjord fisheries and its environment. Firstly, the modern approach to fishing may be the result of some of the latent functions of multi-industrial involvement, which has been a tradition in Codfjord. One of the latent functions of combining different industries lies in applying knowledge generated in one industry to another. Traditional occupations which are held in conjunction with fishing include farming, carpentry and construction work. All these occupations, especially farming, have been subject to state intervention for the past thirty years (Almås 1977). Because farming is both significantly subsidized and regulated by the state, many of the economic dispositions of the farmer are reactions to the particular economic, political and ecological cycles present (Vatn 1984). State intervention in farming precedes state intervention in fisheries, and may have served as a learning process whereby people began to run their farm in formally rational terms. Over time, this logic has been transferred to fishing, contributing to the modernization of the local fishery. Furthermore, both carpentry and construction work are based on wage-labor employment. More importantly, both occupations have a double connection to the market. First, employment in both sectors depends on economic conditions in the construction sector. Second, the wages of an employed worker are still dependent on market demand. This causes economic actors at the local level to adapt to the mutual dependency between national and international conditions and local employment. Knowing that fishing has also become dependent on the same factors, such processes contribute to disconnecting the fishermen from their traditional economic approaches. Now they plan their fishing operation in accordance with economic, political and ecological projections and calculations instead of local traditions.

These occupations are just a few of several arenas where actors in Codfjord are subjected to the effects of state intervention, but also membership in the capitalist market. Fishermen are also members of several institutions that are part of the state capitalist production process. When the fishermen become periodically unemployed, they receive unemployment benefits from the

state. When they get sick, they also receive benefits from the state. They apply to banks and different financial agencies to finance their vessels. In the sale of fish, they deal with fish processors and market conditions. When they build a house, they relate to the branches of the state dealing with several of the legal and financial aspects of house building. When they get old, they are sent to the closest nursing home for the elderly. These are but a few of several relations that the fishermen have to different state institutions. In these institutions, a bureaucracy that resembles a production process objectifies the fishermen as «customers». Most importantly, the rights of the actors are independent of their personal, social, economic and cultural history. Instead, their rights are based on impersonal and universal legal principles which aim to efficiently «process» the object, that is the individual per se (Williams 1989, 1990). Indeed, the fishermen are part of these institutions and not simply subjected to them. Receiving services from these different institutions serves to confirm and uphold the existence of the institutions themselves. The consciousness of being part of these institutions, as well as the adaptation to the rules that they work by, serves to connect the fishermen to the logic by which these systems work. This logic is subsequently transferred to running a fishing operation, resulting in a change in the cognitive foundation of the fishing operation.

Different cultural influences are another set of factors that have an effect on the way that the fishermen think about their own fishing operation. Some of the fishermen have lived elsewhere, either to get an education or a job. Reasons for moving have been both emotional (for example, that they did not like living in the community), and pragmatic (scarce employment opportunities). Some of the fishermen have also been involved in industrial fishing, either as owners of larger vessels themselves (shrimp-trawlers), or as crew on trawlers or seiners. In addition, many have relatives who are involved in different industrial sectors of the fishing industry. Many of these cultural influences are anchored in economic approaches which deviate from the traditional economic behavior found among the traditional fishermen in Codfjord. While it seems unreasonable to claim that everybody except those living in Codfjord act in formally rational manner, it does seem plausible that confrontation with different cultures generates values, norms and knowledge which differ from those which have typically been hegemonic in Codfjord. This causes the actor's set of cultural preferences to change, and some fishermen choose a different lifestyle than the traditional one. Some have also chosen to combine different lifestyles, and developed multiple identities by establishing relations with other cultures. By adapting to more urban cultures, people come to appreciate lifestyles different to those found locally and some also adapt to the particular form of economic rationality that is part of these systems.

While all these different factors certainly have contributed to modernizing some of the fishermen in Codfjord, another factor may also have motivated the fishermen to modernize. The fact that most fishermen who have been labeled «modern» in the empirical analysis come from Læstadianist families does not seem to be a coincidence. Drawing on the distinction between Læstadianism as a system of faith and as a system of tradition, the modern fishermen show how some of the traditions of Læstadianism can work when they become intertwined with other structural factors that Codfjord is part of. Above, it was claimed that many non-religious fishermen comply with the traditions of those who are religiously active because Læstadianism still represents an important structural factor in the creation and maintenance of traditions in Codfjord. Modern fishermen combine the work ethic and temperance of Læstadianism with a particular understanding of the modern world and how it works. It should be added that traditional fishermen do not necessarily lack an understanding of the modern world. Rather, they refuse to adapt to it. The modern fishermen replace the tradition of cutting costs during hard times with investing during hard times, calculating their investments according to projected economic and ecological trends within the framework of a management system that is predictable. The importance of Læstadianism in this process is similar to that which Weber observed among the Calvinists, with the exception that modern fishermen do not subscribe to the Læstadianist system of faith. The religious tradition enables the fishermen to see meaning in economic behavior by providing concepts that direct the actions necessary for success in a modern capitalist system: hard work, saving, temperance, asceticism and the like. Instead of these concepts being connected to a set of religiously defined goals, such as salvation, they are connected to the goals of the economic system, such as wealth, efficiency and profit accumulation. Thus, the conjunction between religious traditions and the ethic of capitalism contributes to creating modern fishermen in Codfjord.

It is difficult to argue that the vessel quota system itself caused some of the fishermen in Codfjord to employ modern economic strategies. To some extent, the vessel quota system represented an additional factor which confirmed and reinforced an economic approach among those fishermen in Codfjord who already acted in formally rational ways at the time that the new system was imposed. The fishermen must have been formally rational before the vessel quota system was introduced because they were unable to make use of the system unless they already knew how to use it formally. However, this does not mean that the social and cultural effects of the vessel quota system were trivial in any sense of the term. For modern fishermen, the imposition of the system provided an opportunity to implement instrumental investment and fishing strategies, since it represented a known and predictable legal framework for fishing. Because of the vessel quota system, competition among fishermen was reduced because the

number of fishermen dropped, and the prices of vessels decreased. Fishing seasons became formalized and stabilized, governed by laws with universal applicability. Incomes became fixed in proportion to vessel length. All these are qualities of the vessel quota system which allow the fisherman to control for external factors when planning the fishing operation in the most formally rational fashion possible. The fisherman does not accomplish complete control over all of the external factors that have an effect on the economy of the fishing operation. Through the vessel quota system, however, he gains *more* control over these factors. As shown in the empirical analysis, this allows him to plan the fishing operation in such a fashion that it yields the highest possible profit because it allows for accurate predictions. This has been accomplished by various means; investing in larger vessels, branching into other industries to reduce financial risks, reducing operating expenses through the use of technology, exploiting other species than cod if these are profitable, working harder, fishing illegally, and several other things that deviate from the behavior of traditional fishermen in Codfjord.

The significance of these deviations lies in their normative differences from the traditional approach to fishing. This is discussed next, where the modern economic approach to fishing is seen in relation to the traditional one.

## **10.2 Local Differentiation**

The empirical manifestation of the difference between «traditional» and «modern» fishermen has several facets and degrees that must be accounted for. However, the point of the distinction is not the dichotomy itself, but the processes that split the population of fishermen in Codfjord into two main types. In this section, some of the forces which serve to generate differences in economic behavior among the fishermen in Codfjord are discussed.

### **10.2.1 Dissolving Traditions**

The definition of economic action is closely related to its normative context; what is rational is largely dependent on what is considered right, just and fair. It becomes meaningful and intelligible, for both the actor himself and those actors constituting the context of the action, to the extent that it corresponds to the norms present in its location (Haga 1991). Social locations are the particular fields within a social system where distinct sets of norms have applicability

and therefore validity<sup>60</sup>. It must be generally recognized among the actors present in the field that these specific norms are valid within this location. However, this is also where disagreement between the actors may occur. In principle, disagreements concerning the validity of norms are of two kinds. First, actors may disagree on how norms should be applied. Second, actors may disagree on the definition of which actions belong to which fields, and therefore what norms they correspond to.

The traditional approach to fishing has several qualities and attributes stemming from a production system based on subsistence. At first sight, the definition of the economic field among traditional fishermen in Codfjord is narrow when compared to modern fishermen. In principle, traditional fishermen in Codfjord are involved in «economic» activities to the extent that their actions are directed towards covering the subsistence needs of the household. However, the data presented above show that the empirical manifestation of this phenomenon is more complicated than this. Above, the different processes initiated when groups in the community started to argue with one another concerning the fish house was elaborated on. The analysis of the conflict between these groups uncovered conflicting economic interests, while the discourse between the groups was formulated as arguments for and against other's compliance with normative standards. In addition, some of the norms of economic transaction were described in the case of selling fish. This case shows that running and owning a fish house may be used to accumulate profit and exercise authority simultaneously. Different mechanisms of social control have also been analyzed; these yield a picture of the complex interrelationships between economic behavior and authority in Codfjord. First, the analysis shows that social control among the fishermen remains based on what Weber termed traditional authority, but fishermen who push the limits of «acceptable» behavior challenge this social control. This generates a series of conflicts.

The Læstadianist ethic, which prescribes asceticism, generates a distinct normative superstructure for economic activities in Codfjord. The normative superstructure may be called economic egalitarianism. Theoretically, egalitarianism may be considered an institutionalization of different standards of *equality*, that is the moral maxim that everyone is equal. However, the social definition of equality found among traditional fishermen in Codfjord seems to imply that everybody subjected to the local religious leaders should be equal, not that *everybody* should be equal. This is an important difference, because the definition provides the right of those considered leaders to judge other's behavior, while the leaders themselves are

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<sup>60</sup>Cf. Bourdieu's three-dimensional social spaces (Bourdieu 1984).

exempt from the behavioral restrictions that they impose on others. Everybody but the leaders is «equal». Concretely, the egalitarian content of this ideology may be articulated as two different maxims.

1. *Those who have too much should be sanctioned until they agree to have as much as the rest.*
2. *Those who have less than average must be helped until they have as much as everybody else.*

The authority behind the enforcement of these maxims is institutionalized in the Læstadianist congregation by its specific confession mechanisms. During the confession, the sinner admits his sin, afterwards subjecting himself to punishment or the threat of punishment from the preacher. The preacher's authority is transitive, that is, valid in all aspects of life – not only religious questions. Thus, the leader of the congregation is free to operationalize equality, fairness and justice in different situations, not only those relating directly to religious questions.

This structure of informal authority has transcended the congregation, and has become an important asset of the general structures of informal authority, and thereby economic actions, in Codfjord<sup>61</sup>. In the culture of Codfjord, informal authority is articulated as the right of some persons to exercise authority at their own discretion, if their structural position allows for it. This authority is guaranteed by use of several mechanisms. A mixture of religious, social and economic sanctions were used to punish unwanted behavior. While it remained unclear what the definition of «unwanted behavior» was exactly, it was evident that the persons who were sanctioned had followed an expansive economic strategy that was perceived as conspicuous consumption. It also remained clear that those who exercised authority were economically prosperous themselves, and that they may have lost this position if others were allowed to expand as much as they had intended. However, elevation from the «congregation», that is, the structural position of those who can punish, makes their own economic interests a non-issue in this process. Similar underlying economic motives were also observed in other situations where conflicts occurred. This results in two different sets of normative guidelines for economic behavior: those in authority have one set of rules, while those subjected to the rules have another set.

The three cases referred to show the particular normative content manifested through the

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<sup>61</sup>The low external validity of network analysis imposes restrictions on the conclusions that may be inferred from this analysis. However, processes similar to those analyzed in chapter 8 were found in several locations in Codfjord. It therefore seems reasonable to assume that the specific form of social control enforced in Seglvik is also prevalent in other villages in Codfjord.



economic actions of traditional fishermen in Codfjord. Even if the traditional fishermen have strong economic interests, they hardly ever explicitly refer to these intentions when justifying their actions. The economic field has a narrow definition among traditional fishermen (an action is economically motivated to the extent that it is directed towards covering the subsistence needs of the household). Therefore, economic interests that extend beyond the subsistence needs of the household, for example investments, profit rates and efficiency, are justified by reference to general behavioral norms (like egalitarianism), not the particular economic and practical interests involved. When conflicts of interest occur, positions are articulated by use of quasi-arguments where parties try to convince themselves and others that they are acting more in accordance with local norms. The «technical» and «rational» discourse present in capitalist exchanges never occurs, because such arguments are invalid, being a sign of religious and moral degeneration. The reason why this occurs may partly be traced back to the transitive character of authority in the community. The «leader» has the right to intervene in any matter that he sees as within his jurisdiction. His judgments are legitimized by reference to his capacity to derive and interpret local norms - not his insights in the practical interests present in the concrete situation that has caused the situation on which he must pass judgement. The leader may have specific interests himself, and he may also be partial in the case. However, this does not matter for the others as long as his authority is ascribed to by people who believe in his right to judge and supervise people according to his interpretation of local norms. This form of authority contributes to the creation of a specific action orientation among traditional fishermen in Codfjord, in which all actions are judged by their consistency with the imperatives of egalitarianism sketched above. This creates a situation in which it is hard to debate economic, political and social interests, since all underlying economic interests are tacit and implicit in the argumentation.

The same reasons also explain how formal economic rationality faces limitations in a social system in which those who exercise authority act in substantively rational ways. One of the assumptions behind formal economic rationality, a clear and distinct separation between means and ends, becomes confused since the «real» end of the economic actions of traditional fishermen never become a discursive matter. The differentiation between means and ends, important and unimportant elements, and the like, which are present in the capitalist action logic become meaningless and therefore invalid as a part of the normative basis for economic action. As long as the traditional fishermen also have available the means to guarantee their authority, the formal economic rationality of modern fishermen can never become fully developed because their actions are justified by norms that are invalid among the traditional fishermen. However, the same forces which hold the traditional authority together may serve to



undermine it.

That the definition of economic action among traditional fishermen seems not to correspond with their own interests in the economic field may be considered a manifestation of social changes in the Codfjord fishery. One of the effects of being embedded in a capitalist political economy is dependency on the mechanisms and institutions of this production system. In a subsistence type of household, the definition of the economic field is narrow partly because the household is the most important institution and rule-maker for all economic, political and social activities. In one sense, such households were institutionally isolated from the state because most decisions could be taken in the household, independent of the laws, decisions, strategies and policies stemming from the state. Also, because people needed to help each other during times of scarce access to the means of subsistence, mutual bonds of economic dependency tied households together. This may be the material anchor of this egalitarian ideology, since egalitarian principles between households contribute to giving the redistributive effects of this system legitimacy. As noted above, this production system has been altered significantly by several forces, notably state and market intervention in traditional occupations. The case of the fish house shows one of the clearest ways in which the market sets boundaries on traditional authority. While the fishermen may use their ownership of the fish house to punish unwanted behavior by local fish-processors, they also run the risk of going bankrupt because they refuse to sell fish to the dealer. Consequently, exercising traditional authority may ultimately lead to the fishermen losing the means by which they enforce their authority. In contrast, if the owners of the fish house reoriented their economic actions in the terms of formal economic rationality, the intention of their action would be to maximize profit. In that case, the fact that the behavior of the owner of the local processing plant irritated them would be irrelevant, since there is no place for emotions or normative maxims other than those necessary to accumulate profit in a capitalist production system.

State intervention has removed several facets of life in Codfjord from the sphere of the household and into different state institutions. The vessel quota system is one of these factors. However, many forms of state intervention preceded the vessel quota system in time. For example, if the household for some reason was unable to cover its own subsistence means, it sought help from the state - not from their neighbors. The act of taking advantage of the welfare state, which in itself is reasonable because it is funded by the taxes that the recipients have paid themselves, implies reducing the significance of the household as the basic unit for organizing the economy. The significance of the household is reduced because the state, not the actors in the household, is responsible for the household if it becomes unable to support itself. Another

aspect of the same phenomenon is changes in egalitarian principles of redistribution. As argued above, the egalitarian principles which prevail among traditional fishermen in Codfjord are founded on the social ties among households. These ties serve as economic guarantees and an informal social security system. However, being economically dependent on different public resources disconnects these actors from each other. Accordingly, when the social relations upon which the egalitarian principles are founded lose their importance, it becomes harder to guarantee the authority that is dependent on these same social relations. However, one should be careful not to exaggerate the effects of these processes, since data reveal a lag between the material basis of the system of authority and the authority of the system itself. While the means for sanctioning each other have been reduced, the traditional authority of local leaders is still strong in Codfjord. However, it is becoming weaker every day.

In this section, some of the factors which have caused social change in Codfjord have been discussed. Most of these are located in factors that are external to the community - that is, state intervention and the market. However, social change is also anchored in the fact that the actors in the community themselves want social change. This is discussed next.

### **10.2.2 Gaining Employment and Emancipation**

Social processes are not only initiated and driven by social forces that are external to the actors. Actors are not only subjected to social processes and structures. They also create social processes and structures themselves. Because humans are self-conscious, actors that are able to reorient their actions, creating new action-orientations, cause many forms of social change (Berger and Luckmann 1985, Weber 1978). This is also the case in Codfjord. In the following, some of the different internal factors which have changed the Codfjord fishery are discussed, emphasizing the cultural and normative dynamics caused by actors who have reoriented their actions towards typically modern goals. Such goals are related to certain epistemological processes that will be sketched first.

Everyone has a set of concepts and experiences by which the world is understood. This may be called the horizon of understanding. The concept should be understood in a processual perspective, since a person's cognition is in constant flux (Gadamer 1989, Heidegger 1982, Ricoeur 1981, Taylor 1989). The individual who expands her horizon of understanding acquires knowledge that transcends the old concepts by which the world was comprehended, replacing these concepts with new ones that are adapted to understanding the «new» life-world. While the social context was previously adequate for fulfilling her needs, aspirations and preferences, the new set of concepts and the new understanding reveal the limitations imposed

on her by the initial social context (Hellesnes 1988). If the actor decides to continue living in a context more consistent with her needs, there are two principally different options open to her. First, she may leave her «original» culture, i.e. the culture representing the initial basis for her understanding, and move elsewhere. Second, she may decide to change the «original» culture, making it fit her needs and preferences. If she decides to change the original culture, she may come into conflict with those who are not exposed to cultures other than the original one. Those who live in the original culture may be unable to understand why she wants to change the original culture, since their concepts of the life-world are incompatible with hers.

The empirical analysis showed that almost half of the full-time fishermen in Codfjord are unmarried. This was related to at least two attributes of the community that may cause women to leave the community. First, the labor market for women is small in Codfjord. Second, several women who come from fishing families wanted to leave Codfjord. While being loyal to the community as such, and to their families, there was tension between the local culture and the desire of the women to pursue a career. It is plausible to claim that both factors are related to changes in the economics of fishing and the relations of authority in Codfjord. While small-scale fishing to some extent used to be a family enterprise, hardly any of the fishermen - traditional or modern - no longer rely on their family to accomplish the different tasks involved in the fishing operation. At the same time, the economic significance of farming, which used to be the other cornerstone in the economy of Codfjord, has decreased, partly due to the different forms of state intervention that have imposed effort restrictions on small-scale farmers. Since the local labor market for women is small, most of the wives of the fishermen stay at home, being responsible for raising children as well as taking care of the house. While the significance of this work is underestimated (for example, disabled women who do not have a career in the formal labor market are not considered eligible to receive economic compensation from the state), it should not be underestimated as an integrating factor in a small community such as Codfjord. Many husbands no longer make long fishing trips since migratory fishing has ended due to the effort restrictions of the vessel quota system. Consequently, the position of being the one that «held the home front» has decreased in significance. In sum, the lack of employment opportunities for women seems to be related to both fundamental economic changes in the local fisheries and an insufficient focus on labor market issues by those responsible for local labor policies.

The fact that there are few employment opportunities for women in Codfjord may be traced back to both the traditional economic organization of fishing and the religious theses of Læstadianism. Perhaps most importantly, the traditional economic organization of fisheries in

Codfjord has never focused on the employment situation of women. The wives of the fishermen have traditionally been regarded as «helping» the husband, doing everything that he did not have time to do. According to some of the female informants, their labor has been taken for granted. This may be possible as long as the household exists in a subsistence economy, because the household as a work organization accomplishes the task of covering the subsistence needs of the family. However, the local fishery has become increasingly integrated into both the market and different state institutions, with dependency on a cash economy as one consequence. The household is therefore dependent on a certain amount of cash to cover the capital costs of the fishing operation, but also to cover the household as such (housing, transportation and other costs). In many cases, this implies that the wives of the fishermen must find some form of paid employment unless they can become self-employed. Currently, this is difficult because there are few opportunities for paid employment for women in Codfjord.

Lack of employment among women does not seem to be perceived as a problem among the Codfjord fishermen, neither is it given priority by the municipal administration. This may be traced back to the institutional role of women in the culture of Codfjord. As shown above, women may have important functions (for example, as mediators in conflicts), but they are rarely granted authority among traditional fishermen. This may be a latent function of the Læstadianist notion of the female role in the congregation. Women have never held important positions in this movement. While many women were previously self-employed in the household, most of them are unemployed at the present. When women protest against this situation, for example by moving from the community, it contributes to the dissolution of the culture of Codfjord from within.

The female-to-male ratio in the Norwegian labor market is one of the highest in the world. Many trends indicate that an increasing number of women take positions previously «reserved» for men, as the right to a job becomes a universal claim and a human right (Kommunal- og Arbeidsdepartementet 1993). Knowledge of these processes, and dissatisfaction with local attitudes towards female employment leads women to prefer to leave Codfjord, where the authority of the traditional economic approach makes it difficult to pursue an independent career in the labor market. The fact that some younger women said they were dissatisfied with life in Codfjord must also be understood in connection with these relations. For women who prefer a «modern» life style, concretely defined as a life having the same opportunities as men, living in Codfjord may give rise to problems. First, they have difficulty getting a job and an education locally. Second, they will need to change some of the attitudes held by those in authority, as current attitudes stigmatize those who transcend local norms. However, those who

stay in Codfjord and protest against discrimination in the local culture, contribute to weakening traditional doctrines regarding women's work. Further, the processes initiated when these doctrines are weakened also serve to undermine the legitimacy of traditional authority in general. Accordingly, female emancipation, in conjunction with other factors, seems to contribute to modernizing the community. At the same time, these processes also point to some general processes that change both the structure of the economy and the structure of authority within this community.

### **10.2.3 Local versus Universal Rights**

Interestingly, claims of universal human rights, such as equity before the law, serve to undermine many of the traditions of Codfjord. Universal rights have the latent function that they come into contradiction with the established rules of local extra-legal traditions, unless these traditions are compatible, which they are not in the case of Codfjord. In this fashion, the local legal tradition is challenged every time that someone claims universal rights. Traditions may be weakened because they are invalid in a legal system based on the type of universal rights that prevail in the capitalist state (Giddens 1990). This is also evident when women express dissatisfaction with living in Codfjord, as they perceive the traditional authority of older men as illegitimate and a hindrance to their right to economic independence and emancipation. At the same time, the universal character of formal economic rationality gives modern fishermen several legal and political advantages over traditional fishermen, since their actions are based on a logic that is transferable and meaningful outside the community. Moreover, the actions of modern fishermen are consistent with the legal principles that sustain the capitalist production process. These processes serve to undermine Codfjord as a distinct normative setting, as economic actions cease to be guided and generated in a traditional context, but rather become increasingly anchored in the instrumental principles of a capitalist market.

Until now, different social processes that are independent of the vessel quota system have been discussed. Thus, the first and second questions posed in the introduction have been answered. Some fishermen tended to act in substantively rational ways before the vessel quota system was introduced. However, other fishermen tended to reorient their economic actions according to the terms of formal economic rationality. There were forces undermining the traditional authority that upheld and guaranteed substantively economic rationality before the vessel quota system was introduced. These forces may be attributed to the intervention of the state and the market in a subsistence type of economy. Fishermen who directed their Læstadianist background towards modern goals, resulting in an ethic compatible with capitalist market

expansion, motivated the modernization. In addition, self-generated action orientations also account for social changes in Codfjord, as the system of needs and preferences seems to be in flux. A form of social differentiation was underway in Codfjord before the vessel quota system was introduced. However, this does not mean that the vessel quota system has been insignificant in the Codfjord fishery. This topic is discussed in the next chapter.



# **Chapter Eleven**

## **The Vessel Quota System as State Intervention**

In the Weberian perspective, it is difficult to determine the exact effects of state intervention, particularly because state intervention is one of several distinguishing attributes of modern society along with for example capitalism. This chapter discusses and summarizes the empirical findings in light of the attributes of the vessel quota system, and assesses its effect on the fishermen in Codfjord. Because it is difficult to isolate all effects of the vessel quota system, the discussion will analyze the effect at different levels. Theoretically, the vessel quota system may have altered the economic behavior of the fishermen in Codfjord in at least three different ways. First, the stated intentions of the system may have had a direct effect, that is, manifest functions, for the economic behavior of the Codfjord fishermen. Second, the management system may have had some indirect effects, that is, latent functions. A subclass of the latent functions of the system may be the effects that the vessel quota system has had in conjunction with other sources of change in the individual and group behavior of the fishermen in Codfjord. These three items are discussed separately below.

The vessel quota system, which was implemented in 1990, represented the first time that Norwegian small-scale fishermen were regulated at an individual level. The introduction of the management system came as a shock to many fishermen, as they were already stunned by the resource crisis that had lasted since 1987 (Jentoft 1991). This chapter discusses the answer to the third question posed in the introduction: the consequences of the vessel quota system on the economic actions of fishermen in Codfjord are the focus here.

### **11.1 The Intentions of the Vessel quota System**

As discussed in chapter 3, the purpose of the vessel quota system was to improve the ecological conditions under which the stock of Norwegian Arctic cod reproduces. This was to be accomplished by means of two different management instruments. First, the vessel quota system provided an «economic» definition of a fisherman, granting those who complied with the definition access to specific fishing rights while excluding the rest<sup>62</sup>. This is known as a limited entry system which serves to reduce and control the number of fishermen. Second,

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<sup>62</sup>The term «economic» is used to capture the fact that fishing rights were allocated in accordance with incomes from fishing and vessel length. In this specific sense, «the fisherman» was an economic activity, not a unique person.



catches by those granted fishing rights were limited by means of a quota system. This was accomplished by introducing limitations on the fishermen's catches. The substance and intentions of these two different management instruments will be discussed in sequence.

The fact that a fisherman was defined in economic terms, and thereby granted fishing rights on this premise, is often overlooked in discussions of the system and its effects. It is therefore necessary to clarify what this claim means exactly. Historically, one of the foundations of a profession is the rights granted to those that belong to the profession. In Norway, and many other countries, plumbers are considered plumbers to the extent that other plumbers certify them. In the system of professions, each profession has distinct rights vis-à-vis other professions, especially the right to accept new members by some form of qualification system (Kalleberg and Berg 1987). However, primary occupations are characterized by a lack of such systems. In Norway, fishing, along with primary occupations such as small-scale farming and forestry, has been regarded as being based on common social goods, open to everyone who had the means available to exploit the resource<sup>63</sup>. Therefore, there has never been any form of «protection» for fishermen as an occupational group. That is, distinct rights preventing anyone else from calling themselves fishermen have never followed from being a fisherman (Fiskeridepartementet 1995). This must be considered a consequence of the open access regime which has managed most salt-water resources in Norway. Access to most fish species has been open to everyone. This is especially the case with cod, which, in addition to being a species falling under an open access system, has also been a valuable commodity. Everybody has been allowed to harvest cod, independent of their personal background and/or history. It has also been possible to combine the harvest of cod with the harvest of other species or other occupations. This social, legal and political structure of cod fishing was fundamentally changed by the vessel quota system.

The vessel quota system defined fishing rights, which are understood as the right to catch and sell cod, by ranking fishermen according to their previous harvest records. Those who fulfilled the minimum catch-requirement in 1987, 1988 and 1989 were granted further participation in the cod fishery, while those not fulfilling these criteria were excluded from the vessel quota system. Granting further participation is the same as granting people exclusive fishing rights, while excluding people is the same as depriving them of fishing rights. The strict definition of fishing rights was justified by the state as a means for replenishing the cod stock. In addition, fishing became a profession because exclusive rights became connected to the occupation

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<sup>63</sup>It should, however, be noted that farming and forestry are different from fishing because they, in most cases, are based on private properties.

(Fiskeridepartementet 1995). However, Norwegian fishermen have never collectively claimed «professional» rights before the vessel quota system was imposed. As an additional justification from the state, it was claimed that those who showed the most intense involvement among the fishermen were also those most dependent on the resource. A concept of «cod-dependent» fishermen was developed, meaning fishermen having shown, by use of their historical catch-records, that their only income came from fishing cod. On the other hand, does this definition of fishing rights have any effects on the ecological characteristics of the cod stock, or did the state have other intentions in using this definition? Could, for example, the state have used other definitions of a fisherman, which may have reached the stated goal of resource preservation in a better fashion, and why were *economic* criteria used to accomplish resource preservation?

The limited entry system was designed to reduce catches by reducing the number of fishermen. It may therefore be considered a valid means for accomplishing resource preservation, since the reduction of catches by limiting the number of fishermen improves conditions for the cod stock, especially when this system is combined with a quota system that limits catches. Participation was determined on the basis of previous catches, as described above. However, resource preservation and a system of participation could also have been accomplished by accounting for other factors than previous participation. Several factors, such as regional unemployment rate, economic dependency on fishing, probability of getting another job and a variety of other social, cultural and economic factors could be factors in the equation. The concept of «cod-dependency» has never been documented to have any effects as an instrument of social policy, as the definition is unable to capture the dynamics of the occupation, for example, that some fishermen switch occupations periodically. While the vessel quota system does not make sense if interpreted as an instrument for social policy, it does make sense as an instrument for making the fishery more effective. Longer vessels are more efficient than shorter vessels, particularly because they can operate the whole year independent of the weather, use multiple tools and harvest several species at the same time or in sequence. Modern technology has made it possible for fewer persons to operate such vessels, thereby increasing individual profit for each participating fisherman. This interpretation seems plausible since it was fishermen who used smaller vessels who were largely deprived of their fishing rights. This is also confirmed in the quota allocations part of the system. The quota system favored larger vessels over shorter vessels, since catches were exponentially proportional to vessel length: the longer the vessel, the higher the relative share of the quota.

Examining the twofold structure of the vessel quota system creates a picture of a management

system designed for two purposes. First, it intended to make the cod stock rebound by reducing catches. Secondly, it was an effective instrument for making the fishery more economically efficient. The second intention is not stated, but can be verified from the design of the system, as it gives priority to larger and efficient vessels. The vessel quota system also created distinctions in the population of fishermen in Codfjord because it gave priority to full-time fishermen. These and other effects of the vessel quota system will be discussed next.

## **11.2 Manifest Functions of the Vessel Quota System**

In this section, the manifest functions of the vessel quota system will be discussed, that is, those phenomena which have occurred in Codfjord that can be directly related to the vessel quota system. Findings from Codfjord indicate that few changes occurred in the economic structure of the local fisheries. First, the limited entry part of the system had no direct effect on the full-time fishermen's right to remain full-time fishermen. All of those who were part of the fishery as full-time fishermen before 1990 got a vessel quota if they applied for one. There is no record of anyone being excluded from the fishery. In fact, the opposite is the case, since the population of full-time fishermen increased by four persons. Those wanting a vessel quota after the system was introduced were granted one, if they applied<sup>64</sup>. Thus, the findings from Codfjord indicate that the limited entry system part of the vessel quota had minimal or no effects on the activities of full-time fishermen in Codfjord.

The quota part of the vessel quota system seems to have had an effect on the fisheries in Codfjord, since many of the full-time fishermen had their catches limited compared to their average catch per year over the ten to fifteen years preceding 1990. However, catches in the period after the vessel quota system was introduced were still higher than in 1987, 1989 and 1990, since most full-time fishermen had low catches due to the resource crisis. Thus, the vessel quota system did not represent any major income reductions for the full-time fishermen in Codfjord, as most of them had already adjusted to the low incomes generated by the resource crisis. This claim is also verified by the fact that there is no record of any fishermen in Codfjord going bankrupt in the period 1985 to 1994. It should also be emphasized that the low catches after the vessel quota system was introduced also may be attributed to the scarcity of cod along the coastline, and not necessarily the vessel quota system per se.

The manifest functions of the vessel quota system on the Codfjord fishery consisted of reduced

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<sup>64</sup>However, this does not account for those who were discouraged from continuing fishing or whose economic position prevented entrance to the fishery.

catches, but none of the full-time fishermen were excluded or economically deprived by the system itself. However, this is only half the story, since part-time fishermen and others were directly affected by what happened to the full-time fishermen. Part-time fishermen were only granted a small quota, amounting to 2.5 tons for most part-time fishermen in Codfjord. As shown in the empirical analysis, nobody could be expected to live from the income generated from this amount of cod. Furthermore, the fact that the quota was not guaranteed worsened the situation, since the maximum quota in most years was harvested before the Codfjord fishermen had even finished preparing their equipment. This is a direct consequence of the vessel quota system, since it provided for closures of the fishing season whenever the maximum quota was harvested. However, the fact that cod was scarce along the coastline is not attributable to the vessel quota system but to the resource crisis which remained in effect at beginning of the 1990's. In spite of this, the rigid design of the system seems to have forced several part-time fishermen in Codfjord out of fishing and into unemployment, other jobs or welfare. This can be attributed to the system being insensitive to local variations in access to cod. This could have been remedied by splitting the quota between various regions and time intervals.

A chain of events starting with the vessel quota system is also observable in other strata of the labor market in Codfjord. While many fishermen had earlier crewmembers, low catches and quotas forced many vessel owners reduce the number of crew. While some of these crewmembers have subsequently been granted a vessel quota, many became unemployed following the inception of the vessel quota system. Because the system provided for fixed and predictable incomes, captains cut their costs by reducing expenses. Therefore, it appears that the vessel quota system had the largest impact on the number of part-time fishermen, and those employed by full-time fishermen such as crewmembers.

The introduction of the vessel quota system had two consequences for the modern fishermen in Codfjord. For those who behaved in a formally rational way, the vessel quota system represented an institutionalized legal protection of their particular approach to fishing. The management system represented a predictable formal structure in which the fishermen could plan their fishing operations. However, it also represented a limitation, since a fixed vessel quota implied a fixed and limited income. Fishermen in Codfjord who acted in formally rational ways were thus caught by their own logic, since the state suddenly removed one of the assumptions of this behavior – free and unlimited access. However, this situation did not last for long. The solution for some modern fishermen was to lengthen their vessels and branch into other species and industries. Some fishermen have started to harvest lumpfish and saithe which also generates valuable bycatches of cod. Other fishermen have other jobs to the extent that the

income provisions of the system allow for such jobs<sup>65</sup>. More importantly, access has been opened for parts of the season since 1993, enabling the fishermen previously registered with a vessel quota to harvest as much as they want.

Thus, the manifest functions of the vessel quota system were not too severe, except for the effect on part-time fishermen and those working in the periphery of full-time fishermen. However, the latter category was hit substantially since many became unemployed following the imposition of the system. However, the latent functions of the vessel quota system were more severe than the manifest functions. These are discussed next.

### **11.3 Latent Functions of the Vessel Quota System**

The latent functions of the vessel quota system are its unintended consequences, that is, those phenomena which can be traced back to the management system but which were not anticipated or stated by those imposing the system. The latent functions of the vessel quota system are to a large extent dependent on different local factors, that is, factors that have a distinct form and/or content within a delimited social system, and which may be manifested differently in other social systems. Because of these contextual parameters, some of the distinct attributes of the Codfjord fisheries that were emphasized in the empirical section will be described first. After that, the effect of the vessel quota system on these attributes will be discussed.

Extra-legal management systems may be empirically manifested in a variety of ways. However, to qualify as an extra-legal fisheries management system, the criterion is that some mechanisms - social, cultural, economic and/or physical - contribute to resource preservation. A special case is extra-legal fisheries resource management systems, in which case the system is intentionally and explicitly designed and structured for resource preservation. Based on the empirical analysis, one must conclude that an extra-legal fisheries resource management system does not exist in Codfjord. There are no institutions or actions that are intentionally directed towards resource preservation among the fishermen or anyone else whose decisions or behavior could, in any fashion, contribute to preserving the resources in Codfjord. In spite of this, several mechanisms which prevail among the fishermen in Codfjord do contribute to resource preservation.

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<sup>65</sup>Due to the fact that many cod fishermen have branched into the harvest of lumpfish, the stock of this species has faced recession and stronger regulations recently (Fiskeridirektoratet 1995).

Historically, the most significant factor to have an effect on resource use among the fishermen in Codfjord was the particular form of substantive economic rationality found among traditional fishermen. This form of economic rationality prescribed actions directed towards covering a socially defined set of subsistence needs. The definition of these subsistence needs, as well as their social construction, is characterized by its opposition to conspicuous consumption, since asceticism and religious virtue are emphasized. This results in low individual consumption, low investment levels and a lack of focus on profit for reinvestment and economic expansion<sup>66</sup>. This institution has a direct effect on the manner in which these fishermen arrange and plan their harvest. Those who attempt to reorient their economic behavior, especially towards formal rationality, are sanctioned. The fact that traditional authority is enforced contributes to maintaining the traditional economic approach over time, as authority and economic behavior are strongly interconnected in Codfjord.

The system has also created a new and qualitatively different legal platform for the fishermen in Codfjord. The economic actions of traditional fishermen were meaningful, both for themselves and others, in the local context in the sense that the behavior was valid and had a constituent position in the traditional normative order. The vessel quota system contributed to changing this context, as well as the meaning of economic behavior vis-à-vis authority. According to the fishermen, the quota system provided incentives for harvesting cod as efficiently as possible. Not catching the quota could potentially mean loss of fishing rights, because this criterion had been used during the imposition of the system. The fact that the quota was fixed created incentives to reduce the costs to maximize the profit of the operation. The system imposed legal boundaries on the economic actions of fishermen, as it directed such actions towards being exclusively valid, and thereby meaningful and legitimate, to the extent that they were in accordance with the provisions of the system. Economic actions only became meaningful, legitimate and valid in a new, legal, normative order. Considering that most of the traditional fishermen in Codfjord had used relatively small vessels, normally up to 30 feet, the new vessels, whose length clustered around 35 feet, represented a change in the way that the fishermen approached fishing as an economic activity. While traditional fishermen used to have crewmembers, those who adapted to the management system planned their fishing operations for fishing alone. Although some of the traditional fishermen had to dispose of crewmembers during the resource crisis and the due to vessel quota system, they did not want to do so. Some also preferred to keep their crewmembers, or brought them back on the vessel when the

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<sup>66</sup>Those who have the highest structural positions are exempt from this rule. These persons are exempt from the set of rules that they subject others to. However, this only pertains to a few fishermen, and the discussion is based on those who are subjected to traditional authority.

situation improved. The modern fishermen saw the resource crisis and the vessel quota system as an opportunity to dispose of crewmembers legitimately. While the cognitive foundations of formal rationality were present among several of the fishermen in Codfjord both before the resource crisis and the vessel quota system, it had been suppressed by the mechanisms of social control which prevailed among traditional fishermen in Codfjord. Accordingly, when the vessel quota system was imposed, modern fishermen were given an opportunity to legitimize their own actions, since the system actually encouraged the modern approach to fishing. Additionally, the vessel quota system created a market for non-quota fishing vessels. Those who were not granted a vessel quota had to sell their vessels at reduced prices, and this gave the fishermen who had been granted a vessel quota an opportunity to invest in a larger vessel. In addition, several financial institutions encouraged fishermen to invest in larger vessels; the Saami Fund for Industrial Development, The Fisheries Bank and the municipal administration offered financial support in the form of grants and low-interest loans. Thus, the coincidence of several conditions made it possible for the modern approach to fishing to become more pronounced among the fishermen in Codfjord.

This change in the economic orientation of the fishermen in Codfjord did not occur immediately. Rather, the processes described in the previous chapter were brought to a «logical» conclusion. Modernization processes were instigated with the help of the vessel quota system, because the system provided for a structural framework in which economic actions could be ordered and coordinated. The economic actions of traditional fishermen became meaningless in this system in the sense that the logic of their actions was out of phase with the instrumental strategies of those who were adapting to the new system. Accordingly, many traditional fishermen, especially those who were part-time fishermen, were marginalized by losing their previous fishing rights. By contrast, those who adapted to the system were rewarded with higher quotas and economic opportunities. It should be specified here that «marginalized» is not the same as «terminated» or «ended», rather it means that the significance of traditional authority as an ideology has been reduced in importance. Modern fishermen can still be sanctioned, and the cases described in the empirical analysis exemplify this. For those who lost their jobs, sanctions were severe enough. In sum, traditional authority and *kadijustice* remains important in Codfjord. But the vessel quota system has had the latent function of disconnecting modern fishermen from the local structures of power and authority by granting these fishermen an opportunity to become increasingly economically, and thereby also socially, culturally and politically, independent of the rest of the community.

The vessel quota system must not be underestimated as a factor that has had an impact on the



future of fishing in Codfjord. The system seems to have discouraged younger fishermen from entering the fishery. While resources were previously divided among everybody interested in fishing, fewer fishermen now exploit the resource to its carrying capacity. This was not accomplished by excluding full-time fishermen, but by displacing part-time fishermen. At the same time, prices on vessels increased after the market was stabilized and the vessel quota system had been in effect for some time. Vessels were now sold with a quota. In fact, fishing vessels without quotas are almost valueless, unless a fisherman who possesses a vessel with a quota is allowed to transfer his quota to the new vessel or by some governmental exception is granted a quota for a new vessel. Because vessels with quotas are scarce due to their restricted number, their prices have increased. The result is that uncertainty about what the next resource crisis might do to the fishing rights of the fishermen, in conjunction with the high prices of vessels, seems to have reduced the recruitment to the fjordal fisheries of Codfjord to a minimum. This is reflected in the high mean age of fishermen in Codfjord. Also, the recruitment situation is worsened when older fishermen discourage youngsters from starting fishing.

To fish efficiently, one must find the shortest path to maximum profit. Most solutions focus on eliminating the social aspects of fishing. The «risky» strategy of migratory fishing has already been mentioned as one of the important historical components in the Codfjord fishery. The strategy consisted of the fishermen risking extra operating expenses by migratory fishing against profit from extra catches. When the cod arrives in Codfjord, it stays for about one month. While the exact date of arrival varies, it is common that the largest influx lasts for about a month. This creates a «dead» period for the fishermen during the winter season when they wait for the cod to arrive in Codfjord. Traditionally, the fishermen solved this problem by fishing elsewhere, for example by joining the Lofoten and Finnmark fisheries. However, the fixed income generated by the quota system put an end to this tradition since the fishermen started to fish close to home to reduce costs. The fact that the Codfjord fishermen have generally stopped fishing elsewhere has many consequences in itself. Migratory fishing may be considered more ecologically sustainable than stationary fishing, because the former spreads the harvest over several stocks. Stationary fishing, as it is practiced in Codfjord, consists of the fishermen fishing in one place all the time. If catches are reduced, they do not move elsewhere. Rather, they increase the interval between the times that they pull in their nets. In this fashion, fishermen avoid the risk of having operating expenses larger than the profit from low catches. However, the risk of this strategy is that they may catch most of the stock present in Codfjord every year.



As shown in the empirical section, the open access regime had some important social functions for the fishermen. Many fishermen combined fishing elsewhere with visiting friends and relatives. In fact, many of the fishermen in Codfjord met their wives during these visits. Going on vacation to another fjord, often not far away from Codfjord, afforded a chance to get away from work and people at home for a while. These visits had the same function as leisure does in most cultures, a chance to refresh oneself through new experiences. Since migratory fishing ended, the fishermen and their families have become more isolated and atomized, as social ties with other fishermen have been reduced.

### **11.3.1 Synergetic Effects of State Intervention**

Cultures are dependent on material and economic structures (Horkheimer and Adorno 1972: Habermas 1972: Lukacs 1985). Culture is the product of material and economic structures and vice versa. They exist in a reciprocal and mutually dependent relationship (Levi-Strauss 1966). One of the assets of a culture is its normative order, which, among other things, is based on the practices and subsistence activities of those who are part of the culture in question. This is also the case with the Saami culture. The vessel quota system may have weakened one of the remaining material fragments of Saami culture in Codfjord. Small-scale fishing, often performed in conjunction with other industrial activities such as small-scale farming, has been the economic cornerstone for the Saami in the region (Bjørklund 1985). In this culture, several small-scale enterprises have supported larger production units, serving to cover the subsistence and cash needs of the household and the community. While the genealogy of this economic approach remains unclear, it is likely that the Saami as a cultural group have had this distinct economic and ecological attribute due to the ecological characteristics of the region (Bjørklund 1985). Because seasons are unpredictable and variable across years, industries may also vary in their economic and ecological carrying capacity. It may, for example, be difficult to fish certain years because the weather can be harsh for several weeks at a time. Some years, the winter lasts until March, and other years until May. Such differences have a large impact on grasslands which constitute the winter supply for sheep farmers in the region. The optimal economic approach to all these contingencies is to adapt to several industries simultaneously, since the transfer of effort into another industry can compensate for bad seasons in one industry. However, this system assumes that entrance to and exit from these different industries is free and open. The significance of the vessel quota system as a terminal factor for this economic approach lies here, since it closed entrance to the last open industry that the Codfjord fishermen had the traditions and knowledge to be involved in. Consequently, it became hard for the Codfjord economic approach to remain intact after the vessel quota system was imposed. The effect of the vessel quota system, in conjunction with the other forms of state intervention

mentioned, preference for Norwegian fishermen, the assimilation policy and closed entrance into other occupations, is therefore one of several factors contributing to weakening the Saami culture<sup>67</sup>.

In Norwegian fisheries, directives from the Norwegian Ministry of Fisheries tie several separate institutions together. In this fashion, financial packages and species-specific regulations are tied together in a system. The most important financial institution for fishermen in Norway has been the Norwegian Fisheries Bank, which is owned, administered and run under the directives of the Norwegian State. At the end of the 1980's, the bank was given a directive to prioritize applications for larger vessels by the Department of Fisheries (Fiskeridepartementet unpublished). This resulted in a policy in which vessels that were 9.99 meters or shorter were granted loans amounting to only 50 % of their value. In addition, loans granted to these vessels were the most expensive ones available, with higher interest rates than loans for longer vessels. On the other hand, vessels of 10 meters or longer were granted loans up to 70 % of their value, of which 50 % had a low interest rate due to state subsidies. In addition, several other financial packages available from other state funds could finance the rest of the sum for local vessels. Fishermen could buy vessels without any equity capital if the vessel was 10 meters or longer (Ibid.). In sum, the Norwegian State created economic incentives to invest in larger vessels, offering investors lucrative interest rates and low equity capital.

These incentives tempted some of the fishermen in Codfjord to invest in larger and more modern vessels, especially after the vessel quota system gave them further incentives to do so. The synergetic effect of these two policies, that is, the policy of the Norwegian Fisheries Bank and the vessel quota system, is that fishermen have altered the logic by which they operate. The fishermen do not finance new vessels by relying on their own savings, as used to be the custom. Assuming that they have a vessel quota available, they buy larger vessels with loans. This creates a need for economic planning and predictability. Vessels are paid for in periodic installments. Consequently, the fishermen need to have cash ready when these installments expire. This strategy is also specifically adapted to a management system providing the fishermen with known and fixed incomes, as a quota system does. Since the market for the sale of fish is also strongly regulated in Norway, prices rarely fluctuate enough to destabilize the strategy. In this sense, the Codfjord fishery has become more similar to wage-labor employment, since the fishermen are becoming dependent on known and fixed amounts of cash

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<sup>67</sup>The Saami Parliament has protested against the vessel quota system on this basis (Jentoft and Karlsen, in press).

to provide for their future living and work places.

## **11.4 Towards a Rationalized Fishing Community?**

It is difficult to assess which one of the listed consequences has had the deepest impact on the Codfjord fishery. It seems important to assess the individual importance of each factor versus other factors, however, their aggregate effect is most significant. The collective effect may, following the theoretical basis of the text, be termed «rationalization». Findings indicate that fishing has changed from being a part of local norms, symbols and rituals to being increasingly profit oriented and thereby based on the universal ethic and logic of capitalist business enterprises. That is, fishing has changed from being meaningful in the particular setting that the history and traditions of the Codfjord community represent, to becoming meaningful on the premises of instrumental rationality, whose logic and meaning is universal in the Western, capitalist world. The vessel quota system has therefore contributed, directly and indirectly, to the rationalization of fishing as an economic activity in Codfjord, as actions to an increasing extent become instrumental efforts to maximize individual utility.

External forces, such as state intervention through the vessel quota system, do not solely drive the particular form of rationalization manifested in the Codfjord fishery. Actors who transcend the traditional normative and cognitive frame of reference for authority and economic action also drive these processes forward within the community. These changes create conflicts at several different levels, because actors oppose tradition by altering established guidelines of behavior. However, the change is slow, because traditional authority remains strong in Codfjord. This is attributable to the grip that Læstadianism has on local actors in Codfjord. These normative orders are manifested in the local culture as an ideology centered on an egalitarian ethos exercised at the will of those having central structural positions in the community. However, these structures of authority are becoming fragmented by an increasing number of directives and laws based on individual universal rights, in addition to consciousness of civil and human rights. While traditional rights focus on the rights of the group to remain a group, the universal structure of formal economic rationality, citizenship, and human rights center on the rights of the individual as a self-definable entity. Since an increasing number of state interventions serves to manifest these norms, it also becomes easier and more legitimate to define individual economic strategies and actions. That is, deviation from the «local» becomes intelligible for some actors. However, the price of this «liberalization» of behavior seems to be that fundamental traditions and approaches in Codfjord are weakened.

The changes in the Codfjord fisheries do not only have consequences for our understanding of Codfjord as a fishing community. They also have consequences for our understanding of the tragedy of the commons and other theoretical perspectives on fisheries management. These are discussed in the next chapter.



## Chapter Twelve

# Open Access, State Property and the Commons

In chapter 2, it was claimed that the debate concerning the tragedy of the commons could be regarded as a branch of the general discussion concerning the rationalization of the Western world. In the commons debate, the disagreement could be located in the assessment of the extent to which the world is rationalized. In a world of formally rational fishermen, the tragedy of the commons is a plausible outcome of unlimited access and efficient technology. However, in a world of substantially rational actors, traditions and normative/cultural systems can be expected to form extra-legal fisheries resource management systems that preserve resources informally. Thus, the economic orientations of the fishermen are determinative for the extent to which the tragedy of the commons can be expected. The overarching perspective of this text - Weber's theory of rationalization - can contribute to the commons debate by introducing concepts and perspectives that are rooted in a *general* debate concerning economic actions and economic development. The commons debate is a *particular* debate that mostly concerns the use of natural resources. According to the general theoretical results of Weber's analysis of the Western world, one would expect to find that modern fishermen act in a formally rational manner. The tragedy of the commons is therefore a plausible outcome of current resource use. State intervention, or the imposition of any other social order based on instrumental legal principles, is the only way to avoid this process developing. Only instrumental legal institutional principles are valid among actors who act formally rational. The findings from Codfjord indicate that the rationalization processes described by Weber also appear among fishermen located in one remote community in North Norway; this occurs partly as a result of state intervention.

These findings, which are generated as a result of using a Weberian perspective, can also shed light on the commons debate, because this study also have implications for our theoretical understanding of resource use in general. Theories of resource use should be able to accommodate *all* forms of resource use (Feeny et al. 1990). Thus, the empirical findings from Codfjord will be related to the debate concerning the tragedy of the commons. In this fashion, one can shed light on conceptual difficulties in theories of resource use. The discussion starts by looking at the correspondence between the theory of the tragedy of the commons and the situation in Codfjord; the role of the vessel quota system is also analyzed. After this, some of the alternatives, which are referred to as common property theories, will be connected to both the previous discussion and the findings from Codfjord.

## 12.1 The Social Functions of Open Access

Hardin's analysis of the tragedy of the commons is based on a synthesis of at least two different theories, each having separate analytical assumptions. First, the theory is based on a specific theory of human behavior, since Hardin assumes that formal economic rationality is a basic human faculty. That is, formal rationality is given an ontological status<sup>68</sup>. Second, his analysis assumes that «commons» is synonymous with «open access». These two assumptions will be discussed in the following.

### 12.1.1 The Significance of Formal Economic Rationality in the Codfjord Fisheries

To what extent can «rationality», independent of its specific articulation as substantive or formal in the economic field, be said to represent a basic human faculty? Is behavior attached to some fundamental structures that are independent of the environment and changes therein? Hardin seems to assume that rationality, specifically in its formal guise, is a universal form of behavior (Hardin 1968). According to him, this is concretely manifested as a form of behavior in which the actor attempts to maximize individual utility in each situation. Moreover, it is the exclusive intention to maximize individual utility, because this is the only meaningful form of action. Contrasting these claims with the findings from Codfjord yields another view of formally rational actions. The findings show how formal economic rationality has become an important cognitive and normative force behind changes in the Codfjord fisheries, as it replaces substantive rationality as the principal form of economic action among the fishermen. It has not been established that formal behavior is a universal cognitive faculty. Rather, it has been established that formal behavior is largely historically situated, and occurs as a result of an historical process – the emergence and reinforcement of capitalism. It has further been shown that it is false to assume that all fishermen act in formally rational ways, since this depends on their social, cultural, economic and historical location and situation. The concrete constitution of the «historical reality» in Codfjord is strongly influenced by different traditions which are being broken up by the modernization process (Giddens 1990).

The «historical reality» is the concrete life-world of the fishermen in Codfjord, and the different social processes contributing to changing this reality, making reality a social and cognitive process (Berger and Luckmann 1985). This life-world was, and to some extent still is,

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<sup>68</sup>This is not unique to Hardin, as this perspective is also taken in methodological individualism (Elster 1986).

attached to several social institutions which have been called «traditional» in the text. The concept «traditional» has been used in the sense of Weber; that is, the specific normative orders, practices and forms of knowledge stemming from the particular history of the actors, the social system in which the actors are embedded, and the particular practices and customs enforced by a locally-generated normative order (Weber 1978). The history of Codfjord is largely based on the traditional economic approach of the Saami and the religious doctrines of the Læstadianist movement, and constitutes a locally valid synthesis of these traditions (Bjørklund 1985). These two processes must not be interpreted as uniformly distributed within the community, since they have been more or less prevalent in the cultural capital of the inhabitants in Codfjord. However, they cannot be considered the only factors to have an effect on the cultural construction of the Codfjord community, since people are also influenced by traditions generated in other social spheres. Nevertheless, these traditions have been important, as they have imparted the moral inheritance of people living in Codfjord, guaranteed by the specific structures of authority generated locally. Because there was, and still is, a correspondence between representing traditions and having authority, each factor reinforced the position of the other as the hegemonic logic by which economic actions and institutions have been meaningful, intelligible and legitimate for both the actor and his/her peers. Limiting the discussion to fisheries, the case of Codfjord shows how several different social institutions serve to prescribe specific types of harvest among the fishermen.

Fishermen are tied into multiple reciprocal social relations in a tight social network. Social ties both define the actor in relation to others and define other actors relative to the individual. These definitions vary from context to context, and the relative structural position ascribed to the individual is defined by the specific traditions for structural ascription in the community. In the case of Codfjord, kinship, religious participation, gender and occupational involvement are important variables, as actors in the community categorize themselves and others by use of these variables. Variation in authority in the community is also founded on these characteristics, being articulated as concrete social relations used to guarantee and exercise traditional authority. Guarantees vary, but the empirical section has shown that they vary from economic sanctions to ostracism. The self-maintaining process established when tradition interfaces with authority is possible as long as the actors are dependent on the social relations on which this process is founded. It is also at this intersection where the difference between formal and informal social relations is important for understanding the development of the Codfjord fisheries.

The Codfjord fishery was strongly embedded in different local institutions, but local



institutions such as Læstadianism seem to lose some of their authority. These changes have occurred in a twofold process. First, different forms of state intervention have created new social relations because the imposition of a legal context for economic actions based on the universal normative principles of state-capitalism reduces the effect of traditional authority. Second, changes from within, that is, self-generated action orientations stemming from self-conscious actors able to develop and change their own lives work in conjunction with state intervention. The different forms of state intervention in question vary, but tend to assume responsibilities that were earlier tied to the household. In addition, an economic action becomes intertwined with formal rules for economic behavior vis-à-vis these institutions; the vessel quota system has been one factor. In this fashion, the economic orientations of fishermen have changed from compliance to tradition to maximization of individual profit. The context has become less variable due to an increasing prevalence of formalized social relations. These changes have brought several changes at the cultural level. First, and perhaps foremost, the attitude towards fishing as an activity, or as a job, has changed from being embedded in different locally generated and situated institutions and customs to being based on universally meaningful and legitimate formal economic rationality.

In this specific sense, Codfjord has ceased to be a «community», in the sense of a delineated social system structured by specific local normative orders and practices which are only valid in a delineated social space. While the geographic location remains the same, and also remains one of the specific attributes of the community which makes it distinct from other communities, its culture, actions and normative orders move towards the universal structures that are present in any capitalist production system. This is also where the analysis of Codfjord interfaces with Hardin's theory. The political dilemmas faced when the resource crisis occurred were related to the open access regime in Norwegian small-scale fisheries. Since 1977, when the 200 nautical mile economic zone was introduced in international law, Norwegian fishing waters have been state property. This means specifically that the Norwegian State has the management right to these resources. The access system changed from free access to open access. Open access must not be confused with free access, since these are based on two different legal nuances. Open access means that everybody has a right to fish, while free access means that anybody can fish, but without any legal guarantees or rights attached to the activity.

However, for the fishermen this change was of little significance. The important point for the fishermen was that entrance to and exit from the fishery was free and open to everyone, making it possible to switch occupations at will. This is one of the fundamentals of the traditional approach to fishing in Codfjord. The open access structure of fishing made it possible for

people in Codfjord to switch between occupations, depending on ecological and economic cycles. The material and legal foundation created a cultural and normative superstructure which served to guide the economic behavior of the fishermen in Codfjord. In compliance with Saami traditions and the Læstadianist ethic, fishermen oriented their fishing operations in terms of substantive rationality. The concrete manifestation of these actions in Codfjord consisted of involving the household in multiple industries to cover its subsistence needs and to cope with ecological and economic cycles. In addition, tight social relations served to construct a relatively homogeneous social system. The system of authority present in the community has served to orient the economic actions of the fishermen, creating a collective economic logic which also guaranteed the survival of the group. As shown, one may call this an egalitarian ideology as it rests on a specific notion of equality. The open access regime contributed to making this possible, as entrance to and exit from the fishery has remained open to everyone over years, enabling actors to switch back and forth between multiple occupations and secure the flexibility that ecological cycles require. However, the advantage of open access may have turned into a disadvantage when the fishermen started to reorient their economic actions.

In reorienting economic actions to the terms of formal economic rationality, the open access nature of the resource can lead to the disaster described by Hardin. While formal economic actions are not generated in the way that Hardin assumed, the behavioral criterion of the theory is fulfilled by the realization of historic processes. Hardin confused «common property» with «open access». However, this conceptual mistake hardly weakens his analysis of resource depletion. His prediction of resource depletion in an open access system with formally rational actors still seems valid. Before the vessel quota system was introduced, access was open to everyone who wanted to fish. This was also institutionalized and manifested in the economic logic by which traditional households were planned. While it has been noted above that the data from Codfjord do not allow for conclusions about events which occur at a higher empirical level, the data permit conclusions about the behavioral foundation of the tragedy of the commons, as well as the property system in question. First, the system was based on open access until 1989 when the vessel quota system introduced limited entry. Second, formal rationality became an increasingly stronger, valid and meaningful form of economic actions in the same period. Thus, until 1989 one may conclude that the behavior of fishermen in Codfjord, in conjunction with the open access regime, certainly encompassed the tragedy of the commons as a latent possibility. However, the vessel quota system has changed this prospect in several important fashions. These changes are discussed next.

### **12.1.2 Limited Entry, Emancipation and Co-Management**

Considering that the vessel quota system, *qua* state intervention, is a type of legal enactment legitimized by the same set of norms as formal economic rationality, one may consider the system as a logical continuation of the historical emergence of the modern fisherman in Codfjord. Both formal rationality and legal enactment are based on the actors' orientation towards instrumental action and therefore their belief in political solutions based on instrumental principles. This claim does not mean that the fishermen in Codfjord find the system unproblematic. Rather, it means that the legitimacy of the system, as a form of state intervention, has not been questioned by the fishermen in Codfjord. The fact that many fishermen quickly adapted to the system in such a fashion that they profited from it may be taken as a signal that the fishery, in its new legal context, became more compatible with the norms of modern fishing. However, those who orient their actions in substantively rational ways seem to have been increasingly economically and culturally marginalized in their community, as discussed above. In the following, different issues arising from this marginalization process are discussed.

Different questions regarding the vessel quota system and the traditional approach to fishing may be asked. Can it be argued that it is unfair and wrong to marginalize the traditional approach to fishing, favoring modern adaptations? One could argue that the state, as such, has no constitutional right to favor any of its citizens, and that it was therefore unconstitutional to favor fishermen who oriented their economic actions differently to other fishermen. However, one could also argue that the system as such did not favor anyone, since the fishermen are free to choose the terms by which the fishing operation is economically oriented. When traditional fishermen choose to arrange their fishing operations in such a fashion that they become increasingly less compatible with the legal framework of the fishery, this must be considered their problem, not anyone else's, at least when the «welfare» of the cod stock is at stake. Both these positions seem to have some substance, and show some of the difficulties faced when the conditions which underpin behavior are altered. However, the problem may be larger than just a question of fishing rights; it may also be extended to a question of cultural, political and economic emancipation.

As shown in the empirical section, traditional fishermen exercised authority over modern fishermen in many ways. In some cases, this exercise was more a question of power than authority, since sanctions were distributed without consent from both parties. The vessel quota system, along with the general rationalization of the Codfjord community, has served to reduce the power of traditional fishermen, as modern fishermen have found a normative order which legitimizes the reorientation of their economic actions. Actions can be directed towards the

maximization of individual utility because this approach is rewarded in the vessel quota system. However, the traditional fishermen are also free to reorient their economic actions, but this requires that their present cognitive and normative basis for fishing must change from substantive to formal economic rationality. This points to a dilemma. The freedom of one group to act in the fashion that they feel is right necessarily means that the other group is cut off in the further development of the fishery, unless the other group also changes its strategy. The vessel quota system contributed to lifting the Codfjord fisheries out of its local embeddedness in *kadijustice*, making the fishermen subject to an identical set of norms with universal applicability. In this specific sense, the vessel quota system contributed to emancipating the fishermen who held lower structural positions in the local hierarchy of authority and power. On the other hand, the emancipation of modern fishermen implies that traditional fishermen became marginalized and disempowered. These changes, which apparently replace old conflict lines in the community with new ones, raise the question of alternative approaches to fisheries management.

In chapter two, co-management was discussed as a management alternative that could reduce conflicts between fishermen and the management system. The concept «co-management» is somewhat unclear, since it only means that fishermen should have a say in the design and exercise of fisheries management systems; the concrete empirical design of the system depends on variable factors such as type of fishery, localization and scale. Theoretically, several alternatives are available (Jentoft 1989). In the following, the consequences of local participation by Codfjord fishermen in the design and exercise of the vessel quota system are discussed, since the data used only allow conclusions to be drawn for Codfjord. The different political processes related to the fisheries of Codfjord were analyzed above where some of the difficulties faced when administrating the municipality were demonstrated. Co-management, if it should be based on the municipal borders, seems likely to resemble the existing Fisheries Committee in Codfjord, except that it seems realistic to expect a co-management system to provide a committee whose authority will have a larger scope and depth than that of the Fisheries Committee. Consider, for example, the prospect that the «co-management committee» will be granted authority to decide who is eligible to continue fishing and who has to leave the fishery in case of a new resource crisis. This is a relevant example since this was the problem faced by the state when designing the vessel quota system.

Given this scenario, processes identical to those affecting the Fisheries Committee are likely to occur. Informal social relations had an impact on decisions in the Fisheries Committee. Nepotism was a practice in the traditional subsistence economy, designed for the survival of the

group of close kin. In spite of the economic modernization of Codfjord, the authority of traditional fishermen remains in effect. They become marginalized, but they still hold on to their authority by, for example, owning properties and holding influential political and administrative positions. As discussed above, the problem with this type of authority is its contradiction of the rights defined by citizenship of the Norwegian State. When the co-management system is based on the structures of traditional authority, it does not match the criteria for the administration of a capitalist production process into which the fishery has gradually turned. In the bureaucracy, Weber argued, there is no room for nepotism since it undermines the legitimacy of the existence of the bureaucracy itself, but also because it damages the strategic context for capitalist calculation by making the legal context unpredictable and subject to the will of the bureaucrat. The bureaucrat is supposed to exercise his/her tasks independently of his/her personal history and preferences. Only if this criterion is fulfilled, are the legal guarantees of free and equal citizens fulfilled, since the task of the bureaucracy is to effectuate and exercise the laws of the state. This is difficult to accomplish as long as the structures of traditional authority remain in effect, since these have a logic of their own which often stems from local practices and kinship and network ties, instead of universal laws and legal precedents. It thus seems difficult to mix legal and traditional authority in this case, because the management system can be considered illegitimate by those who subscribe to a form of legitimacy that contradicts the one on which the management system is based. Returning to the concrete case, deciding entrance to and exit from the local cod-fisheries may generate conflicts similar to those generated by the decisions stemming from the Fisheries Committee. Conflicts may be manifested in several ways.

First and foremost, the decisions reached by the Fisheries Committee always suffered from potentially being considered illegitimate. This possibility was traced back to the legal capacity of those tied to tight networks, where the relational distance between those reaching the decisions and those subjected to the decisions is short. While most of the decisions of the Fisheries Committee simply consisted of the application of rules laid down by the Norwegian state, fishermen outside the committee had the opportunity of accusing its members of being partial. This may have three consequences that can ultimately damage the stock controlled by a co-management system. First, the decisions and rules of the committee may not be followed because those subjected to the decisions and rules refuse to obey the authority of people who they perceive to have no authority over them. This leads to the second and third consequences. The committee may be too lenient in its exercise of authority, attempting to maintain its authority by pleasing everybody. In that case, the co-management system is unlikely to be an efficient management tool, since a situation arises where it is difficult to reach and exercise

unpopular decisions. Alternatively, the committee may enforce its decisions more thoroughly than it normally would, attempting to gain respect among the fishermen. However, this strategy may lead to the same consequences as observed in the current management scheme, where the fishermen find ways of circumventing the regulations by use of illegal and semi-legal means. In either case, the outcome may be overfishing and a damaged fish stock. However, these are not the only problems facing a co-management system.

State intervention, in this case represented by the vessel quota system, also has some functions other than those that are directly related to the processes that the intervention affects. Gaining or acquiring management responsibility also means that the state leaves itself open to blame, accusations and court challenges from those who are subjected to the management system. The state acquires status as a symbol that can be blamed when things go badly for the fishermen. While such blame certainly may be qualified, criticism may also function as a way of rationalizing personal embarrassment because the fishing operation is poorly planned and/or run. Regarding the example discussed here, consider that the accusation was directed against those with local management authority. The case describing the establishment of a fish house shows how disagreement and divergent interests are handled locally. The discussion was reduced to a discourse where parties blamed each other for not following local norms for correct behavior. The seemingly strong transitive character of religious authority extends into economic matters, being a rhetorical tool used in a series of quasi-arguments to defend economic interests. Granting management authority to local institutions may trigger similar processes, since instrumental and technical considerations will also become the object of cultural, social and religious interpretations, and will therefore also be subject to the scrutiny of the normative perceptions of the fishermen. Moreover, arguments anchored in these orders may be strategically used to defend unexplicated economic interests and this may create local conflicts. These obstacles make it difficult to reach instrumental decisions directed towards the preservation of a cod stock. This is an especially important point for a management system since the system is partly institutionalized to reach decisions that in many cases are unpopular.

A management system based on a state agency solves some of these problems, but creates others as discussed above. Concerning state management, the geographic and social distance between those with authority and those who are subjected to the authority creates a virtual absence of personal ties between those involved in the management process. This provides for effective management since personal, social, cultural and/or religious considerations will not have to be taken into account when designing and enforcing the system. However, this does not mean that state management is objective or neutral in any sense of the term. Rather, it means

that it is remote from the local structures of norms and social relations, and is disconnected from a specific local social reality. However, can these points be encompassed in a theoretical framework founded upon the tragedy of the commons?

## **12.2 Rationalization and the Commons Debate**

In the following, the theoretical consequences of the case of Codfjord will be discussed by considering the findings of the study in relation to the theories of some of Hardin's most prevalent and authoritative critics. The emphasis is put on showing how some of Hardin's critics appears to miss the historical relevance of his theory, mainly because the critique rests on an inadequate conceptualization of history and culture vis-à-vis current resource use and resource management in Codfjord. The criticism presented here does not target all of Hardin's critics; neither does this discussion mean that all of the arguments presented by the critics are false. Rather, the discussion aims to take the issue of resource use one step further by discussing the case of Codfjord.

In chapter 2, a theory opposing the notion of a tragedy of the commons was presented. While Hardin emphasized the logic of open access (calling it common property), and formally rational actors, many of his critics emphasize the role of normative orders for limiting the use of natural resources. Also, many other arguments have been used against Hardin's theory, of which only some have been reviewed in this text. For the sake of clarity and a continuous argument, some of the more authoritative critics of Hardin have been chosen. These will be referred to as «commons-theorists», since most of them argue that some form of user-organization will help to avoid the tragedy of the commons (Berkes 1989: Dyer and McGoodwin 1994: McCay and Acheson 1987). Since communities have a natural propensity to organize extra-legal fisheries resource management systems, these may be used as regulatory devices for future management practices (Dyer and McGoodwin 1994). This claim will be discussed here, emphasizing the normative issues raised by these claims.

As mentioned, many of the counter-arguments used against Hardin's analysis of the tragedy of the commons are based on his confusion of common property with open access, and that the behavioral assumptions of his theory are inadequate. «*Hardin's model is insightful but incomplete. His conclusion of unavoidable tragedy follows from his assumptions of open access, lack of constraints on individual behavior, conditions in which demand exceeds supply, and resource users who are incapable of altering the rules* (Feeny et al. 1990, 12)». The critics go on to argue that the behavioral assumptions of Hardin's theory are incorrect because



«[t]here is abundant evidence, contrary to Hardin, on the ability of social groups to design, utilize, and adapt often ingenious mechanisms to allocate use rights among members (Feeny et al. 1990, 10)». In one article, Feeny et al (1990) base their argument on a total of five cases demonstrating the effects of extra-legal resource management systems. However, several other examples of such systems may be found in other parts of the literature (Berkes 1989: Dyer and McGoodwin 1994: McCay and Acheson 1987). Rather than basing predictions of human resource use on the «rationalist» perspective assumed by Hardin, one should assume that extra-legal fisheries resource management systems exist because «*the capacity for concerted social action overcomes the divergence between individual and collective rationality* (Feeny et al. 1990, 13)». This point is underlined by McCay (1996) who accuses Hardin of being trapped in the epistemological logic of neoclassical economics, which treats all individuals as acting out of radical self-interest. She says that «*in evolutionary biology a great deal of work has gone into understanding conditions under which co-operative action will and will not take place. In models, simulations, and laboratory experiments with people - usually students - game theoreticians and others have shown that even radical individuals can find it in their interest to co-operate, to become social beings, under various conditions of knowledge, uncertainty and interdependence [...] This raises the theoretical possibility, at least, that fishers and others confronted with possible tragedies of the commons can act so as to avert the worst consequences* (ibid. 315)». The same type of argument is made by Ostrom (1990) who makes use of game theory to show that efficient management of the commons is both possible and rational from an individual and collective perspective.

Because there are examples of «*these fishing communities hold[ing] legally guaranteed exclusive fishing rights in coastal areas [...] the theory [e.g. common property theory] should be able to accommodate user self-organization or the lack of it. Such a model can better explain whether and under what conditions sustainable resource management will occur, rather than simply predicting the demise of all resource held in common* (Ibid. 14)». «Sustainable» is here defined as «*whether the resource in question has been used without compromising the ability of future generations to meet their own needs* (Ibid. 5)». According to this position, there is a difference between the legal ownership of the resource and the regime governing the resource. While the resource certainly can be owned by the state, users may form extra-legal fisheries resource management systems by themselves, serving to guarantee sustainable use and order among the users. This assumption is crucial to the criticism of Hardin, because it explains how different regimes may assume authority over users, independent of the specific laws that regulate the use of the resource at the formal legal-constitutional level. Consequently, there is a difference between formal law and what we may



term «folk-law». People create their own rules, and the common property argument is based on the fact that such self-generated regimes exist<sup>69</sup>. Furthermore, the institutionalization of such rules contributes to sustainable use of the resource in question. An example often referred to when discussing this issue is the lobstermen of Maine who have certain territories that they fish and defend against intruders (Acheson 1979: 1987: 1988). Since this case is often referred to in the literature, some of the weaknesses of the argumentation of the common property theorists will be based on a discussion of the literature on the lobstermen of Maine; this case is also contrasted to the case of Codfjord.

The lobstermen claim territorial rights to certain ocean areas. These territories are, according to Acheson (1988), also recognized by others as an extra-legal order serving to direct the behavior of both active and potential fishermen. This is the basis for calling the resource «common property» instead of «open access», since some of the lobstermen claim that they own the resource in common, excluding potential lobstermen from entrance to the fishery. Entrance into and exit from the fishery is consequently not open to everyone in contrast to the case of open access resources. The resource is held in common by those claiming exclusive rights to the resource. However, ownership of the resource is not legally manifested in formal law, it is manifested as a system of *use-rights* among active and potential lobstermen. Besides being common property, the territorial system contributes to preserving the resource, since the harvest is controlled (Feeny et al 1990). However, there are several assumptions behind these arguments that become problematic if one examines them more closely.

How can one claim that a territorial system exists and is recognized among both users and potential users, at the same time as examples can be found of violators being punished, often by the use of violence, destruction of vessels, gear and equipment (Acheson 1988)? It seems reasonable to assume that the fact that the lobstermen need to defend their territories is a symptom of these territories *not* being recognized by other fishermen as the exclusive resource of the lobstermen. If this is the case, any form of fisheries management system can hardly be said to exist, since intrusions and the defense of territories have the character of one privileged social group defending their interests against other groups, rather than of a system designed for sustainable use. If so, the conflicts between lobstermen in Maine follow the same structure as the conflicts between modern and traditional fishermen in Codfjord, where traditional fishermen perceive it as their privilege to punish other fishermen, especially «deviants». These

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<sup>69</sup>In passing, it may be noted that documentation of such extra-legal systems is one of the major contributions of commons-theorists to modern social science, mainly because this documentation makes it possible to account for discrepancies between formal law and local practices.

punishments follow a quasi-normative form since they are often designed to hide the maximization of individual profit. These findings have consequences for Acheson's analysis of the Maine lobstermen. This is also where one of the largest legal problems of extra-legal fisheries resource management systems lies. What legitimizes the punishment of outsiders, and what guarantees does the «system» incorporate to deal with actions that undermine the maintenance of the system? The fact that traditional authority exists and is enforced does not automatically mean that it is legitimate for everybody. At this point, Acheson provides no documentation of the legitimacy of the system vis-à-vis the rest of the social system of which the lobstermen are part. This point is also directly related to some questions regarding the structure of the punishment of outsiders. When vessels are supposedly burned because the owner has invaded someone's fishing territory, who can guarantee that other, more suspect, motives were not the motivation for these actions? Maybe the vessel of a particular person is destroyed because his fellow fishermen are jealous of his new car, but make up a story about intrusion into someone's fishing territory as an excuse. This is quite possible in a system where there are no institutional guarantees of authority, and where there is no higher authority that can validate decisions reached at a lower level. More fundamentally, there is nowhere where such cases can be processed, for example a court system, where crimes are subject to accusation and defense within the framework of a disinterested legal interpretation. Furthermore, who decides the limits of the use of violence and what criteria are used before punishment is effectuated?

The fact that some of the fishermen organize a collective defense of «their» fishing territories, and in that fashion create cost-efficient enforcement, is not necessarily the same as creating a fisheries resource management system. One criterion for calling this a fisheries resource management system must be that the resource can be exploited sustainably and that this is the explicit goal of the system (Cf. Feeny et al. 1990). However, sustainability does not necessarily follow from organizing cost-efficient collective action to defend privileges from intrusion by outsiders, since such a system does not imply control of each of the members in the institution. Thus, territorial defense may simply result in a few taking everything instead of everybody taking everything. In both cases, the outcome may be resource depletion. These problems have so far been unaccounted for in Acheson's arguments, as he has not shown that the lobstermen control each other's behavior in a fashion which guarantees sustainability. This suggests that the lobstermen can hardly be used as a model for sustainable resource use, since the «system» in itself carries no guarantees against overexploitation. It can, however, be used as an example to show how self-granted privileges are efficiently defended. Such examples of extra-legal fisheries management systems also have deeper problems.

Embracing kadijustice as the solution to the unwanted processes started when resources become privatized and/or subject to state intervention yields a series of interesting problems concerning the conceptualization of rights. Some of the processes generated by the traditional institutions in Codfjord can shed some light on these problems. What guarantees do the inhabitants in a fishing community have for fair, just and equal treatment in an extra-legal fisheries resource management system? In Codfjord, we saw that the perception of inequality and injustice was the basis for protests from the fishermen. According to Ciriacy-Wantrup and Bishop (1975), «[t]he term «common property» [...] refers to a distribution of property rights in resources in which a number of owners are co-equal in their right to use the resource.[...] The concept implies that potential resource users who are not members of a group of co-equal owners are excluded. (Ciriacy-Wantrup and Bishop 1975, 714-715)». The authors go on to criticize Hardin for overlooking the economic history of common properties, and show how common properties were distributed by feudal landlords to serfs (Ibid. 719). First, the case of Codfjord shows that the problem is not whether the co-owners are equal. The problem is whether everyone is equal before a law generated by rational consensus, not only history and tradition. Second, the feudal system referred to by Ciriacy-Wantrup and Bishop was often organized around the Machiavellian divide-and-conquer principle, primarily being a political vehicle to defend the economic privileges of landlords (Hoyt and Chodorow 1976). Landlords reinforced their own power by granting some advantages over others, also using violence to enforce the system. By doing this, conflicts in the system were redistributed downwards in the political system. While conflicts and riots could have been between the landlords and everybody else, the common property system, which consisted of granting a few selected individuals the privilege of sharing the right to use a property, served to oppose those with nothing against those who had little. It should also be mentioned that this is one of the aims behind the right to exclude others, since this is the key to social differentiation which was the political foundation of the feudal system. Ciriacy-Wantrup and Bishop continue to argue for the existence of common property systems by referring to different laws and charters created during the middle-ages. However, it should come as no surprise that these laws and charters existed, since those who had the political advantage of these provisions were identical with those who made the laws, that is the King, Church and the gentry (Hoyt and Chodorow 1976). While there can be no doubt that common property systems have existed both socially and legally, and that the concepts used to describe them are both logically consistent and adequate for their description, their political and normative significance must also be accounted for. These were hardly designed as resource management systems, but political tools to suppress riots caused by social differentiation.

The normative problem which remains unanswered by many of the commons-theorists can be formulated as follows: is it fair that some grant themselves privileges, and what legal criteria can be used to select entrants to a fishery that guarantees that the interests of the rights of citizenship are maintained? This problem is partly answered by Ciriacy-Wantrup and Bishop when they discuss new management practices. Concerning resource depletion in the North West Atlantic fisheries, «[t]he common property approach suggests a potential remedy: to assign catch quotas to individual fishers in such a way as to make the aggregate of the quotas equal to the desired total catch, which, in the long run, would normally equal maximum sustainable yield. [...] small operators could be excluded from the quota system in fisheries where they take a sufficiently small share of the total catch. It might even be desirable to make the quota salable. The details of implementation would vary from case to case. Just to define who is a «fisherman» and hence entitled to a quota would require careful study of each individual situation (Ibid. 723)». Seemingly, the common property approach to resource depletion, as formulated by these authors, is exactly similar to the form of state intervention represented by the vessel quota system. However, at the time of writing, the system suggested by Ciriacy-Wantrup and Bishop had not yet been implemented anywhere. Therefore, they could not utilize the historical evidence that we have today. Nevertheless, their argument contains a logic that directs us to the inherent normative problem in any management system: Who exactly has the right to harvest a given resource?

This may be considered as a problem of finding the proper legal unit for granting use-rights. Using common property institutions, that is extra-legal fisheries resource management systems, as the formal basis for fisheries management may mean generating social privileges. It may also give social differentiation a formal legal status, depriving underprivileged social groups their rights as citizens of a state<sup>70</sup>. There have not been many such privileges documented in Codfjord, probably because the harvest traditions of the community are based on an open access system where free and open entrance to and exit from the fishery has been one of the fundamentals of the community as a social and economic system. However, privileges of another and less concrete character have been manifested as the right of some of the fishermen to judge and sanction others' behavior. Civil rights, of which the legal insurances of the legal capacity of those in authority is one derivative, protect those subjected to the decisions of public administrations. However, the analysis demonstrated that kadijustice still prevails in the

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<sup>70</sup>This argument does not imply that modern states *are* based on fairness and equality. Indeed most states are not. It does mean that states are supposed to be based on values of individualism, which is the behavioral prerequisite for formal rationality and the legal principle by which individualism is legitimized.

social system, causing an unequally distributed exercise of power. This resulted in economic differentiation between community members. Establishment of a management system on the premises of historical social and economic privileges seems problematic because such privileges conflict with several aspects of the logic of formal rationality and civil rights. Formal rationality assumes the presence of a stable legal system that make predictions and calculations possible. It also assumes that everybody, seen from a legal perspective, has the same chance of prospering in the economic system. Above, we have seen how some of the fishermen in Codfjord have adapted, both economically and politically, to the formally rational routines of capitalist expansion strategies. While the strategies of these fishermen are by no means necessarily fairer and/or better than other possible strategies, they nevertheless indicate an historical reality.

This is also one of the deficiencies of the commons theory, since it seems unable to capture the production system that modern fisheries either are part of or to an increasing extent are becoming a part of. While instances of co-operation certainly can be found, is rational, and can also be modeled by use of simulations, game-theory and other means, the commons theorists seem to misconceptualize the historic location of egocentric strategies. Egocentric strategies, in the form of formal economic rationality, are not located in the will of the acting individual or any other individual attributes alone. They are embedded in political, cultural, social, religious and economic processes in the Western world and are more accurately described as an historically situated ontological faculty - that is, a mindset following from changes in the context of the acting individual (Lukacs 1985). Following Lukacs (1985), one may argue that neoclassical economics produced formal economic rationality in a world where many acted in substantively rational ways. However, the main accomplishment of this type of economic theory does not lie in its prediction of economic behavior; it lies in the contribution to changing the behavioral foundation of economic activities by institutionalizing these in a cognitive, normative and material framework. When economic institutions, management systems, companies and the general economic foundation of society are guided by the principles of formal economic rationality, the predictions of this form of rationality become a self-fulfilling prophecy since each of the actors expects all others to act in formally rational ways (Merton 1968). Other actors must also act in a formally rational manner to remain actors in the economic system, because the «system» - that is, all the other actors - treats them as if they were formally rational themselves. Accordingly, formal rationality becomes an action orientation and a normative order defining the basis for meaningful behavior. Furthermore, this type of action becomes tradition in itself. Formal rationality becomes tradition when it is manifested and institutionalized in both a priori given strategies but also practices. In this

fashion, a theory of human behavior becomes an historical reality, firmly tied to several concrete social and cultural institutions (Habermas 1972, Horkheimer and Adorno 1972, Lukacs 1985). This is also the reason why the critique that the commons theorists give of Hardin is largely inadequate for capturing occurrences in Codfjord. While it is possible to criticize neoclassical economics, one cannot blame Hardin for the historical reality which embeds many actors in the Codfjord fishery and, probably, many other Western fisheries; this consists of an omnipresent capitalist production process assuming authority over even distant fishing communities. Instead, egocentric strategies are both necessary and meaningful for most fishermen in Codfjord if they want to remain fishermen. The formation of formal economic rationality as an historical reality also brings some problems of compatibility between traditional and modern orders and institutions to the forefront of the discussion.

The question of harvest rights is central to many commons theories (McCay and Acheson 1987). Harvest rights constitute a system of exclusion and inclusion. These fishing rights may help to protect smaller communities against intervention from more capitalist-oriented fishing enterprises. Thus, maintaining historical practices serves to shield traditional fishing rights and protect the economic foundations upon which these historic cultures rest. This argument, which seems appealing at the outset, carries some fundamental normative-political problems, however. One question pertains to whose traditions should be given priority. It is reasonable to assume that social differentiation also exists in traditional societies, and that different groups in one community may have different traditions. It may therefore be difficult to select one tradition before another and then legitimize the selection. A second problem is related to what criteria should be used to document the existence of these traditions, and who can be said to have the authority to interpret them. One may risk silencing some, because they are repressed by local structures of authority and social segregation. Thirdly, several problems occur in claiming that the existence of historic harvest rights is a good argument for future harvest rights. For example, does the lack of historic harvest rights constitute a more adequate claim to future harvest rights than the presence of historic rights? One may turn the right-of-traditions argument on its head, arguing that all those who were not granted harvest rights previously should be given priority in the future. For example, it is both possible and relevant to argue that only women should be granted licenses to fish in the future, since women have historically been excluded from Norwegian fisheries. Since it is unfair that this part of the population has been neglected by fisheries policies in the past, they should be given priority in the future. Reference to traditions as the basis for future policy is a conservative approach to political solutions, which can reinforce institutionalized mechanisms of repression. The problem is that traditional social systems and harvest rights by themselves carry no guarantees of fairness and

equality, which must be the basis for any management system in a modern state based on civil and human rights. Using traditions as the basis for designing management systems may therefore create more social differentiation than is already present.

Maybe these problems are unsolvable. So far, the discussion has focused on the weaknesses of several approaches to fisheries management, showing that whatever one attempts to do; the result tends to be negative for someone and/or something. A grander question is whether it is possible to guide human resource behavior at all, and what happens when we attempt to alter such behavior? Some of these questions are discussed in the concluding chapter.

# Chapter Thirteen

## The Tragedy of Rationalization

The central theoretical framework of this analysis has been based on an interpretation of Weber's concept of rationalization. The different facets of this concept, as well as its implications, were discussed in chapter one, showing how the logic of modernization generates a homogenization of culture, leading to what Marcuse called the «one-dimensional man» (Marcuse 1986). This is a world where instrumental rationality, in its different guises, becomes the dominant mode of action, but also a cultural logic by which the actors orient themselves among other actors and in the world. In this chapter, the manifestation of the rationalization process will be discussed in the light of the findings from Codfjord; the effects of the vessel quota system and the implications for the tragedy of the commons debate are also discussed.

### 13.1 Rationalization as a Self-Fulfilling and Self-Perpetuating Process

The concrete manifestation of the rationalization process as found in this study corresponds to the sketch of the process described in chapter one. Fishermen in Codfjord reorient their actions from substantive to formal economic rationality. This change occurs as a process where the interaction of state intervention, market integration and cultural emancipation generates new action orientations and an adaptation to the capitalist production system. This serves to reduce the social and cultural significance of Codfjord as a traditional community. These processes have several consequences for the community as such and for fishermen in the community, as this reorientation changes the principal mode of interaction between actors in the community. Fishing, as an economic activity, becomes meaningful to the extent that it is profitable for the individual fishermen. That is, the self of many of the fishermen is founded on a self-understanding based on fishing as an instrument for reaching cultural prosperity in the capitalist production process. Accumulation of profit, efficiency, conspicuous consumption and wealth are moral virtues in this cultural system (Marcuse 1986). Traditional authority ceases to have importance for economic and other actions. As such, actions cannot any longer be legitimized by reference to the notions of equality, justice and fairness upon which modern civilization is based. This does not mean that social systems that are based on the production logic of capitalism are fair, equal and just. Indeed, they are not. However, the legal foundations of the system proclaim this ideology, because it is only within this legal framework that individualism can be protected and maintained. Since individualism is a necessary prerequisite for formal economic rationality, it must be institutionalized. On the other hand, failure to prosper in the capitalist production system, which is the cause of social differentiation, is often blamed on a



lack of individual skills, knowledge, or, alternatively, lack of sufficient individual freedom (Veblen 1965). In Codfjord we have observed that some actors simply ignore the imperatives of local norms, as the local community becomes gradually less able to sanction these actors because they have acquired economic positions independent of local actors and therefore the community as such. Independence from the community is also created by the intervention of different state institutions in the local community. For example, welfare institutions remove social responsibilities from the local sphere, thereby weakening the actors' ties within this local sphere. In the case of Codfjord, the rationalization process is also the cause of secularization, as the role of religion is put under pressure from people who neglect the role of the church as the institution which defines norms and ethics. Instead, the moral virtues of the capitalist production system are adopted. However, it has been established that the rationalization process, as this concept has been used here, is a gradual one. This has been established by documenting that traditional authority still remains a normative factor in Codfjord, and, in some cases, a dominant factor in the system of local justice in some villages. However, disconnection from the local sphere is a self-reinforcing process and it is therefore useful to discuss some of the theoretical implications of the process observed in Codfjord for general theories of cultural development.

Several social scientists have been concerned with the self-fulfilling character of some prophecies. Most notably, Robert Merton, who used the Thomas theorem, underlined this in his paper *The Self-Fulfilling Prophecy*, in which he analyzed how claims about the world actually contributed to changing the world in such a fashion that the prophecy became true (Merton 1948). While Merton's paper is based on analysis of examples - for instance, by describing how rumors of a bank's falling cash position causes people to withdraw all their savings, which in turn causes the bank's cash position to collapse - he also focuses on the metaphysical implications of these particular action structures. The logic of self-fulfilling prophecies is anchored in one of the fundamental attributes of human behavior, namely the unique human attribute of self-reflection and adaptation to transcending experiences, like innovations and information. In essence, the argument is that humans are able to change the world itself by changing the concepts and expectations that the world is understood by. These concepts may not even be inferred from any empirical situation or fact. They may be derived from wishful thinking, incorrect theories of the present state of the world or other more or less adequate speculation. This speculation may have the implication that if a sufficient number of people look at the world from this perspective and share expectations, the world itself changes character, serving to fulfill the prophecy. The bank example, as well as the other examples discussed by Merton, mostly describes how expectations of certain incidents cause these

incidents to occur. However, such expectations may also be transformed into historical structures. One example is the rationalization process analyzed here.

The rationalization process, as it has been dealt with in this text, is founded on three different components. First, it is based on a self-fulfilling prophecy of formally rational economic actors. Second, it has a self-perpetuating character, since the prophecy serves to create a system of interactions which forces each of the actors to become even more formally rational if they want to remain in the system. Third, the process expands into social locations and relations that are not rationalized. Each of these three characteristics of the rationalization process will now be discussed in turn.

In the case of state-intervention, the self-fulfilling character of rationalization is manifested as a set of expectations on the side of those in authority with respect to those subjected to the authority. Those in authority expect those who are subjected to their authority to behave in formally rational ways and to make institutional arrangements, for example management systems, designed specifically to guide and control this type of rationality. In the case of the vessel quota system, this was accomplished by defining a fisherman economically, as well as defining «fishing» as an occupation in terms of the economic yield of the operation. The design of this system is based on several assumptions about the behavior of fishermen. First and foremost, the management system erases all traits of fishing as an activity with cultural and social distinctions that are particular to subpopulations of fishermen in the total population of fishermen in Norway. This is accomplished by imposing rules and provisions that lead to self-fulfilling prophecies. Those who conform to the criteria laid down in the management system defining fishermen automatically become fishermen, while the rest are discarded from the population. Those who conform to the definition of a fisherman are identical with those fishermen in the population who behave in the most formally rational ways because fishing rights are allocated to the most active fishermen. An exclusive set of harvest-rights is institutionalized in Norwegian law - that is, a vessel quota - which essentially is the same as a share of the TAC if the Norwegian-Atlantic cod stock. Claiming a population of formally rational fishermen leads to regulations that target this part of the population, discarding the rest of the fishermen. Consequently, the population of fishermen consists of formally rational fishermen after the system has been imposed. Once the system is implemented, the logic of the system assumes a self-perpetuating character.

The elements in self-perpetuating social processes correspond and interact in such a fashion that each of the elements confirms the position of all the others, with each of the elements

themselves dependent on others in the process (Merton 1968). When each of the elements in the process is confirmed in this fashion, the relative importance of each will increase at the same time as the mutual dependencies among the elements increase. This creates a process of self-reinforcement which also leads to external consequences when the process assumes a dominant form in the social system where it is located. Concerning the subject discussed here, we may note that the interrelationship between financial structures in the fishery, quota incentives favoring larger vessels and a general orientation among actors towards emancipation from local kadjustice are some of the main constituent elements in the process. The vessel quota system itself brought the fishermen's attention to the competitive elements of the fishery; this was virtually absent when the fishery was a cultural enterprise under the dominion of traditional authority. Competition consisted of fishermen learning that fishing rights were dependent on effort, and the fear of future loss of fishing rights created an atmosphere among the fishermen where the fishing operation was changed from an economic, social and cultural activity to a solely economic operation. The fishermen also experienced that the quota system favored those using larger vessels and that different financial institutions gave priority to investments in such vessels. Strategic investments became an important factor, and economic strategies changed from the saving of money for use as social security, to the accumulation of profit for further reinvestments. This has created a dependency between fishermen and the market for capital, as interests rates are dependent on the cycles in this market. Furthermore, the need to repay regular installments created a need for strategic economic planning which had previously been absent in the fishery. The result is that the fishermen must be even more instrumental and more focused on the economy of the operation in order to be successful, as failure to understand the underlying processes behind the fishing operation can lead to a loss of fishing rights.

All these factors have changed the cognitive and normative foundations of the fishery. It has become increasingly directed towards fishing as a conventional business enterprise, by contrast to fishing as a cultural enterprise embedded in a variety of local institutions. The findings indicate that the technification of the fishery has contributed to lifting the cognitive foundation of the Codfjord fishery out of its local ecological limitations, enabling the fishermen to harvest fish all over the region if they desire. Due to the universal character of technology, locally generated concepts and constructs for ecological actions are not any longer the only means by which actions towards nature can be oriented. Instead, the technological development has helped the fishermen to become more like fishermen in other places that use the same technology. However, the structure of the management system in conjunction with the market and the technological development are not the only factors that serve to reinforce the

rationalization process. These changes are also driven from within the Codfjord community, as the adaptation to the universal normative principles of capitalism also contains a notion of rights that is different from the local ones. While rights, duties and expectations were previously allocated and manifested in a locally generated and maintained traditional structure of authority, the notion of universal equality, fairness and justice serves to legitimize actions that are opposed to those that are enforced locally. The normative platform of the community is fragmented, as traditional authority is attacked by actors who want emancipation from what they perceive to be system of families and friends which grant each other advantage at the expense of others. The economic marginalization of those who attempt to hold on to the traditional approach to fishing contributes to marginalizing the political and normative input of these actors proportionally. The result is that state intervention, in conjunction with a general political emancipation from traditional authority, moves the economic and normative foundations of the fisheries in Codfjord toward a more formally rational character. Once caught in the logic of formal rationality, profit accumulation, market dependency, political emancipation and the maximization of individual profit, a self-perpetuating process is created. Success with one of the factors is dependent on success with the others, and the individual becomes dependent on succeeding in handling all of these elements simultaneously in order to remain a fisherman.

The expansion of the rationalization process can be understood in light of the expansion of the capitalist mode of production, since rationalization and capitalism are two social processes that are thoroughly interrelated and mutually dependent. In a capitalist state, the incorporation of traditional spheres and production systems is the task of the bureaucracy. In many cases, state intervention has the character of an imposition. That is, the authority of the bureaucracy is forced upon the actors. This was the case with the vessel quota system. But, there are also other aspects of the capitalist production system which cause an integration of traditional production systems into that of the state. In Codfjord, the market for fish has expanded from being based on local and regional consumption to being based on national consumption and foreign export. While savings, inheritance and loans from family members were previously used to finance vessels, loans are now taken at government and private banks. These and several other factors serve to tie the local sphere to the national and international production system, at the same time as social responsibility is lifted out of the local sphere and into the hands of a state bureaucracy. In this sense, Codfjord has become a «global village» (McLuhan 1989).

This relationship is not symmetric, as the state is the stronger part in all its relations to Codfjord. Thus, there is an implicit hierarchy in the relations between the actor, the community

and the state. Once the capitalist modes of production and legal authority are imposed, there seems to be no way back to the traditional production system. This occurs because the specifically «local» attributes of the production system cease to have importance for the actors, as actions are directed towards the goals defined by formal economic rationality. In addition, the local production system needs to adhere to the rules of the bureaucracy to avoid isolation from the state. Such isolation may lead to economic destitution because actors in the local community lose their traditional fishing rights when put under state control. For this analysis, we must underline that the individual is the economic unit in the capitalist production process, while the group is the unit in traditional production systems (Lukacs 1985). Accordingly, state intervention causes an atomization of the local sphere, and the local community ceases to exist as a distinct homogeneous normative group. Once in this loop, the self-perpetuating logic of rationalization occurs, and, as Weber pointed out, it is difficult to break out of it. This also has some important consequences for our understanding of «management» as the concept has been used in this text.

### **13.1.1 Rationalization and the Paradoxes of Fisheries Management**

One of the tasks of a legal fisheries resource management system is to direct and coordinate social behavior. Manipulation of behavior is central to any management system, as it defines the principles and context for behavior (Perrow 1986). It follows that the specific construction of the management system has a determinative effect on the specific behavior generated within its framework, as the system may reward some forms of behavior and sanction others (Weber 1978). In other cases, guidelines for behavior have an imperative status, while the management system in some cases has no practical significance for the behavior of those subjected to the authority of the system. The vessel quota system, as a form of state intervention, has some specific properties which serve to accelerate the rationalization process in the fishery. The system creates a paradox since the goal of a fisheries resource management system (to preserve the resource) and the logic of rationalization (to exploit the resource as efficiently as possible) are contradictory.

The rationale behind the imposition of the vessel quota system was to counteract resource depletion, as the stock of Norwegian-Arctic cod had collapsed during the years 1987 to 1990. While it remains unclear why exactly the cod crisis occurred, data indicate that an increasingly efficient fishery overestimated the carrying capacity of the stock and thus overexploited it. The yield per unit effort increased drastically during the period from 1970 to 1980. Catches even rose when the number of fishermen was reduced. This was due to the consequences of the industrialization of Norwegian fisheries, which peaked during this period (Otterstad 1994).

While Norwegian fisheries certainly have been industrialized since the 1930's, the period of economic industrialization, that is, a fishery where the yield per unit effort is maximized, seems to have occurred in the 1970's. Therefore, the period up to the resource crisis can be considered one of rapid economic rationalization, as the fishery at the national level was made more efficient. However, the small-scale fisheries remained legally founded on an open access system during this period, allowing traditional approaches to fishing to exist side-by-side with industrial ones. The documentation from Codfjord shows that this was the case here, as smaller part-time operations from Codfjord harvested on the same fishing grounds as shrimp trawlers that were also from Codfjord. This variation in the approach to fishing was changed by the introduction of the vessel quota system in 1990.

The vessel quota system constructed an obstacle to the economic strategies of small-scale fishermen. Entrance and catch limitations were imposed in this part of the fishery. While larger vessels such as trawlers had been subjected to the same type of regulations for several years, small-scale fishermen had been «protected» by the open access system<sup>71</sup>. By imposing the vessel quota system, the state acquired control over all its fisheries, since all fishermen were subject to regulations and directives from the state. The intention behind acquiring this control was to protect the cod stock by imposing guidelines for behavior at the same time as unwanted behavior was stopped. However, this is where some of the paradoxes of the vessel quota system can be found. It was traditional fishermen, who are the least capital-intensive and resource-consuming of all small-scale fishermen, who were discouraged by the entrance and quota provisions in the system<sup>72</sup>. One would expect it to be in the «interest» of the resource, and thereby the Norwegian public, that the capital-intensive and resource-consuming fishermen are put under control first. However, this was not the case since the capital-intensive and resource-consuming fishermen were those who were granted the highest quotas. Furthermore, it seems equally paradoxical that the vessel quota system actually gave incentives to fish in a capital-intensive and resource-consuming manner, since it was the policy of «efficient» fishing that had contributed to causing the cod crisis in the first place. How can one protect a fishery from being overexploited by imposing regulations aimed at making the fishery more capital-intensive and resource-consuming?

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<sup>71</sup>However, small-scale fishermen were also subject to a maximum quota system from 1983. The system was never enforced and did thus not have any practical significance for the behavior of small-scale fishermen until the cod crisis occurred in 1987.

<sup>72</sup>As noted above, no one was refused entrance to the fishery in Codfjord, *if they applied for a vessel quota*. However, some fishermen were discouraged, partly because the quota tied to the vessel was too low to support the costs of the operation.

This paradox with the vessel quota system can be attributed to the tensions created between preservation on one side and formal rationality on the other. It could well be that the state was unaware that the system would create a rationalized fishery. However, it seems more likely that this was a calculated move towards a more profitable fishery, as fewer and more efficient vessels generate more revenues and taxes than many inefficient vessels can under the current tax scheme<sup>73</sup>. It may thus be in the short-term interest of the state that there are a few, formally rational fishermen. However, designing a management system with the intention of generating profit for those participating, and perhaps gaining the political goodwill of those profiting from the system has serious consequences for the future preservation of the resource. The study from Codfjord shows that imposing restrictions aimed at limiting catches causes the fishermen to harvest even more than they previously did. Previously, fishermen did not focus on profit as the only aim of the fishing operation. Now, many of them do. This is why fishermen are so concerned about taking their quota, why they constantly seek other profitable species and fish down local stocks before they go on to the next stock and why they are involved in organized illegal fishing. It is also the reason why captains dispose of all peripheral expenses to crew, maintenance, and so on. Due to these changes, one may claim that the vessel quota system has had the opposite effect to that which was intended. Instead of protecting the environment, it has served to reinforce the processes that lead to its destruction. Moreover, it has, in conjunction with other forms of state intervention, contributed to changing the cognitive and normative foundation of fishing in such a manner that the fishermen are able to find loopholes in the system, and use these loopholes to their own advantage. As more restrictions are imposed by the state, the more instrumental the fishermen become, and the more focused they are on finding holes in the system. What the state has intended to be limitations are perceived to be incentives and challenges among the fishermen. All these consequences may be attributed to an inherent conflict in modern resource management. On the one hand, sustainable development requires long-term planning. On the other hand, the capitalist production process requires profitability and efficiency. When considered together in practical policy formation, it seems that sustainable development loses because the need for efficiency and profit overwhelms the political system. Knowing that another resource crisis is under development at the time of writing, one may suspect that this logic is self-defeating since nobody can live from depleted resources.

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<sup>73</sup>This goal has also been explicitly stated by the Norwegian Minister of Fisheries. In a speech given to the Annual Meeting of the Association of Norwegian Fishermen in 1995, he said that it was an explicit goal to make Norwegian fishermen more «competitive» and «efficient» so that they could face international competition.



## 13.2 On the Tragic

In an article criticizing the tragedy of the commons theory, McCay renames the tragedy of the commons «the comedy of the commons» (McCay 1996). She maintains that we strive towards finding solutions to problems involving multiple contingencies, and that these solutions often fail. Resource depletion is comical because it shows the limitations of any human to capture the complexities involved in resource use. If we do not find this comical, and the concept «tragedy» should be used, *«we should at least try to be more specific when talking about environmental problems. Are they tragedies of the commons - of ineffective or incomplete communal management? Or tragedies of open access and laissez-faire management? Are they tragedies of government mis-management [...] and inadequate science [...]? Or tragedies of the non-commons, of privatization? Are they tragedies of the loss of communal institutions? Or are the tragedies really beyond the scope of human cause and response, tragedies caused by the vengeance of fate and the gods, or by uncaring and chaotic natural systems?»* (McCay 1996, 332)». When people no longer can live from the resources that they previously had, there may be many tragedies involved. The question is: whose fault are tragedies of the commons? Is there an ultimate reason why such crises occur?

This study gives a glimpse into the processes initiated when a fishery is put under the jurisdiction of a bureaucracy which promotes the cultural assets of the modern capitalist production system. The process may be summarized as follows: fishermen, as part of the general modernization of the Norwegian nation, modernized their fisheries throughout the postwar period, reaching a peak around the beginning of the 1980's. At this point, where a large portion of the fleet harvested in an open access system, the resource started to break down. The final breakdown came in 1987, causing the state to impose the vessel quota system for the conventional fleet of fishing vessels. Other vessels were already harvesting under similar conditions. The vessel quota system served, in conjunction with the previous systems in the fishery, the community and the state, to further rationalize the fishery, making the actors even more formally rational. In addition, it served to change the fundamental cognitive and normative orientation of the fishermen, since formal economic rationality became an increasingly dominant principle of economic action as local institutions, which previously worked as an extra-legal management system, gradually lost validity as the hegemonic source of authority. The overall result is a fishery that is even more directed towards efficient and profitable exploitation of marine resources than previously. Is there anything tragic in this? Seemingly, there is nothing tragic in this situation in itself, but there may be something more tragic in fisheries management and the conceptualization of fisheries management vis-à-vis



other social institutions and processes, especially those related to the latent functions of the management system.

Today, many of the world's marine resources are in a state of crisis (FAO 1994). Effort has increased drastically during the past 10 to 15 years, as marine resources have become increasingly important as a major source of protein for people in the Western world and destitute populations in the Third world. FAO suggests a series of instrumental efforts, such as improved collection and processing of scientific evidence, improved decision-making procedures and other instrumental means for improving the fisheries management systems of the world. According to FAO, the answer to a global resource crisis is improved fisheries management. Some have suggested the use of chaos-models (models of non-linear dynamic systems), claiming that such models more accurately predict biomasses than those based on linear models (Wilson et al. 1990). Others, such as McCay quoted above, think that a further specification of the location of the tragedy in the social system, or alternatively calling it a comedy, may help solve some of the problems of fisheries management. However, is the problem, specifically the fact that several resource crises are evolving all over the world, correctly conceptualized by focusing on the instrumental and scientific principles behind fisheries management?

This study suggests that it seems more relevant to locate part of the problem of fisheries management exactly in its focus on what is perceived as instrumental efforts. The focus on fisheries management, and therefore also resource use as an instrumental and economic enterprise, overshadows many of the normative questions that follow from resource use and resource management. Accordingly, the question seems to be about a deeper cultural problem. In his treatise *On the Tragic*, the Norwegian philosopher Peter Wessel Zapffe was concerned with the specific content of the «tragic» (Zapffe 1984). While it is impossible within this text to do justice to the metaphysical framework of his analysis, some of the basic elements of his definition of the tragic can help to formulate the basis for the processes which exist behind a situation where fisheries management seems unable to stop resource depletion.

According to Zapffe, «*a tragic process has three characteristics: a culturally relevant greatness, or magnitude, in the afflicted individual, a catastrophe that befalls him, and a functional relation between the greatness and the catastrophe* (Ibid. 620)». For our purposes, the culturally relevant greatness can be considered the cultural admiration and support for wealth, rationality, profit accumulation and instrumental and formal knowledge. These attributes of the cultural greatness of the «good» capitalist in the capitalist production system

are consistent with those that Veblen arrived at when analyzing the cultural basis for the class system in the US (Veblen 1965). It is also consistent with the cultural values found among the French middle and lower classes by Bourdieu and others (Bourdieu 1984, Bourdieu and Passeron 1977). The point is that formal economic rationality assumes the form of a virtue in itself, resulting in a system of value and social rank in addition to the prevailing principles and strategies for social interaction. Because an object is *technological* and *efficient*, it is also *good*. Instrumental means become intertwined with normative ends. Politics and moral discourses become replaced with discourses of technology, efficiency and profitability, as these individually-based virtues are regarded as more important than group-focused concepts such as fairness, equality and justice. This occurs because the norms of the economic market transcend the market, assuming a general ethical form. Discourses concerning the good for «us» are reduced to discourses concerning the good for «me» (Habermas 1984).

These changes also affect the perception of nature which assumes the form of a resource. One is largely indifferent towards nature unless it can serve as a means for acquiring cultural greatness. This can best be accomplished by acquiring control over nature, in which case it can be exploited efficiently and rationally and hence in a good manner. Those not exploiting it in such a manner are considered reactionary. The pace of the exploitation of nature follows the same structure as a need or desire that must be satisfied. In turn, this contributes to creating the logic of the tragedy of the commons, because everybody attempts to harvest as much of the resource as efficiently as possible, because this is a good form of exploitation. This is where the catastrophe occurs, because nature is unable to respond to its status as potential capital, and therefore rapidly depletes. There is thus a functional relationship between the culturally relevant greatness of the capitalist production process and the catastrophe it generates, because the definition of the highest good drives humanity towards catastrophes.

In Zapffe's terminology, this is a tragic process, since the highest good turns out to be fatal for those who hold the good as a good. According to Zapffe, the tragedy of humanity is that we have the instrumental and technical knowledge to cause catastrophes in both nature and ourselves, at the same time as our lack of moral and practical sense prevents us from realizing it. Striving towards cultural greatness, we are unable to see the common and future good. Moreover, we are unable to see the catastrophes that «good» may lead to. Therefore, Zapffe argues that it would be no tragedy for humanity to become extinct as soon as possible, because we will destroy ourselves anyway. While this study cannot indicate that this claim is justified, it may shed some light on some of the current forces behind resource use and depletion. The conclusions of this study suggest that it may be about time to ask whether we want to be

optimally efficient, profitable and competitive, if the price is large-scale ecological, social and cultural tragedies.

# Appendix 1

## The Fieldwork

This section describes the methods employed before, during and after the fieldwork, and shows how the theories, empirical analysis and conclusions are connected (Spector 1981). The methodological approach to a phenomenon imposes possibilities and restrictions on the conclusions that one can infer from the data, and must therefore be adjusted to the questions one wishes to answer. The intention of this study was to capture the rationalization process following from state intervention. This is a complex and composite phenomenon requiring a deep and firm understanding of changes at the individual level and intimate knowledge of the object studied. This called for a method that is both flexible and able to capture social phenomena in several dimensions. Therefore, a case study was used as the methodological approach (Marshall and Rossman 1989). Case studies allow the researcher to spend a large amount of time with few subjects. However, the approach implies a trade-off regarding the representativeness and reliability of conclusions (Kirk and Miller 1986). Case studies allow the use of several methods at the same time, both quantitative and qualitative. A set consisting of four methods is used in this study. These are: (A) a structured questionnaire; (B) open-ended interviews; (C) participant observation; and (D) archival data. All of these depict different aspects of the community studied. The strengths and weaknesses of these methods are discussed in turn below.

The location of the study is a small fishing community in northern Norway. It was called «Codfjord» to protect the anonymity of the informants used. The community was selected purposely due to its dependency on the harvest of cod by the use of smaller vessels, as all fishing vessels are shorter than 37 feet. Another factor determining the selection of this community was that the borders of the municipality constitute a natural geographic sample border, since several high mountains separate the community from other municipalities. In Codfjord, all active fishermen were interviewed by means of different instruments. In addition, several other people in the area with relevance to the study were interviewed.

### A.1.1 Sampling and Methods

This section sketches the methodological approaches used for this study. The section is structured synchronically with the research process, starting with the preparations before the study, the data collection process, and finally an evaluation of the process. The rationale behind the approaches used is discussed, showing the strengths and weaknesses of case studies.

### **A.1.1.1 Approaching the Field**

The case study approach was selected due to its ability to capture several aspects of social change within reasonable time limits. Case studies enable the researcher to investigate thoroughly a limited set of informants by spending time with them (Kirk and Miller 1986). In that fashion, the researcher becomes closely acquainted with both the informants and the social phenomenon studied. This is an important feature of case studies. The researcher is supposed to know some features of the social phenomena before the data-collection process starts, in the sense that the researcher has a set of general concepts and constructs that will be applied when interpreting the data. We may call this *a-priori known* phenomena<sup>74</sup>. However, during the fieldwork, there will always be some phenomena that occur which were not anticipated. These will be termed *a-priori unknown* phenomena. A priori unknown phenomena may be of vast importance for an overall understanding of the phenomenon and subjects studied (Marshall and Rossman 1989). A case study allows one to grasp both categories of understanding, because one can adjust the research process as the fieldwork proceeds. The more time available, the more precise, valid and reliable will the conclusions of the study be (Carmines and Zeller 1979). However, there are several limitations on case studies, especially those concerning external validity (Cook and Campbell 1979). These will be discussed below. First, some of the sampling procedures used are reviewed.

### **A.1.1.2 Sampling**

Having decided the methodological approach to the study, a location was selected. Criteria for this selection were:

- (1) The fishermen of the community needed to be strongly dependent on small-scale fishing, in particular cod.
- (2) It should be possible to interview all the fishermen (high internal reliability and validity due to the use of a population).
- (3) If other industries were present in the community, these needed to be primary occupations other than fishing.

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<sup>74</sup>This does not mean that the researcher knows how these phenomena are empirically formulated among the subjects studied. Having such knowledge is termed *a-posteriori knowledge*, because it is generated after experiencing the concrete phenomenon.

Communities with elements of industrial development should be avoided as far as possible (isolating the effect of substantive economic rationality and traditional authority by excluding the sources of formal economic rationality and legal authority to the extent possible). Thus, purposive sampling was used to find a community with a population that matched these criteria (Johnson 1990).

The community has remained anonymous throughout the study to protect the integrity of informants. All names used, whether they are attached to persons or places, are fictitious. In addition, where age, kinship and other individual level variables are unimportant to the result and substance of the analysis, variables may be purposely switched between individuals. This is also done to protect the integrity of informants. The community is named *Codfford* because it is located in a fjord known to have some of the best fishing grounds for cod in the region. The community comprises a municipality, which is the smallest administrative unit in the Norwegian government system. Having a sample corresponding to an administrative unit is advantageous for the study. In cases where one studies people in different administrative units, one must control for the effect of this variable by isolating its effect on the phenomenon studied. The population used for this study was therefore also selected due to its invariance in this attribute.

Fishermen were contacted with the help of public records. All fishermen in Norway are registered in public records. These records are available upon request from the Norwegian Directorate of Fishing and have been referred to as *The Fishermen's Census*. The Fishermen's Census is divided into two separate records. Record A lists all part-time fishermen, while record B lists all full-time fishermen. The list from Codfford included 132 fishermen, taking records A and B together. While the records are practical to use for the field-worker - names, addresses, birth dates and telephone numbers are part of the available list - they are known to be obsolete in many cases. The sample list was therefore checked with 5 main informants who had an overview of the fisheries in the community. This was done to avoid wasting time on inactive fishermen. If all five main informants deleted the same person from the list, the person would be discarded from the population automatically. If less than 5 of the main informants deleted a person from the list, the person was contacted and asked whether he still fished. After this procedure was completed, a total of 42 full-time fishermen and 15 part-time fishermen constituted the population list of the study. Of these, 40 full-time fishermen and 12 part-time fishermen were interviewed. The reduction of fishermen eligible for interview, which in this case amounted to 75 fishermen, can be traced back to the fact that the records of the

Fishermen's Census are not updated regularly. Besides, many fishermen remain on the list even if they are inactive, because the census still is valid as a social security census (see chapter three for a discussion of this function). The size of the population mirrors the double function of the Fishermen's Census, and the withdrawal rate reflects the fact that this study only aimed at the portion of the list who were active fishermen, excluding those who were on the list in order to be eligible for social security benefits.

The population of fishermen was divided into two sub-populations corresponding to the records of the Fishermen's Census. Full-time fishermen living in the municipality constituted the main unit of analysis in the study, while part-time fishermen constituted the secondary unit of analysis. While those who were fishermen constituted the target population, others also provided valuable data. These were questioned using open-ended interviews. Main informants in other sectors than fishing were contacted during the fieldwork, since it was necessary to become acquainted with several aspects of the community (Johnson 1990). These informants provided background information as well as a channel into aspects of fishing from the «outside». Informants in this category totaled 48 individuals.

Network analysis was chosen to analyze how fishing, as a social structure with its own hierarchy of social relations, is integrated into other social structures, such as those pertaining to religion and other occupations. Because snowball samples (the sampling technique used in this study) tend to get very big, it was decided to limit the analysis to one village in the community. Everybody in this village was interviewed, exhausting all of the nodes in the network. Because all connections from individuals to persons outside the community were excluded, the findings are limited to rendering the network of the village. Relational network analysis can be accomplished by use of various sampling techniques, but so-called «snowball sampling» is used in this study (Freeman, White and Romney 1992, Knoke and Kuklinski 1982). Snowball samples are constructed during the fieldwork by help of the network structure of the informants interviewed (Knoke and Kuklinski 1982). Sampling starts by asking one informant for  $n$  persons to whom he/she has a social relation. Sampling continues by asking the same of person<sub>1</sub>,..., person<sub>n</sub>. This goes on until one accomplishes network closure; which occurs when the informant mentions persons that already are elements in  $n$ , that is they have been interviewed before. When the sample has reached this state, one has exhausted all the nodes in the network, and has an overview of all social relations that exist among the members of the network. This sampling procedure is related to the unit of analysis in network analysis which is social relations (Freeman, White and Romney 1992). While social relations are normally regarded as a variable entity of the individual, ego-centered network analysis represents the

individual by his social relations. Webs of social relations constitute social structures, and network analysis aims to describe and analyze social structures by tracing concrete social relations. The concepts and operationalizations behind network analysis are more closely described in the empirical analysis.

#### **A.1.1.3 Measurement Instruments**

The four different instruments used to collect the data will be reviewed in turn. The questionnaire used for this study was an improved and revised version of one used in a similar study from 1992 (Karlsen 1992). A pretest of the questionnaire was performed during the first two weeks of the fieldwork. After this, some revisions were made, leading to the questionnaire used for this study (see appendix three).

The questionnaire is divided into several parts (Osterlind 1983, Converse and Presser 1986). The first part reveals the demographics of the population. The second part examines the occupational structures of fishing, as well as how fishing is organized in conjunction with other occupations. Part three concerns the specifics of the fishing operation, as well as the ecological and economic foundations of the informant's fishing enterprise. The fourth part is constructed as a series of four matrices that have been impossible to reproduce electronically because they were handwritten. The first matrix contained the years 1983-1993 along the columns and species along the rows, while the cell code represented the tool utilized. The second matrix contained years 1983-1993 along the columns, occupations along the rows, and a cell code representing proportion of income. The third matrix was only valid for 1993 and depicted months along the columns, species along the rows, and a cell code for tool used. The fourth matrix was also only valid for 1993 and contained months along the columns, occupations along the rows, and a cell code for proportion of income. These matrices allowed an analysis of changes in the economical, ecological and demographic characteristics of the fishermen over time. The sixth part covers network aspects of the community.

Interviews ranged in time from 2 to 5 hours, depending on the willingness of the informant to answer the questions and how much there was to say. Most full-time fishermen were interviewed several times. An interview was also held after the questionnaire was completed. This approach yielded much information which may otherwise have eluded the researcher, due to its a-priori unknown character. Data were recorded as an SPSS® dataset, and were analyzed using this software package. Network data were entered and analyzed using UCINET® and ANTHROPAC®.



«Open-ended interviews» is another term for establishing a dialogue between informants and the field worker (Marshall and Rossman 1989). Given that a-priori unknown objects and phenomena will be detected during the fieldwork, it is necessary to back up and complete anticipated data with information about those that were unknown before the fieldwork started. There are also other advantages to using open-ended interviews (Kirk and Miller 1986). During these conversations, one gets to *know* the individual as an informant. This helps on the gathering of data about phenomena that are usually inaccessible when a significant amount of time is not spent with the subjects of the study<sup>75</sup>. Information collected by use of this method was recorded as field-notes.

Participant observation is not exactly the same as open-ended interviews since it also involves *doing* things together with your subjects along with having a conversation (Johnson 1990). This activity is especially valuable to the field worker because he/she is introduced to non-verbalizable practices and/or subjects which the informants cannot or do not want to verbalize. I attempted to participate in the fishing activities to the extent possible, in addition to «hanging out» with the fishermen and participating in other daily activities such as dinners, games, and the like. In order to accomplish this, I lived with a fishing family for several weeks, divided into periods of one to two weeks<sup>76</sup>. Also, information collected through this method was also recorded as field-notes.

Archival research is important because it often provides historic data, as well as a source for cross checking information from other sources (Marshall and Rossman 1989). Field-notes and photocopies were the storage medium of this form of data. Historic data has been collected from historical treatises written about the region, as well as interviews with persons in the community who are interested in local history. In addition, the regional museum allowed its archives to be used in the project. Several historic documents as well as a series of interviews were copied from their records. These constituted the historical backbone of this text. Public

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<sup>75</sup>Open-ended interviews were especially useful when interviewing the wives of the fishermen. Initially, a special questionnaire was made for interviewing these subjects. However, the reactions to the field worker asking to talk to the wife alone were negative. Due to fear that this could result in unwanted negative reactions from the fishermen, the questionnaire made for the wives was not employed and the husband was present during all interviews. This action was justified by the fact that active fishermen were the unit of analysis, not their wives. Secondly, in most cases the fisherman's wife was present during the interview. Thus, when the questionnaire was completed, the discussion often concerned matters that both the husband and wife wanted to talk about.

<sup>76</sup>A case in point is the daily activities which people carry out. There may be things that people take for granted or think is too boring to tell the field worker about. However, these may have interest for the field worker because daily activities contribute to constituting many complex phenomena, such as traditions (Johnson 1990).

documents and tax lists<sup>77</sup> were provided by the municipal administration. Different statistics and protocols were provided by the *fisheries advisor*, a civil servant who became an important informant during the fieldwork due to his role vis-à-vis the fishermen<sup>78</sup>. Most documents that the fisheries advisor stores are on public record, and are therefore accessible for anyone. Many of these documents have been used in the empirical analysis.

Together, these approaches constituted a battery of methods yielding information in several dimensions, each with its particular strengths and weaknesses (Cook and Campbell 1979). These will be discussed next.

#### **A.1.1.4 Results of the Fieldwork**

The fieldwork started in September 1993 and lasted until March 1994. The fieldwork continued uninterrupted throughout this period. Because most fishermen work during the daytime, interviews were completed during the afternoon. Appointments were made during the morning or the day before, and the informant was interviewed the following afternoon. In a few cases, informants were approached through someone else. This was done in cases where the informant was known to be skeptical towards being interviewed. One person refused an interview, while the other missing person from the population list of full-time fishermen was not present during the fieldwork. With this very high completion rate, the interviews are quite representative for the fishermen in Codfjord<sup>79</sup>.

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<sup>77</sup>Gross income, tax and savings are a matter of public record according to Norwegian tax laws.

<sup>78</sup>The fisheries advisor is a delegate of both the Norwegian Department of Fisheries and the Norwegian Directorate of Fisheries. He is also responsible for contact between the fishermen and other state institutions which deal with fisheries. The advisor is the only civil servant representing the state who is in contact with the fishermen regularly. Public officials from the municipality also have contact with local fishermen, but these do not represent the state. There is usually one fisheries advisor per municipality, given that there is enough fishing activity in the region. The Codfjord municipality has its own fisheries advisor, who has office hour one day a week. In addition to being the link between the state agencies and the fishing industry, his task is also to help the fishermen with applications, economic matters and different legal aspects of fishing. The fisheries advisor is also a consultant to the municipality administration in matters regarding fishing, for example when the municipality applies for state funding for a new fishing dock.

<sup>79</sup>The study is based on a population, not a sample. However, the term 'sample' is such an intrinsic part of the terminology (for example, the concept 'sampling') that it is hard to avoid using the concept. The concepts 'population' and 'sample' are therefore used interchangeably, however, the current study is based on a population. Use of a population has the advantage that sampling errors are avoided, as all possible relevant cases are included in the project; the central tendency of the distribution is therefore not an estimate but a real value. In spite of the relatively few cases, this makes procedures such as repeated measurements irrelevant, since this procedure only will draw N random samples whose central tendencies will converge towards the central tendency in the population (which is given in the first place). However, tests of significance are still employed when using inferential statistics. This is due to another problem. As Henkel (1976, 85-86) points out, there are three different ways of interpreting

Most informants were positively disposed to being interviewed. This may be attributed to attitudes in the local culture. Most people are open and interested in getting to know everyone who moves to the community. This friendliness came as a positive surprise, knowing that other academics have had problems being accepted in their fieldwork in this region. Since the community is small and has a very transparent network, most people knew that I would approach them before I actually did so. They knew that someone «who wanted to talk with the fishermen» lived in the community, and the local leader of the Norwegian Fishermen's Association had told all the members that I would arrive, and that he supported my project<sup>80</sup>. This helped establish a positive atmosphere between the fishermen and me.

The next section discusses some of the possibilities and restraints resulting from the methodology utilized in this study.

### **A.1.2 What and Who Do We Know Something About?**

As pointed out in the introduction, case studies have methodological properties that are desirable and undesirable, dependent on the type of conclusions one wants to infer (Jacoby 1991, Spector 1981). Different approaches to this problem will be discussed using the concepts reliability and validity (Cook and Campbell 1979, Kirk and Miller 1986, Carmines and Zeller 1979). The intent of the discussion is not to exhaust all possible issues relating to the methods of sociology, but to sketch different approaches for shedding light on the approach used here.

Discussions regarding the criteria for sociological research may be boiled down to discussing the *reliability* and *validity* of the methods used (Cook and Campbell 1979). The *reliability* of measures concerns the consistency of stimuli and responses across a set of subjects. Say that different people interview a set of respondents using the same set of questions. In this case, respondents may react differently to different interviewers. Because it is hard to control for the

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significance tests. First, the significance test may give us an indication whether the difference between observed and expected values are due to sampling errors. Second, the significance test can indicate whether the discrepancy between observed and expected values can be traced back to measurement errors. Third, the significance test can give us a probability estimate of the chance that the difference between observed and expected values are due to stochastic processes. Especially due to the fact that use of a population still may yield measurement errors, significance tests are used. A last methodological point pertains to use of inferential statistics in general. In some projects, the point of statistical analysis is to generalize from sample to population. In other projects, statistical analysis is used to reduce data. The current study falls into the latter category.

<sup>80</sup>The Norwegian Fishermen's Association is the largest interest organization for Norwegian fishermen and organizes fishermen all over the country.

effect of different interviewers, this may be a source of error, lowering the reliability of findings. Validity concerns different aspects of the methods employed during a study. *Internal validity* refers to «drawing false positive or false negative conclusions about causal hypotheses (Ibid. 80)». Internal validity relates to the causal directions of the effect between two different phenomena. Having multiple measures of the phenomena subject to the causal analysis may increase this form of validity. For example, the inclusion of time may help justify the sequence of variables. *Construct validity* refers «to the possibility that the operations which are meant to represent a particular cause or effect construct can be construed in terms of more than one construct, each of which is stated at the same level of reduction (Ibid. 59)». To secure the construct validity of the research, one must decompose causal relationships into its particular components. This makes it possible to control for interaction, that is, the phenomenon that occurs when multiple variables have both a separate and a conjunct effect on a dependent variable<sup>81</sup>. *External validity* refers to the «threat of not being able to generalize across exemplars of a particular presumed cause or effect construct (Ibid. 70)». One should differentiate between being able to generalize *across* populations and *to* populations, however, both concern the external validity of research findings. When generalizing *across* populations, one claims that a causal relationship is true for everybody in the population because sample estimates show identical relationships<sup>82</sup>. The sample determines the extent to which one may generalize across a population. One can enhance the external validity of findings by refining the sample procedures, for example by dividing the population into hierarchies and clusters, ensuring that all imaginable variations are represented in the sample. Generalizing *to* the population means that the causal relationships derived from the sample are statistically true for

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<sup>81</sup>A case in point is the Hawthorne-effect. The purpose of the Hawthorne experiments was to study how the efficiency of production varied when different environmental factors in the production line were changed. The same group of workers was subjected to different stimuli over time. For example, the illumination of the production facilities was altered sequentially from low to high. The studies concluded that the more illumination, the more efficient production. Causally, thus may be formulated as follows:  $A \uparrow$  (increase in illumination)  $\rightarrow B \uparrow$  (increase in production). However, these experiments did not control for other environmental factors. Later studies showed that when the researchers mingled with the producers, production increased. The *social contact* between the researchers and their subjects increased production, independently of illumination. This yields the causal chain:  $C \uparrow$  (increased social contact during production)  $\rightarrow B \uparrow$ . It follows that the initial causal chain actually was false because rising production must be decomposed into two different constructs. In this case:  $A \uparrow \rightarrow B \uparrow \wedge C \uparrow \rightarrow B \uparrow$ . Production may rise both due to increased illumination *and* due to increased social contact. Of course, several factors may have an effect on production, and the above conjunction does not exhaust all explanations of increased production.

<sup>82</sup>For example, if the analysis of a sample shows that variable  $A_i \rightarrow$  variable  $B_i$ , the researcher concludes that it must also be true that  $A_1 \rightarrow B_1$  (as is the convention, large letters are population parameters, while small letters are sample parameters). What is true for the sample ( $n=i$ ) is also true for the population ( $N=I$ ). In this case, external validity refers to the question whether  $A_1 \rightarrow B_1$  is true for all elements in  $N$ , or is it the case that within some strata of the population the causal chain is reversed, as in:  $B_1 \rightarrow A_1$ ? This question can only be answered by justifying the sample procedures used.

the population in the sense the causal relationship represents a central tendency in the population<sup>83</sup>. In sum, the difference between generalizing across and to populations is that causal statements are held to be true for everybody in the population in the first case, while they held to be true within specified limits of probability in the latter case. The latter case allows for deviation, but the first case does not.

How can one ensure that data conform to the criteria listed above? Is it possible to have perfect data? Creating the perfect data set remains unrealistic, and there are two principally different ways of solving the problem: the quantitative and qualitative approaches. These will be sketched below.

Most forms of quantitative analysis rest on a notion of *random samples* (Asher 1983: Davis 1985: Kish 1965: Spector 1981). The idea is that a population can be represented by a sample. The sample representing the population has very specific properties: everybody in the population has an identical and known chance of being included in the sample. Thus, when the population contains 4 000 persons, and we want to represent these with 2 000 persons, each person has a 50% chance for being included in the sample. This is called a simple random sample<sup>84</sup>. The idea is that the attributes of the sample converge towards the attributes of the population and can therefore represent them. Because respondents are randomly assigned, they will represent the average attributes of the population within certain parameters of deviation. This approach to representation rests on several assumptions (Kish 1965). It is evident that this method assumes that the variables are valid and reliable for all elements in the sample - one can measure individual attributes and behavior by one standard across the units in the sample. Further, it also assumes that the standards applied to the sample represent the standards of the population. This is also the major weakness of this approach (Mohr 1990). The researcher is often unable to check whether the data have the validity and reliability assumed, unless she collected the data herself and adjusted for measurement errors. Another weakness is related to a-priori known and unknown social phenomena. Since standard-format questionnaires are often used in this type of research, it is difficult to revise the project during the research process. This inflexibility may ultimately result in low construct validity because one is unable to see the complexity of social phenomena. The strength of the approach is that external validity may be

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<sup>83</sup>Consider the example above where the researcher found that variable  $A_i \rightarrow$  variable  $B_i$ . Generalizing to the population means that the relationship is true within certain limits of probability, that is, one can give an estimate of how many instances the causal relationship is present in. The causal relationship is a central tendency in the population within known error limits.

<sup>84</sup>However, there are also many other forms of random samples (Kish 1965)

accomplished with a relatively high degree of certainty (Kish 1965). Because a large number of respondents can be randomly included in the sample and thereafter aggregated in statistical analysis, one can say something about everybody by sampling some.

A factor of a more epistemological character relates to fitting behavior and attributes into a scheme of totally exhausting and totally inclusive values on a variable. Is this possible? Some hold that humans, with all their attributes, are so complex that it is impossible to fit them into a scheme of variables. They argue for a qualitative approach, where the fieldwork consists of collecting sets of narratives (Marshall and Rossman 1989). Because this approach holds that human faculties are too complex to be entered into a data matrix, each informant is represented by his/her own narrative which may or may not be comparable to that of another informant. This approach allows one to trace individual behavior and attributes back to their particular sources, because it handles far more individual variation than in the quantitative approach (Kirk and Miller 1986). Concretely, one allows a-priori unknown phenomena to be detected. In this sense, qualitative methods are more thorough than quantitative methods. This is particularly the case because the researcher is aware of the narrative behind empirically observable behavior. This results in high internal- and construct validity (Kirk and Miller 1986). However, there are major weaknesses with the qualitative approach, especially the external validity of conclusions (Cook and Campbell 1979). If each narrative is unique and therefore incomparable with others, one cannot infer any conclusions about human interaction since this involves at least two individuals. How can one then explain that human interaction - even between with several actors - is empirically observable when one denies the existence of a common platform for understanding<sup>85</sup>? Somehow the interacting partners must have an understanding of each other, that is, other's behavior must be meaningful for each individual actor who is a member of the set of interacting partners. Even when commensurable narratives are allowed for, this approach faces limitations regarding generalizations (Cook and Campbell 1979). To collect narratives, one must spend relatively large amounts of time with each respondent. This imposes practical limitations on the sample size, resulting in the fact that these are usually small in qualitative studies. Usually, samples are not randomized in this case, and this makes it impossible to generalize sample findings to and across populations since it is impossible to estimate error parameters.

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<sup>85</sup>Holding that narratives are incomparable is a contradiction. If it is impossible to compare data across a set of narratives, it is also impossible for the researcher to understand the informant. If the perspective is logically consistent, the researcher also has her own narratives, and these must also be incomparable to the narratives of the subjects studied. Consequently, it is also impossible to know that comparison of the actor's narratives is impossible, because the researcher is unable to check whether her own understanding of the actors is correct.

The perspective of *this* study assumes that it is possible to compare individuals by combining both quantitative and qualitative analysis. The quantitative part of this case study makes comparisons of individuals and groups using statistical methods. Because the sample is the population, generalizations can be made without sample errors (Mohr 1990). Thus, the case study allows a high degree of external validity by limiting the empirical conclusions to the concrete population interviewed. In this study, pre-tests were used to increase the validity of the variables (Osterlind 1983). Quantitative data were complemented with qualitative data, ensuring that a-priori unknown phenomena were integrated in causal explanations. This contributed to improving the construct- and internal validity of causal explanations (Cook and Campbell 1979). Internal validity was also strengthened through use of archival material which allowed the sequencing of phenomena over time. However, there are also major weaknesses with case studies.

It has been claimed that the external validity of case studies is limited. The external validity of this method is limited to a precisely defined target population. In this case, the target population was all active fishermen in Codfjord. Claiming that the empirical conclusions arrived at in this study are true for all fjordal fishermen in Norway is false for several different reasons. If the findings of this study were true across and to the population of all fjordal fishermen in Norway, it would be necessary to somehow compare the estimates. Besides, the environmental effects of being subjected to a different administrative setting (municipalities, counties and regions) would also have to be accounted for. Neither of these are accounted for in this study because they are in most cases unavailable. The empirical findings of this study are therefore only true - in the sense of being reliable and valid to the extent possible - for the Codfjord fisheries.

However, the issue of external validity is more complex. Social theories allow indirect generalizations, but in a very particular sense. Social theories provide for systematically ordered sets of concepts by which the world is understood (Habermas 1972). «Theories» are not necessarily scientific, because systematically ordering sets of concepts to understand the world is a fundamental attribute of human cognition. We may call these «folk-theories».

The study of human cognition is normally termed epistemology. Hermeneutics is one of the important schools in this discipline (Gadamer 1989: Heidegger 1982: Husserl 1982). According to this school, every human has sets of concepts which are used to understand the world. These sets are normally called the horizon of understanding. The concepts and their interrelationships are anchored in the life-world of the individual. The life-world is the social and physical milieu of the person. Whenever the individual experiences new life-worlds, the horizon of



understanding is transcended. Transcending the horizon of understanding causes a qualitative change in both the concepts and their interrelationships. This change is structured in such a fashion that it permits an understanding of the new life-world encountered (Hellesnes 1988). This understanding should not be regarded as being «objective» or «scientific». Rather, it should be regarded as a way of capturing the differences between the old horizon of understanding and the new one. This may be considered a change in the theory with which the acting individual understands the world. Similar processes are at work in scientific studies.

According to Popper (1968), one of the main differences between epistemological understanding and scientific understanding relates to falsification. A scientific theory, as opposed to a folk theory, should be subjected to procedures of falsification. In brief, falsification is a procedure whereby a theory is tested against new empirical material, where the aim is to refute the theory. If the theory is unable to explain the phenomenon, it should either be revised or rejected. However, if the theory is able to grasp the phenomenon, does this mean that it is «true» in any sense of the term? Popper is unclear on this point. However, he seems to hold that instead of declaring the theory as true, it should have a status of having not yet been falsified. This is an important difference because the term «not yet falsified» incorporates and indicates the uncertainties of social research. We may say that the theory is verified in the sense that it has survived tests across different settings. Since there are also numerous settings that we have not tested it against, we can only claim that the theory is verified so far. Further tests will verify it more strongly, but it will never become true in an absolute or objective sense because we can never exhaust all imaginable settings in which to test a theory.

There is also a linkage between case studies and the external validity of theories, as opposed to the external validity of empirical findings. If a theory «survives» a case study, it can be considered as verified in the sense noted above. The scientific theories discussed in the first part should survive the test against the empirical material from Codfjord. This is also the scientific value of case studies, because they allow one to check, update and revise current social theories (Popper 1968). Clarification of how the theory will be used to capture empirical phenomena is another important feature of the methods. This is accomplished by operationalizing the theory into concepts that represent the theoretical foundation of the study. This is the object of the next appendix.



## **Appendix 2**

### **Operationalizations**

This chapter provides the operationalizations of the theory that is discussed in Chapter One. Operationalizations function as clarifications of how theoretical constructs will be empirically tested. By definition, operationalizations are complete instructions on how variables are measured (Spector 1981). Such instructions are straightforward if the data are quantitative because all quantitative variables have a-priori and a-posteriori known levels of measurement. This is not always true for qualitative and archival data, because the complex structure of such data often makes it difficult to separate different variables and values (Marshall and Rossman 1989). In fact, the job of the researcher is often to find the variables in such data because this means that one can explain how changes occur. Or, in the language of quantitative analysis, one can account for systematic variation in one variable by locating correspondingly systematic variation in other variables which precede it causally.

The questions posed in the introduction concerned the relationship between legal fisheries management as a form of state intervention and rationalization. Chapter 2.3 related rationalization and state intervention to the debate concerning the tragedy of the commons. In the following, four different aspects of rationalization - economic-, cognitive-, relational- and normative transformation - will be further narrowed down to the concrete empirical topics which were used to assess the effects of the legal fisheries management system on the fishermen in Codfjord.

#### **A.2.1 Economic Transformations**

The determinants of rationality in economic matters are those attributes and systems in a community that serve to generate and maintain certain principles of behavior in economic matters. Some general economic features of fishing communities and the way in which fishermen organize their operations are expected to have an effect on the principles of rationality that prevail among the fishermen. Since this study concentrates on the effect of fisheries management on principles of rationality, operationalizations will be limited to the economic aspect of the fisheries management vis-à-vis rationalization.

Generally, fisheries management systems have an effect on principles of economic rationality because the management system alters the conditions for economic behavior<sup>86</sup>. Fishermen who

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<sup>86</sup>Of course, the opposite is also the case because fisheries management systems are themselves based on

are subjected to a resource management system are subjected to an order which is guaranteed by law, and which rewards some forms of behavior and sanctions other. This will usually impose restrictions on economic behavior. A legal fisheries resource management system that intends to preserve a given resource has the consequence that fishermen must fish less. At the same time, it provides opportunities because the system rewards certain forms of behavior. Economic transformations that follow the imposition of a fisheries management system will be narrowed down to an analysis of the following areas: the planning of fishing operations, individual consumption, involvement in industries other than fishing, and the division of labor within and between households. While all of these areas are related, they will be discussed separately, specifying the social domains to which they pertain.

*Planning of fishing operations* relates to how fishermen arrange their investments in the fishing operation. Fisheries management systems change the context in which investments take place. The selection of strategies<sup>87</sup> demonstrates how the fishermen adapt to new situations, and shows the effects the management system has on running a fishing operation.

*Individual consumption* covers aspects of income allocation related to expenditure besides investment in the fishing operation. The selection of strategies shows how the fishermen make priorities regarding income allocation, and thereby what effect the fisheries management system will have on living standards.

*Involvement in industries other than fishing* relates to the subjects mentioned above, but is dealt with specifically because combining industries is of crucial importance to the region and has long traditions. Fishermen in the region have traditionally combined fishing with farming (Bjørklund 1985), but the fisheries management system imposed restrictions on income from occupations other than fishing<sup>88</sup>. This topic sketches how the fishermen are able to handle complex systems of law, describing how the management may have altered traditional economic institutions such as combining fishing with farming. This subject is also directly linked to the next one.

*Division of labor within the household* pertains to the arrangements made within households for coping with the new economic infrastructure which follows from the fisheries management system. This subject also sheds some light on economic differences between fishermen who have a family and those who do not, showing how the management system may have had an effect on gender roles and employment effects of fishing, as well as recruitment to the occupation.

*Division of labor between households* considers the same questions as the item above,

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specific notions of economic rationality.

<sup>87</sup>The concept «select» is used in a sense where it is not assumed that the fishermen necessarily calculate instrumentally what strategy they should choose; they may not even regard themselves as having different choices. The selection process is also discussed in the empirical section.

<sup>88</sup>The different provisions regarding participation and catches in the management system are analyzed in detail in chapter 3.

except that it analyzes institutional effects of the fisheries management system across households. The same subjects - gender roles, employment effects of fishing and recruitment - are discussed, but in a broader context. The major importance of this subject lies in the employment effects of fishing, that is, the extent to which fishing generates spin-off industries.

Because these are phenomena that change over time, a time series spanning over ten years is utilized to analyze how those fishing today have changed their occupational structure with regard to both the fishing operation and other occupations which they may have combined with fishing. Different variables on the questionnaire provide information about investments, running expenses and other expenses related to the operation. Furthermore, qualitative data, where informants talked about their plans for the operation, was recorded. Archival data provided information about the development of the fishing fleet in the community.

### **A.2.2 Cognitive Transformations**

In this study, cognitive transformations mean changes in the knowledge base of fishing. Several forms of knowledge may be crucial for running a fishing operation. Examples include the local ecology of fish stocks, market transactions for selling catches and technical knowledge for repairing the boat. While all these cognitive aspects of fishing may be more or less important (depending on the fishery), the following discussion will be limited to traditional ecological knowledge and technical knowledge. Generally, rationalization makes the knowledge base more homogeneous and invariable across individuals, groups and communities of fishermen.

Specifically, these subjects measure how a fisheries management system contributes to changing some of the cognitive aspects of fishing. Fisheries management systems often assume that fishermen behave similarly when fishing and disregard local variations (Karlsen 1992). This may call for new forms of knowledge for locating fish. It may also call for new methods for finding fish, such as use of electronic equipment. To the extent that the fishermen have any traditional ecological knowledge, they may experience that this becomes invalid because it is based on certain yearly cycles and trends - such as weather, spawning and prey - that technical equipment has made obsolete. The institutions that embed this form of knowledge may also become disabled, at least partially, because they become inadequate compared to the new approaches to finding fish. In sum, the management system may put the local adaptation to the natural environment - and its cognitive aspects - out of phase, and thereby disable it. The following areas will be dealt with:

*Traditional ecological knowledge* pertains to fishermen's knowledge of nature and how

to orient themselves when exploiting it. Traditional ecological knowledge is one of the social and cultural pillars of fishing communities, enabling fishermen to find, catch and distribute fish. I first analyzed whether traditional ecological knowledge existed, what it consisted of, and what its role was for the fishermen and the community. After this, I discussed whether the management system has had an effect on traditional ecological knowledge.

*Technical knowledge* concerns changes in the use of technical equipment for finding, catching and processing fish. Fishermen who locate fish using traditional ecological knowledge orient their actions to local descriptions of the ecology, while fishermen who find fish using technical equipment orient their action to modern technology<sup>89</sup>. While the outcome of using these two approaches may be the same - fish are caught - they rest on two different cognitive foundations. The analysis first discussed the technology used by the fishermen, assessing the extent to which the fishermen may be regarded as dependent on this type of equipment. Finally, the position of fisheries management vis-à-vis technical knowledge was analyzed.

Data on these areas are both quantitative and qualitative. Catches of different species at different times of the year were registered in two matrices in the questionnaire. Different items in the questionnaire registered investments in technical equipment. Qualitative data on behavior at sea was recorded along with the explanations that fishermen gave for choosing different fishing areas. Also, species-specific information was recorded, attempting to capture how the fishermen decided to switch from one species to another. Older, retired fishermen were questioned in open-ended interviews. These contributed to ascertaining how fishermen decided where to fish before technical equipment, such as echo sounders, became generally available to the fishermen.

### **A.2.3 Relational Transformations**

This section discusses the linkage between social relations, authority and rationality. While these phenomena are certainly related to some of the other phenomena discussed here, the importance of the linkage between social relations and authority calls for a separate analysis. Authority is founded on social relations and is often exercised by the manipulation of these (Goffman 1969). In this case, the focus is on how social relations constitute informal institutions for governing the behavior of the members of the institution. «Member» must not be understood in the sense of voluntary membership. Actors may find themselves forced into such institutions, for example because they live in a certain place (Goffman 1983). To the extent that those living together in a geographical area have social relations, mechanisms for social control may be exercised. However, the institutions that provide social control are also

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<sup>89</sup>Of course, combinations of the two may occur, but for the sake of comparison they will be separated.

often identical with the ones that provide opportunities and cooperation. Many aspects of fishing invite cooperation. Exchanging information about fishing areas may be valuable for all those who participate in such exchanges, because everybody will be able to have an overview of fishing areas without being present everywhere themselves. In sum, informal institutions may lead to disapproving and approving behavior, generating both opportunities and limitations for those who are part of them. The concrete phenomena discussed are social control, cooperation and attitudes towards other's economic behavior.

The analysis focuses on how these phenomena - as part of informal social institutions - may be influenced by the introduction of a fisheries management system. During the imposition of such a system, fishermen create a strategy for dealing its provisions. At the same time, all fishermen find themselves in a social relation to other fishermen in the community<sup>90</sup>. Do the fishermen cooperate when dealing with reduced catches and economic hardship, and - if they cooperate - how is it done? Finally, do the fishermen exchange goods, capital, ideas and strategies for helping each other, and - if they do - what are the principles behind such exchanges? This part will try to shed some light on these questions by analyzing the following phenomena:

*Social control* discusses how authority and power is exercised among the fishermen, explicating how behavior is regulated in the social network to which the fishermen belong. The analysis discusses different strategies among the fishermen for acquiring authority and/or power. The constitution of authority and power is related to the local normative system, and this system is described. Empirically, the focus is on how some fishermen who adapt differently to the fisheries management system have to deal with sanctions from other fishermen. I also analyze how this affects the social relations among the fishermen.

*Cooperation* concerns the correspondence between network inclusion/exclusion and individual behavior. The analysis shows how subjection to the authority of the leaders in the network generates a wide array of opportunities for the members. During periods of low catches, the fishermen often seek other things to do. Some fishermen may switch to other jobs, while others find an activity to combine with fishing. One part of the analysis focuses on how the fishermen use the network to find jobs and income-sources when they are not fishing. This problem is especially relevant when the fisheries management system imposed restrictions on catches.

*Attitude towards others' economic behavior* incorporates processes of social control regarding economic behavior. As underlined in Chapter One, a rational undertaking is often the one that is rewarded. This subject considers the social effects of changes in the economic orientation of fishermen, assessing the indirect effect of the vessel quota system.

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<sup>90</sup>Theoretically, the fishermen may also be isolated from one another. However, in this case they will not form a community, which is the assumption for this discussion.

The data on these subjects are quantitative, qualitative and archival. The social network analysis is based on relational data collected by means of a snowball sample, as described in the previous appendix. These data provide the framework for the analysis, as it allows measurement of different constructs, such as network centrality (Freeman, White and Romney 1992). Qualitative data, in the form of open-ended interviews and participant observation, provided in-depth information about each of the actors in the network, as well as confirmation of the data collected by questionnaire. The analysis is partly based on following events that developed over time. Both the informants and the municipal administration supplied archival data that helped to accomplish this.

#### **A.2.4 Normative Transformations**

Politics may, among other things, be considered a discourse in which participants argue for what they perceive would be the best way to organize society. We may distinguish between three types of political discourses (Habermas 1972). The first type may be called self-interested normative discourses. Here, actors present arguments for what is best for them, without considering the needs of others. The second subdivision may be called ethical debates. Such discourses concern the best of the group, community or any other limited social system. In ethical discourses, participants who belong to the group present arguments for what they perceive would be best and/or good for their own group. The third type may be called normative discourses. In such debates, participants argue for what they think is best for everybody, that is, the debate concerns what is universally good. The content of such debates may vary dependent on the historical and cultural context, and must therefore be seen in relation to the economic organization of the social system in question.

The theory of rationalization also assumes that political questions become homogeneous because boundaries across time and space are eliminated as new spheres become incorporated in the capitalist production process (Giddens 1990). Using the terminology outlined above, one may argue that the rationalization process pushes political discourses toward being driven by self-interested motives. On the other hand, if normative systems persist that are anchored in specifically local practices, institutions and rituals, one may find that political debates in communities tend to be ethical discourses. This section considers some of the political discourses in the community, focusing on the fishermen's concept of fairness/unfairness and right/wrong. I then analyze whether the fisheries management system, as a structural economic factor, has contributed to changing the political discourses of the community. Operational

concepts include the distribution of goods and religion.

*Distribution of goods.* Fish - as any other social good - is subject to political discourses, especially when it is scarce. When fish are scarce, as was the case during the period when the management system was imposed, the question of where the fish should be landed becomes crucial because decreased volumes of catches may imply that some fishermen and processors must leave the industry. This element discusses the debates that have arisen in the community concerning this question.

*Religion and ethnicity.* This subject is especially relevant in this region, since many inhabitants in the community belong to a particular religious group called the Læstadianists. This religion is tied to the Saami ethnic group, as many of the leaders in the movement have been Saami. The religious doctrines of the group are based on a particular interpretation of Protestantism, and may be regarded as an ascetic and pietistic sect. While only a few of the fishermen can be regarded as active in the sect, that is, they participate in organized activities, the long history of the sect and its impact on the normative and cultural foundations of the community are many. How some of the doctrines of this religion are translated into political rhetoric is analyzed, using the distribution of fish and other goods as examples. Since religion is tied to ethnic identity in this case, the different processes that have an effect on the formation of identity are also analyzed.

The data for this section are archival and qualitative. Archival data are public transcripts from meetings in the municipal administration, as well as transcripts from some of the municipally appointed committees which consider matters regarding religion and fisheries. In addition, interviews with fishermen and main informants who work with the subjects discussed constituted some of the data.

## **A.2.5 The Logic of the Analysis**

This section has summarized the linkages between theory, methods and the empirical analysis. The text started by asking three questions about the effects of a fisheries management system upon small-scale fisheries. A case study from Codfjord, located in North Norway, was used to answer the questions posed. It was argued that the questions could be answered by an analysis in which Weber's notion of rationalization was applied to the data from Codfjord. Among other phenomena, Weber's notion of rationalization captures the changes that occur in a social system when it is subjected to state intervention. Because the case is taken from a fishing community, literature from this area was reviewed; this showed the correspondence between theories of social change in fishing communities and Weber's notion of rationalization. Depending on the extent to which the fishing community is rationalized before the imposition of the fisheries management system, the result is likely to be a rationalization of the fishing community. This discussion ended in explicating four different aspects of rationalization, each of which covers different dimensions of social change. The appendix on methods started by

showing how a phenomenon like rationalization calls for in-depth studies, and argues that a case study combining multiple methods is most appropriate. That appendix ended by showing the possibilities and limitations of case studies, arguing that case studies are particularly appropriate for the falsification of theories. However, the empirical findings are only valid for the population used, which in this case is Codfjord. This appendix has operationalized the four different aspects of rationalization, specifying how the analysis is calibrated in order to answer the questions posed in the introduction. The four different aspects of rationalization were narrowed down to what may be termed sub-aspects. These are the different fields that the analysis covers, and which are related to the larger conceptual framework of chapter 2.3.



# Appendix 3

## Questionnaire

Dato:

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Navn:

---

Adresse:

---

---

Telefon:

---

ID:

Som ledd i et doktorgradsprosjekt med støtte fra NFR vil jeg gjennomføre en studie av lokalsamfunn med sterkt innslag av fiskerier som levevei. Formålet med undersøkelsen er å kartlegge de sosiale og økonomiske faktorer som har betydning for forskjellige reguleringer i fisket.

All informasjon som framkommer i intervjuet vil bli holdt strengt konfidensielt. Det vil på ingen måte være mulig for ettertiden å tilbakeføre disse opplysningene til deg eller dine nærmeste.

Dersom du har noen spørsmål, ber vi deg kontakte stipendiat Geir R. Karlsen (08344000), eller professor Svein Jentoft (083 44307), ved Universitetet i Tromsø.

**Denne siden vil bli fjernet etter dataregistrering og deretter makulert**

Dato: \_\_\_\_\_

Sted: \_\_\_\_\_

Intervjuer: \_\_\_\_\_

## I. DEMOGRAFISKE VARIABLER

1. Kjønn: \_\_\_\_\_

2. Alder: \_\_\_\_\_

3. Fødested: \_\_\_\_\_

4. Hvor er ditt faste bosted:

\_\_\_\_\_

5. Hvor var dine foreldre født:

5.1 Mor: \_\_\_\_\_

5.2 Far: \_\_\_\_\_

6. Hvor bor/bodde dine foreldre:

\_\_\_\_\_

7. Hva slags yrke har/hadde dine foreldre:

7.1 Mor: \_\_\_\_\_

7.2 Far: \_\_\_\_\_

8. Utdanning

- \_\_\_\_\_ a. Folkeskole/Grunnskole
- \_\_\_\_\_ b. Videregående skole (Yrkes- eller almenutdanning)
- \_\_\_\_\_ c. To år eller mindre ved høyere utdanningsinstitusjon
- \_\_\_\_\_ d. Mer enn to år ved høyere utdanningsinstitusjon

9. Har du tatt annen utdanning ved siden av det formelle skoleverket (Hvilke)

\_\_\_\_\_

10. Sivilstatus

- \_\_\_\_\_ a. Enslig, aldri gift
- \_\_\_\_\_ b. Skilt
- \_\_\_\_\_ c. Gift
- \_\_\_\_\_ d. Samboer
- \_\_\_\_\_ e. Enke(mann)

11. Partners yrke

\_\_\_\_\_

12. Barn

\_\_\_\_\_ a. Antall sønner

\_\_\_\_\_ b. Antall døtre

13. Antall personer som bor i ditt hushold \_\_\_\_\_

14. Hvor mange av disse har lønnsarbeid \_\_\_\_\_

15. Hvor mange driver med fiske, og hva gjør de

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16. Hva gjør de som ikke jobber med fiske

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### **HUSHOLDSVARIABLER**

#### **Hvem utfører følgende:**

*Du selv/Din kone/Begge/Barna/Foreldre/Annen slekt/Venner/Andre*

17a. Føring av regnskap \_\_\_\_\_

17b. Betaling av regninger \_\_\_\_\_

17c. Ordner med banker/finansiering \_\_\_\_\_

17d. Føring av selvangivelse \_\_\_\_\_

17e. Holde regning med fangsten \_\_\_\_\_

17f. Arrangerer salget av fangsten \_\_\_\_\_

17g. Skaffing av reservedeler/redskaper og andre typer materiell til fiskebåten og bruket \_\_\_\_\_

17h. .... \_\_\_\_\_

17i. Lager mat til mannskapet \_\_\_\_\_

17j. Egner linene \_\_\_\_\_

17k. Reparerer garn og andre redskaper \_\_\_\_\_

17l. Rensker/henger/salter fisk \_\_\_\_\_

17m. Fisker sammen med deg \_\_\_\_\_

17n. Rengjør båten innvendig \_\_\_\_\_

17o. Vasker arbeidsklær \_\_\_\_\_

17p. Lytter på VHF, følger med dere \_\_\_\_\_

**Dersom du og din familie er involvert i andre næringer enn fiske (jordbruk for eksempel), hvem utfører følgende:**

- 18a. Passer på husdyr (særlig om vinteren) \_\_\_\_\_
- 18b. Fører regnskap for denne delen av husholdet \_\_\_\_\_
- 18c. Planlegger den videre driften av denne delen av husholdet \_\_\_\_\_
- 18d. Tar kontakt med det offentlige når det er nødvendig \_\_\_\_\_
- 18e. Ansetter andre når dette er nødvendig \_\_\_\_\_
- 18f. Holder orden på bestillinger, nytt utstyr og lignende \_\_\_\_\_
- 18g. Holder kontakt med salgslag og andre salgskanaler \_\_\_\_\_

**Hvem er det som passer på:**

- 19a. at barnene kommer seg på skolen \_\_\_\_\_
- 19b. at barna gjør leksene sine \_\_\_\_\_
- 19c. at barna ellers har det bra på skolen \_\_\_\_\_
- 19d. å holde kontakt med slektninger som bor et stykke utenfor plassen hvor dere bor nå \_\_\_\_\_
- 19e. eventuell forpleining av slektninger \_\_\_\_\_
- 19f. økonomisk/praktisk hjelp til trengende slektninger \_\_\_\_\_
- 19g. å ha kontakt med venner av familien \_\_\_\_\_

**Dersom jordbruk er ett av dine yrker, hvor:**

- 20a. Mange sauer har du \_\_\_\_\_
- 20b. Mange dyr/fugler av andre arter har du \_\_\_\_\_
- 20c. Mange dekar jord eier du \_\_\_\_\_
- 20d. Mange dekar jord leier du \_\_\_\_\_
- 20e. Hvor stor er fjøsen din \_\_\_\_\_
- 20f. Deler du fjøs med noen andre \_\_\_\_\_
- 20g. Hvem \_\_\_\_\_
- 20h. Hvordan deles utgiftene i forbindelse med fjøsen  
\_\_\_\_\_
- 20i. Har du/heller har du hatt noen problemer med anskaffelse av jord \_\_\_\_\_
- 20j. Beskriv \_\_\_\_\_
- 20k. Planlegger du å øke buskapen din, i så fall, med hvilken art og hvor mange dyr  
\_\_\_\_\_
- 20l. Hvor mye jord tror du at du trenger for å gjennomføre denne økningen

---

20m. Er denne jorden tilgjengelig i nærheten av der du for tiden bor

---

20n. Hvordan skal denne jorden erverves, planlegger du for eksempel å kjøpe eller leie den

---

20o. Planlegger du å trappe ned fisket til fordel for jordbruk, i så fall hvorfor

---

20p. Planlegger du å trappe ned jordbruk til fordel for fiske, i så fall hvorfor

---

20q. Planlegger du å starte i andre yrker, i så fall hvilke

---

20r. Hvorfor planlegger du å starte med denne/disse yrkene

---

20s. Har du drevet med andre yrker som du har sluttet med. Hvilke yrker er disse, og hvorfor sluttet du

---

20t. Har du bodd andre plasser de siste ti årene enn hvor du bor nå, i så fall hvor

---

20x. Hvorfor flyttet du til denne/disse plassen(e)

---

20y. Hvorfor flyttet du fra denne/disse plassen(e)

---

21. Har du i løpet av de siste 5 årene vært arbeidsledig?

1. Ja
2. Nei

21A. Hvis ja, når \_\_\_\_\_

22. Dersom du skulle rangere de forskjellige typene arbeid du har gjort den siste tiden, hvordan ville du plassere dem etter inntekt?

1=Høyest

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

23. Hvordan ville du plassere dem etter hva du liker best?

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

24. Ville du anbefale dine barn å velge det samme yrket som du har?

\_\_\_\_\_

25. Hvis nei, hva ville du anbefale dem å gjøre

\_\_\_\_\_

## BÅTER OG FISKE

26. Er du:

- \_\_\_\_\_ a. Yrkesfisker på heltid
- \_\_\_\_\_ b. Yrkesfisker på deltid
- \_\_\_\_\_ c. Hobbyfisker
- \_\_\_\_\_ d. Annet (Spesifiser)

27. Hvilke redskaper bruker du hovedsaklig i fisket du utfører:

---

---

28. Hva er navnet på båten(e) du for tiden jobber på?

Båt 1: \_\_\_\_\_

Båt 2: \_\_\_\_\_

29. Hvor mange jobber på båten(e):

Båt 1: \_\_\_\_\_

Båt 2: \_\_\_\_\_

30. Hvordan betales mannskapet på båtene? \_\_\_\_\_

31. Hva er din status på båten(e):

Båt 1: Eier/Medeier\_\_\_\_, Skipper\_\_\_\_, Mannskap\_\_\_\_

Båt 2: Eier/Medeier\_\_\_\_, Skipper\_\_\_\_, Mannskap\_\_\_\_

32. Karakteristikk av båt 1:

a. Lengde\_\_\_\_\_ b. Bygningsmateriale\_\_\_\_\_

c. Alder\_\_\_\_\_ d. Hvor lenge har du hatt båten\_\_\_\_\_

e. Er båten nedbetalt\_\_\_\_\_

f. Hvis ikke, hvor mye gjenstår å betale\_\_\_\_\_

g. Hva er dine relasjoner til mannskapet ombord (Familie, slekt, venn, sambygding etc.)

Mannskap 1\_\_\_\_\_

Mannskap 2\_\_\_\_\_

h. Viktigste fiske\_\_\_\_\_

33. Karakteristikk av båt 2:

a. Lengde\_\_\_\_\_ b. Bygningsmateriale\_\_\_\_\_ c.

Alder\_\_\_\_\_ d. Hvor lenge har du hatt båten\_\_\_\_\_

e. Er båten nedbetalt\_\_\_\_\_

f. Hvis ikke, hvor mye gjenstår å betale \_\_\_\_\_

g. Hva er dine relasjoner til mannskapet ombord

Mannskap 1 \_\_\_\_\_

Mannskap 2 \_\_\_\_\_

h. Viktigste fiske \_\_\_\_\_

34. Hva, omtrent, er kostnadene pr. år for de følgende tingene:

a. Drivstoff \_\_\_\_\_

b. Forsikring \_\_\_\_\_

c. Redskaper (Garn etc.) \_\_\_\_\_

d. Vedlikehold \_\_\_\_\_

e. Andre \_\_\_\_\_



**Fangstdata**

35. Hvor stor del av din inntekt kommer fra fiske (%)

\_\_\_\_\_

36. Dersom du driver med forskjellige typer fiske, hvordan ville du plassere dem med hensyn til inntekt, og hvordan ville du plassere dem etter hva du liker best:

1=Høyest inntekt

1=Liker best

1. \_\_\_\_\_

1. \_\_\_\_\_

2. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

6. \_\_\_\_\_

37. Siste år, hvor mange ganger dro du for å fiske pr. uke om

A. Våren \_\_\_\_\_

B. Sommeren \_\_\_\_\_

C. Høsten \_\_\_\_\_

D. Vinteren \_\_\_\_\_

38. Siste år, hvor mange kilo fisket du i gjennomsnitt om:

A. Våren \_\_\_\_\_

B. Sommeren \_\_\_\_\_

C. Høsten \_\_\_\_\_

D. Vinteren \_\_\_\_\_

39. Av 100 kg fangst, uavhengig av fiskeslag, hvor mange kilo går i gjennomsnitt til:

A. Eget forbruk, familie og venner \_\_\_\_\_

B. Salg til fiskebruk \_\_\_\_\_

C. Privat salg utenom fiskebruk \_\_\_\_\_

40. Av den fisken som ikke selges, gir du den bort til faste personer, i så fall, hvem er de?

Ja/Nei

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

41. Bytter du fisk i andre varer og tjenester, i så fall, hvem bytter du med og hva får du igjen

Ja/Nei

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

42. Leverer du til et fast fiskebruk

1. Ja

2. Nei

43. Hvor lenge har du levert til dette bruket \_\_\_\_\_

44. Er du på noen måte (kontrakt, muntlig avtale etc.) forpliktet til å levere til dette bruket.

1. Ja

2. Nei

45. Hvis ja, på hvordan måte er du forpliktet

\_\_\_\_\_

## Organisasjoner

46. Hvilken fiskerier organisasjon er du tilknyttet

---

47. Er du fornøyd med måten fiskerier organisasjonen ivaretar dine interesser på.

- 1.Svært fornøyd
- 2.Fornøyd
- 3.Passe fornøyd
- 4.Misfornøyd
- 5.Svært misfornøyd

48. Kan du gi en nærmere beskrivelse av dette?

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---

49. Angående fiskerier organisasjonen, hvordan ville du beskrive tilhørigheten din til organisasjonen

- 1.Svært sterk
- 2.Sterk
- 3.Passe
- 4.Svak
- 5.Svært svak

50. Hvilke andre organisasjoner er du medlem av

---

51. Angående andre organisasjoner, hvordan ville du beskrive tilhørigheten til denne organisasjonen

- 1.Svært sterk
- 2.Sterk
- 3.Passe
- 4.Svak
- 5.Svært svak

52. Synes du at disse organisasjonene får gjort mer for å forbedre din situasjon enn fiskerier organisasjonen du er medlem av?

- 1.Nei
- 2.Ja

53. Hvis ja, hva består denne forbedringen i.

---

---

### Nettverksvariabler

54. Kan du nevne din daglige faste omgangskrets, med andre ord de personene som du snakker mest med. Med andre ord, sett den personen du snakker mest med som nummer 1, nest mest med som nummer 2, osv. Du har ingen begrensninger med hensyn til antall personer du kan nevne.

1. \_\_\_\_\_ Kjønn\_\_ Alder\_\_ Relasjon\_\_\_\_\_ Bosted\_\_\_\_\_
  2. \_\_\_\_\_ Kjønn\_\_ Alder\_\_ Relasjon\_\_\_\_\_ Bosted\_\_\_\_\_
  3. \_\_\_\_\_ Kjønn\_\_ Alder\_\_ Relasjon\_\_\_\_\_ Bosted\_\_\_\_\_
  4. \_\_\_\_\_ Kjønn\_\_ Alder\_\_ Relasjon\_\_\_\_\_ Bosted\_\_\_\_\_
  5. \_\_\_\_\_ Kjønn\_\_ Alder\_\_ Relasjon\_\_\_\_\_ Bosted\_\_\_\_\_
  6. \_\_\_\_\_ Kjønn\_\_ Alder\_\_ Relasjon\_\_\_\_\_ Bosted\_\_\_\_\_
  7. \_\_\_\_\_ Kjønn\_\_ Alder\_\_ Relasjon\_\_\_\_\_ Bosted\_\_\_\_\_
  8. \_\_\_\_\_ Kjønn\_\_ Alder\_\_ Relasjon\_\_\_\_\_ Bosted\_\_\_\_\_
1. Stilling \_\_\_\_\_ Kontakttid \_\_\_\_ Slekt \_\_\_\_\_
  2. Stilling \_\_\_\_\_ Kontakttid \_\_\_\_ Slekt \_\_\_\_\_
  3. Stilling \_\_\_\_\_ Kontakttid \_\_\_\_ Slekt \_\_\_\_\_
  4. Stilling \_\_\_\_\_ Kontakttid \_\_\_\_ Slekt \_\_\_\_\_
  5. Stilling \_\_\_\_\_ Kontakttid \_\_\_\_ Slekt \_\_\_\_\_
  6. Stilling \_\_\_\_\_ Kontakttid \_\_\_\_ Slekt \_\_\_\_\_
  7. Stilling \_\_\_\_\_ Kontakttid \_\_\_\_ Slekt \_\_\_\_\_
  8. Stilling \_\_\_\_\_ Kontakttid \_\_\_\_ Slekt \_\_\_\_\_

55. Aktuelle samtaleemner

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56. Kan du rangere de fiskerne på plassen som du mener er de beste fiskerne, og som vet mest som lokalt fiske?

1. \_\_\_\_\_ Kjønn\_\_ Alder\_\_ Relasjon\_\_\_\_\_ Bosted\_\_\_\_\_
  2. \_\_\_\_\_ Kjønn\_\_ Alder\_\_ Relasjon\_\_\_\_\_ Bosted\_\_\_\_\_
  3. \_\_\_\_\_ Kjønn\_\_ Alder\_\_ Relasjon\_\_\_\_\_ Bosted\_\_\_\_\_
  4. \_\_\_\_\_ Kjønn\_\_ Alder\_\_ Relasjon\_\_\_\_\_ Bosted\_\_\_\_\_
  5. \_\_\_\_\_ Kjønn\_\_ Alder\_\_ Relasjon\_\_\_\_\_ Bosted\_\_\_\_\_
  6. \_\_\_\_\_ Kjønn\_\_ Alder\_\_ Relasjon\_\_\_\_\_ Bosted\_\_\_\_\_
  7. \_\_\_\_\_ Kjønn\_\_ Alder\_\_ Relasjon\_\_\_\_\_ Bosted\_\_\_\_\_
  8. \_\_\_\_\_ Kjønn\_\_ Alder\_\_ Relasjon\_\_\_\_\_ Bosted\_\_\_\_\_
1. Stilling \_\_\_\_\_ Kontakttid \_\_\_\_ Slekt \_\_\_\_\_
  2. Stilling \_\_\_\_\_ Kontakttid \_\_\_\_ Slekt \_\_\_\_\_
  3. Stilling \_\_\_\_\_ Kontakttid \_\_\_\_ Slekt \_\_\_\_\_
  4. Stilling \_\_\_\_\_ Kontakttid \_\_\_\_ Slekt \_\_\_\_\_
  5. Stilling \_\_\_\_\_ Kontakttid \_\_\_\_ Slekt \_\_\_\_\_
  6. Stilling \_\_\_\_\_ Kontakttid \_\_\_\_ Slekt \_\_\_\_\_
  7. Stilling \_\_\_\_\_ Kontakttid \_\_\_\_ Slekt \_\_\_\_\_
  8. Stilling \_\_\_\_\_ Kontakttid \_\_\_\_ Slekt \_\_\_\_\_

57. Hva tror du gjør at disse fiskerne er spesielt gode

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58. Hva skiller en god og dårlig fisker.

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59. Hvor lang tid tar det å bli en god fisker

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60. Hva må en god fisker kunne

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61. Hva er viktig å kunne om fjorden for å bli en god fisker

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62. Hvilke faktorer vurderer du før du drar for å fiske

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**Etnisitet/Religion**

63. Deltar du i religiøse aktiviteter?

64. Har du slektninger som deltar i religiøse aktiviteter, og I så fall hvilke?

65. Hvilken etnisk tilhørighet har du?

66. Hva betyr det for deg at noen er «samisk»?

67. Synes du at det på noen måte er flaut eller en skam å være samisk?

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