On the road to sustainable development?
Rural development & the discourse on the impact of salmon farming activities in Quellón on Chiloé.

A Master Thesis in Geography
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Front page: Farmer on the newly paved road to Queilén, Chiloé, source: own photo (2006)
Foreword

"We chose the southern end of the world to cultivate our salmon because its lush and protective nature respects the salmon’s natural life cycle. In an immense geographical area of almost 700 kilometers, extending from IX Region (Lake Caburga) to the archipelago of Chonos (the most southern facilities of [company]); we have traced fiords whose existence is practically unknown, and crystalline springs and bays where the temperature of the water is simply perfect. From these remote areas, surrounded by an absolutely natural environment, we grow the best salmon in the world: [company] salmon."

A salmon farming company’s enthusiastic vision of its activities (2007).
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Abstract

The objective of this case study is an investigation of the impact of salmon farming activities on
development in Region X of Chile. Several communities on the island Chiloé have experienced significant changes due to the salmon farming activities. The community Quellón in the south of Chiloé is examined closer in this study. The community has been known for being one of the less developed in Region X, subsistence through agriculture and fishing traditionally being a prime source of income for the population. Today, salmon farming activities have become the most important economical activity in the community. This has consequences in general economical, socio - economical and ecological terms.

This case study argues for a critical assessment of the regional development through salmon farming activities. Through a discoursive approach, it presents two narratives on the development that have different characteristics. It shows that power relations through politico - economical linkages and the media propagate a mainstream narrative that highlights the benefits of regional development through salmon farming activities. The case study in Quellón brings a more differentiated version of this development to light. A counterpoint narrative affirms some of the mainstream narrative´s arguments, but it also adds some new arguments to the discussion of the costs and benefits of regional development through salmon farming activities.

List of Abbreviations

CChC - Camara Chilena de la Construcción
COPESCAL - Comisión de Pesca Continental para América Latina (FAO)
CUT - Central Unitaria de Trabajadores de Chile
FAO - Food and Agriculture Organisation (United Nations)
FC - Feed Control
FDI - Foreign Direct Investment
INE - Instituto Nacional de Estadísticas (Chile)
ISO - International Organisation for Standardisation
MNE - Multi - National Enterprise
NOAA - National Oceanic and Atmospheric Administration (U.S. Department of Commerce)
PS - (Salmones) Pacific Star
RAMA - Reglamento Ambiental para la Acuicultura (SUBPESCA, Government of Chile)
SERNAPESCA - Servicio Nacional de Pesca (National Fisheries Service, Government of Chile)
SUBPESCA - Subsecretaría de Pesca (Subsecretary of Fisheries, Government of Chile)
UNCTAD - United Nations Conference on Trade and Development
1. Chapter: Introduction

1.1. The environment

A few kilometers North of Chile’s salmon farming "capital" Puerto Montt, embedded between the smooth hills next to lake Llanquihue, one encounters the former German colonial town Puerto Varas. Coming from the North on the Panamanian Highway it is here you will find the first signs of the Chilean salmon "fairytale". The most recent attraction of Puerto Varas is a Casino. During the weekend, the central streets of the town are jammed with cars and people eager for entertainment. Entering the modern style building you will find yourself surrounded by flashing lights and a variety of sounds emitted by an uncountable amount of gambling machines. People play with the machines, drink cocktails or just stand around and watch with interest how others gamble. Employees push little trollies through the hall and sell coins for playing with the machines. From them you can buy a set of coins for $ 1,000,- (Pesos Chilenos; = US $ 1,85) and start to play any game. On the second floor of the casino the atmosphere is more relaxed and less noisy. Here, directors and managers gamble with bigger bets on tables with croupiers - Roulette, Black Jack, Poker etc. Guests in search of even more intimacy entertain themselves in a separate, exclusively designed saloon and are attended by personal croupiers. The guests on the first floor are distinctly detached from those on the second floor who spend more money and those in the saloon, who demonstratively create distance to the rest. These circumstances emblematise a distinct socio-economic segregation which is immanent to the Chilean society.

In the last years, Puerto Varas has grown explosively in terms of population and housing to a size of ca. 25,000 inhabitants. The city has become a touristic centre, a point of departure for excursions around lake Llanquihue and to the volcanos in the "Hinterland". The casino contributes to its reputation as a good place for spending leisure time. It has also become the preferred residence for people working in nearby Puerto Montt who can afford the relatively higher housing standards in Puerto Varas. In many cases, these are persons working in the leadership of the salmon industry, linked services and institutions. Puerto Varas is still a small city and its inhabitants often eat in the same restaurants or bring their children to the same school. People often know each other through their job or through the intimate environment of Puerto Varas. Social relations are an especially important element of the Chilean economy, also in the salmon farming industry. The community, one could say, is thus a place where networks are forged and fostered. Many multinational salmon
companies employ Chilean leaders as they acknowledge this aspect. At the same time, in Puerto Varas, the wealthy Chileans and the foreigners search to distance themselves from the less wealthy Chileans living in the crowded centre and dusty outskirts of Puerto Montt, or in the salmon farming centres further south, in places like Quellón on the island Chiloé.
1.2. Personal motivation

I have a personal interest in the region because I have lived there for four years in my youth. During a stay in Osorno (ca. 100 km north of Puerto Varas) from 1991 to 1995 my impression of life in southern Chile was determined through the point of view of the "wealthy" - firstly due to the relatively more wealthy status of a European foreigner and secondly because of my socialising with classmates in a private school who belonged to a wealthy social layer in Chile. I was sooner sheltered by this small environment than in social interaction with the numerous students of the same age who couldn’t afford to attend the "Deutsche Schule". From this privileged position, socio-economic inequalities and poverty in the region were acknowledged but not experienced “from the inside”. Yet, this is part of what the study attempts to do in depth.

At the time of my first stay in the region, in the early 1990s, apart from one road between Chacao (where the ferry from the northern mainland arrives) to Ancud no roads were paved on Chiloé. Subsistence agriculture and fisheries were practically the only source of income for locals. Traditionally, men used to travel to the Argentinian and Chilean Patagonia on seasonal basis to shear sheep because of the lack of jobs on the island. Chiloé was known for its palofitos (traditional fishermen’s housing on stilts in tidal coastal areas) and curanto - a typical culinary example of an autochthonous way of living, rooted to the soil and the harvest of the sea (curanto is a traditional dish of meat, potatoes and mussels which are steamed with red - hot stones beneath leaves and soil for several hours). Tourism was far from being what is commonly called a meaningful economy on the difficultly accessible island. Poverty, originated in unemployment, was a common feature on Chiloé and became striking in poor housing conditions, generally poor infrastructure and even just poor clothing of the people. Due to the moist weather in Region X and especially on Chiloé this poverty could literally be smelled. The smell of alcohol and clothing which seemingly never has really been dried can be a powerful reminder of what poverty means in most practical terms.

Today, Chiloé is definitely more than palofitos, curanto and poverty. Roads have been paved to the most southern city Quellón and other earlier isolated communities, new schools have been built in several locations on the island. Internet connections are found in almost every village and in modern ware - houses you can buy the latest generation of flatscreen - televisions. Near Castro you can now play golf and by the town - entrance, coming from the traditionally less developed south, investors advertise the planned building of a casino with "spa - and event - experiences" which, by the way, is being heavily debated in the local media. Even the old wooden churches which date back to the missionary work of Spanish Franciscans have been spotted by the Unesco and are now listed as "World Cultural Heritage". During the summer months, backpackers "invade" the island
and have become a plague to some because from time to time they put up their tents on public places, play guitar and sing until late at night.

Not to forget, salmon farming activities have appeared in a large and widespread style, in a way that today makes contrasts of different local development in various Chilote communities visually obvious. To a passing - by observer, development in terms of infrastructure and life- style can be evident in communities where salmon farming activities are present. Likewise, the general impression of communities like Dalcahué is that it is a rather tidy community with well maintained roads and various service facilities for its inhabitants. Less development may be seen in communities (f. e. Ancud in the North of the island) where salmon farming activities besides a processing plant have less importance. Ancud’s city centre makes a rather unorganised impression with many road works and high unemployment - and criminality - statistics. Yet, under the shining new "surface" of apparently prosperous "salmon" - communities other realities may still exist and the modest goal of this study is to reveal some of them.

1.3. The study

The title of this study is "Rural development & the discourse on the impact of salmon farming activities in Quellón on Chiloé". It is a case study of the rural community Quellón which has experienced various changes due to the surge of salmon farming activities and Foreign Direct Investment (FDI). Quellón is in many ways typical for Chilote communities with salmon farming activities. It can exemplify the regional development through the influence of salmon farming activities. Numerous studies examine the interrelation of economical growth, FDI and regional development. This study raises a question of the sustainability of regional development through the impact of salmon farming activities. Through a discourse analytical approach on the discourse about the role of salmon farming activities for regional development it argues that the outcome is perceived differently according to two narratives.

This study is connected to the umbrella - project “Foreign Direct Investment, Regional Change and Poverty: Identifying Norwegian controlled FDI in developing countries”, coordinated by Arnt Fløysand at the Department of Geography, University of Bergen. The umbrella - project is supported by the Research Council of Norway and currently it comprises four Master - degree - theses in process which emphasise different aspects of Chilean salmon farming activities and FDI.

The umbrella - project focuses on the rise of FDI that went around the globe in recent decades. This has also caused a significant increase of FDI in developing countries. This has led to a discussion
on the costs and benefits of FDI for developing countries, regional development and its influence on poverty reduction. This sub-project investigates the impact salmon farming activities have in Quellón, Region X of Chile. The region has experienced massive FDI in the salmon sector in recent years. During the upswing of the regional industry both national and multi-national salmon farming companies endeavors have led to drastic consequences in economical, social and ecological terms for the region.

In a common approach, it is popular to implement a macro-view on regional development and economical growth. Many studies use macro-indicators like the GNP, employment accounts or FDI in order to explain economical growth and regional development. An in-depth awareness of qualitative consequences on a micro-level (local case study) often lacks in existing studies. This study attempts to research regional development in light of both absolute and relational aspects. While new jobs may have been created and living standards in Region X generally have improved through the salmon farming activities, socio-economic inequalities in Chile persist. These inequalities are a determining factor for the discourse on the impact of salmon farming activities on regional development.

During the fieldwork there was made an effort to include arguments concerning the character of regional development from a variety of positions on different geographical levels. Special attention was given to a local case which could provide idiosyncratic data and inform about the impact of salmon farming activities on a micro-level. The study focuses on a survey of the influence of the salmon farming industry on the local development of Quellón. Its intention is to provide a broader idea of how the different actors connected to the discourse on the impact of salmon farming activities perceive it as a source of local development. It reflects the comprehensive variety of backgrounds informants have and the context they speak in.

In other words, the study wants to inform to which extent a macro-approach in fact can contribute to an understanding of how salmon farming activities influence development in a place and to analyse how it can be improved or alternated through a micro-approach in order to include aspects that are not addressed clearly enough. The case of a salmon farming company in the community Quellón shows that there are several qualitative sides of the regional development that are difficult to address with a macro-indicators - as for an example the perception of income and working conditions and the ecological impact of the salmon farming activities. These issues are generally subdued by a public discourse which focuses on positive aspects and overlooks a reality perceived of local "insiders" in the salmon farming activities.
The study takes a discursive approach that investigates the different perceptions of the salmon "boom" and its consequences. It argues that there are two kinds of narratives about the influence of salmon farming activities for regional development. Depending on the perception of different actors the outcome is seen largely positively in a "mainstream"- narrative. In a "counterpoint"- narrative, the impact is perceived far more differentiated, as I will show.

In Chile, there is a specific context of liberal economical policies and socio-economic segregation. Specifically the discourse on regional development is determined by power relations connected to this context. The study shows that the discourse on the impact of salmon farming activities on regional development is dominated by the mainstream narrative. The case study in the community Quellón uncovers a counterpoint narrative which is difficult to research on higher geographical levels because locals hardly participate in the discourse that is dominated by the mainstream narrative. It argues that local participation in the discourse is overruled by powerful actors on higher geographical levels.

This study can contribute to an understanding of the costs and benefits of regional development through the explosively growing salmon farming activities. It can shed light on salient issues connected to the impact of the industry as well as depict their potential for future conflicts and inform about the factual sustainability of regional development. A comparison of the two narratives, quantitative macro-data and participant observation on a micro-level can grant an in-depth insight into the local outcome of the salmon farming industry as an increased regional economical activity and its various significance for different actors. It can grant an insight into relational aspects for the influence of salmon farming activities in regional development.
1.4. The research questions

This study will attempt to answer the following questions.

The main question for the study is:

How can a discoursive approach on the perception of the impact of salmon farming activities inform about the rural development in Quellón on Chiloé?

Subsidiary questions for the research problem are:

What characterises the history of salmon farming in Chile and in Quellón on Chiloé?

This is a contextual investigation of political, economical and social aspects related to the impact of salmon farming activities in Region X.

What is the impact of salmon farming activities according to the mainstream narrative?

This is an analysis of a dominant view on regional development and salmon farming activities.

What is the impact of salmon farming activities according to a counterpoint narrative by the different actors in Quellón?

This is an analysis of a subdued view on regional development and salmon farming activities.

How does the counterpoint narrative challenge the mainstream narrative and what is the outcome for the sustainability of local development?

This is an analysis of the inter-subjective perception of salmon farming activities and its meaning for regional development.
1.5. Study design

The study is designed on the basis of the geographical scale reflected in the localities and positions of the informants (see informant list, chapter 4.1.2.1.). The introduction is succeeded by a theoretical and a methodological chapter. The analysis is shared in the chapters 4, 5 and 6. In chapter 7 general conclusions are presented.

In chapter 2 the focus is on theory. Firstly, a research agenda is presented. Secondly, the role of FDI for regional development and poverty reduction and the terms "development" and "dependency" will be discussed. During the fieldwork, a theoretical transformation happened, which is also reflected on. With existing theory "in the backpack", I perceived a conflict on the local scale with topics that had consequences beyond the margins determined by the original theory. Further, an analytical approach for researching discourse will be presented and discussed.

The third chapter will look at the Methods used when obtaining the data. Firstly, the data is qualitative and was gained through interviews. But quantitative data in form of statistics was also acquired through different informants. (Key-) informants where found in entrepreneurial and public positions - not only to obtain their arguments but also because they could provide the necessary network contacts and access into the "realm" of the salmon farming industry.

The fourth chapter takes a closer look at the history and background of the salmon farming activities. It refers to sub - research question 1. It is a contextual view on salmon farming activities from a global to the local scale of the community Quellón. The impact of salmon farming activities on regional development is addressed in light of liberal economical policies and socio - economic inequalities in Chile. This includes facts about large scale investments in Chilean salmon farming and why FDI played a determining role for the emergence of the industry. The chapter draws on existing literature, some informant - arguments and statistical data on the different levels.

In the following two chapters, the discourse on the influence of salmon farming activities in Quellón is analysed. In the fifth chapter the mainstream narrative of the impact of the salmon farming activities on regional development. The discussion is based on arguments from informants, quantitative indicators and other sources.

The second analytical part of the study, the sixth chapter, presents a counterpoint narrative of the case. The complex impact of salmon farming activities is divided into different salient issues that contrast the mainstream narrative. This analysis is based on interviews mainly conducted in Quellón, participant observation and quantitative data on the local scale.
Finally, chapter 7 attempts to take a broader view and tie the example of Quellón to the theoretical framework. It makes general conclusions by contrasting the two narratives and discussing the supremacy of one them. In light of such a dominance in the discourse the sustainability of the salmon farming activities and regional development in Chile can be questioned.
2. Chapter: Theory

2.1. Introduction

For researching the impact of salmon farming activities on the development of the community of Quellón this chapter starts with a proposal for a geographical research agenda by Barton and Staniford (1998). This agenda addresses various issues of relevance for researching the impact of aquaculture.

In the following section 2.3., I discuss the assumption that the consequences for regional development through salmon farming activities depend on specific patterns of local conditions. In this regard, the study draws on inspiration from regional geography. It argues that the socio-political context in Chile plays a major role for the outcome of salmon farming activities and regional development. Yet, it also states that the impact has to be seen in light of endogen (specific local conditions) and exogen factors (Multinational Enterprises and FDI). Thus, regional geography can contribute to an understanding of local conditions that make a relational approach of the study necessary.

In section 2.4. I explain what kind of theoretical challenge I experienced during the fieldwork. This chapter contains a further discussion around the ontological and epistemological approach of the study. The salmon farming activities can be seen largely connected to FDI as a phenomenon that causes an absolute impact on regional development. The analytical tools for researching this kind of impact can for example be Development and Dependency, which are to be defined. Oppositely, I present a constructivistic approach that reflects the specific local conditions characterised by the socio-political context in Chile. In this framework, the outcome of salmon farming activities for local development is seen in relation to a discourse (section 2.3.2.).

In section 2.5. I argue that a discourse approach is as a way to research the influence of salmon farming activities and FDI on regional development in Chile. I acknowledge that the outcome of salmon farming activities and local development may vary according to two kinds of narratives. In a dominating mainstream narrative, regional development and quantitative benefits through salmon farming activities are highlighted. A subordinate counterpoint narrative has a more differentiated, qualitative view on the influence of salmon farming activities for regional development.
Taking this into account, section 2.6. proposes a theoretical model for this study that draws on an epistemological understanding that reflects relational factors for the outcome of salmon farming activities and development.

2.2. Designing a research agenda

In face of a growing global aquaculture, Barton and Staniford in 1998 proposed a geographical research agenda. They call for a geographical research in an otherwise rather virgin field of interest (at least from a geographical point of view). This field of interest is a complex, dynamic set of elements and the "degree of interconnection of these elements deserves the attention of geographers, owing to the holistic nature and their training and approaches".

Barton and Staniford (1998) argue why a research agenda for aquaculture is reasonable: firstly they estimate "the recognition that fisheries play a significant part in socio-economic activities and environmental management for a large percentage of the world’s population, as producers and consumers", and secondly they see "the need for aquaculture to be sufficiently sustainable to become a long-term alternative to capture fisheries". They also state that geographical research can be done on different levels, e.g. a "case study examination" that emphasises "the incorporation of the elements of environmental impact, socio-economic change and policy development". The two authors also stress the question: "is modern aquaculture itself fraught with potential environmental and socio-economic crises of its own?". For a comprehensive answer they call for more studies, yet they state that "the simple answer is that only through responsible management and effective regulation can future fish supply be sustainable".

The two authors provide a useful theoretical framework which heeds issues that are relevant for Chilean salmon farming activities, today. With their terms as reference, I intend to answer the question of the sustainability of aquaculture with the example of a case in rural Chiloé - i.e. Quellón. It is an argumentation around the local development through salmon farming activities. Similarly to Barton Staniford (1998), the environmental impact, socio-economic change and political intervention are to be taken into account. According to my own empirical experience during the fieldwork in 2006, these are issues of particular relevance in Chilean salmon farming activities. The following model shows the interconnectedness of these aspects. Their different presence in the public discourse is determined by the socio-political in Chile. This can be
researched through an relational approach, which I will argue for in section 2.6.

Fig. 2.1.: A research agenda for aquaculture; source: Barton and Staniford, 1998

Though regional development may be researched through focusing on the absolute impact of salmon farming activities (increasing FDI, GNP, export and employment accounts, emergence of a supplying sector and research facilities, technological innovation, infrastructure improvements etc.), Barton and Staniford’s model indicates the interconnectedness of various issues that may be reflected variously in a relational approach to researching the regional development. Some of these issues can be found in an explorative case study. Their different prominence in various studies (Montero et al. 2006, Barrett et al. 2002) and in the public discourse on regional development through salmon farming activities in Chile suggests that a relational approach is necessary. By this means, regional development is seen determined by social power relations (Gramsci 1971, Barton 2002, Harvey 2005) that dictate a specific discourse on the impact of salmon farming activities. Therefore, the following sections firstly address the limited potentials of regional geography (Grenier 1984, Holt - Jensen 2001) to understand local conditions (section 2.3.). Secondly, they address the significance of exogen factors such as FDI and the potentials of an absolute approach (Fløysand et al. 2005) to research regional development in a more complex way (section 2.5.). And thirdly, they address the possibilities of understanding regional development in a relational way that proposes a
discoursive approach (section 2.6.).

2.3. Carving out the territory

According to Holt – Jensen (2001) "today, a geographical research project often starts with the presentation of a social or natural process which seems to be related to geographical factors or have spatial relevance". He also states that "analysing and perhaps focusing on general trends of change, we may find that there are geographical differences in the patterns of change". His question is: "how can we explain such geographical differences? To what extent do local factors matter in global processes of change?". Holt- Jensen illustrates this with an example: „in most cases, for example, the distribution of Mormons in a region would have little geographical interest, but where, as in parts of the American West, their distribution becomes dominant or has contributed to the cultural and economic development of the area, then it becomes significant“.

Concerning the salmon farming activities in Chile´s Region X parallels to Holt- Jensens example can be observed. Industrial aquaculture arrived in the region at the end of the 20th century in an extent that became significant for socio - economic changes (as well as ecological changes). Also, the farming activities can be seen in context with global trends (Barton 1998, Fløysand 2006) and be connected to a world- wide increase of aquaculture and FDI. Holt- Jensen’s approach for investigating geographical differences in places and regions can be associated with earlier theoretical ideas that are still present in French geographical traditions. In the case of Chiloé for instance, Grenier provides an elaborate regional study of the island ("Chiloé et les Chilotes", 1984), embracing both natural and cultural aspects. His work can be related to the "mèthode vidalienne" which dates back to the founding father of french regional geography, Paul Vidal de la Blache.

Vidal´s arguments for the unity of studies of both natural and cultural phenomena in a regional geography is certainly one of the important stages in the theoretical history of geography. It has also become an important theoretical legacy in humanistic geography, as seen in cultural geography, phenomenological, structural as well as in post - structural approaches. Applying this Vidalienne view, Grenier´s study analyses Chiloé´s combined natural and cultural landscape. In such an approach, each single community adjusts to natural conditions through time and has specific characteristics (no community is like another). The difference between natural and human influence vanishes through the so called "genre de vie", whereby lifestyles and webs of physical threads and social threads are developed (Holt - Jensen 2001).
Grenier’s work is a good example of why a geographical study of Chiloé today needs a different theoretical approach. In 1984, Grenier couldn’t anticipate the impact of industrial aquaculture on Chiloé. While his inductive, historical approach may have been reasonable for a descriptive study of the region in the 1980s, a general theoretical criticism of his work is that regional studies in this tradition are more suited to study rather isolated regions in the world, where mainly endogenous factors are of importance. In the case of Chiloé, a more concrete criticism is that a singular exogenous factor like the impact of salmon farming activities, that is largely stimulated by international fluents of capital (FDI) and a global trend of a growing aquaculture industry, turns such an approach upside down. Local and regional lifestyles and webs of physical and social threads are broken up. Drastic socio-economic changes have to be seen in a context with both endogenous and exogenous factors.

Concerning the méthode vidalienne, Holt-Jensen argues: "... these circumstances favoured the development of local traditions in architecture, agricultural practices and general ways of life; these communities lived in such a close association with nature that they might be self-sufficient in the majority of goods". This description may have been a good match for communities on Chiloé, before salmon farming activities started there. Following the impact of salmon farming activities there have been many recent socio-economic changes. Traditional habits of subsistence seem to be on the verge of disappearing in the face of these changes, but their legacy in terms of specific local identities may prevail. Regional geography can support the understanding of the identity that characterises locals like in Quellón and contribute to a better understanding of their ontology. The perception of the influence of salmon farming activities on regional development is thus

Chiloé and Quellón traditionally remained at side of national economic development and industrialisation that have focused on the metropolitan region of the country, since the end of colonialism. Today, most of the economical activity remains centralised which isn’t untypical for Latin American countries. Yet, the salmon farming activities on Chiloé have caused the most lasting industrial impact the island has experienced. One of the significant socio-economic changes is the confrontation between the Chilote "homo ruralis" (see chapter 4) and these new circumstances. The perception of the industrial salmon farming activities on Chiloé provided by local informants today is therefore formed in many ways by a specific identity. For many Chilotes, the emergence of salmon farming activities means new jobs, higher wages, improved educational possibilities. But it also means an intrusion into locals natural environment, a change of their traditional way of life and the perpetuation of a presumably overcome socio-economic and political dependency-situation (as most of the salmon producers aren’t from Chiloé and national /
regional politics determine the activities on the island).

To address the perception of the impact of salmon farming activities in Quellón it is therefore important to reflect on the identity of the informants and take their position into consideration. Only by respecting these structural, historical relations it is possible to acknowledge that an absolute understanding of the regional development may have limitations compared to a relational approach that takes these circumstances into consideration. By employing a relational approach, it is possible to confront regional conditions as described through regional geography with an absolute impact of the salmon farming industry. The acknowledgment of "empowered" and "disempowered" actors (Peet 1998) in the interpretation of events such as the impact of salmon farming activities helps to understand the actual presence of a dominated discourse on the regional development. A discussion of the socio-political context in Chile is thus necessary to uncover the different interest groups that determine the discourse. This descriptive context contributes to reveal social power relations that are the relational factor for the regional development (see section 2.6.).

2.4. Theoretical challenges in the fieldwork

My theoretical approach to the topic was sensitised to various ontological views during the case study of the impact salmon farming activities have in the community Quellón on Chiloé. Previous to the fieldwork, I saw development in Region X connected largely to regional economical indicators such as FDI and the growth of a supplying sector for the salmon farming industry that provided jobs. In fact, it can’t be dismissed that the absolute influence of salmon farming activities on development in Region X is sizable.

The confrontation with the subjective understanding of various informants expanded my qualitative understanding of the development in a local case. In order to categorise these subjective informations in chapter 2.3., I argued that relational aspects in Chile like the socio-political context play a significant role for the individual interpretation and allocation of economical benefits that are stimulated by the growth of the salmon farming industry. The empirical experience thus increased my motivation to challenge an apparently stereotypical ontological perception of regional development with in-depth perceptions on a local scale.

The theoretical challenge is the consideration between an absolute and a relational epistemological approach in this study. For understanding a phenomenon like regional development from a realistic ontological position, an absolute epistemological procedure is imperative. Contrary, a constructive
theoretical approach is based on a relational approach. My original approach to researching the phenomenon of regional development through salmon farming activities was largely determined by a realistic ontology. This corresponded to a typical way of several studies on regional development and the public discourse on the development in Region X. The intriguing fact that many local informants during the fieldwork contradicted a stereotypical argumentation around the regional development forced me to consider relational aspects of the topic. There are thus perceptions of locals that typically aren’t present in a regional discourse.

In the following sections, I will firstly characterise and address the potentials of an absolute approach to research the regional development and secondly argue for the necessity of a relational approach, which this study employs.

2.5. An absolute approach - FDI, development and dependency

The salmon farming industry in Chile is significantly determined by MNEs and FDI, which represent around 65% of the investments in it. Beyond a regional scale, the impact of salmon farming on Chiloé is hence also to be seen in a context of international companies and money-flows. There is a broad range of approaches for defining the role of FDI for regional development and poverty reduction strategies. In a strictly financial understanding FDI is "defined as a crossborder-investment where an investor intends to establish a lasting financial interest and exert an effective influence on the activities of the investment object (Norges Bank - in: Fløysand et al, 2005). Yet, it is important for a geographical research of its effects on regional and national development to understand FDI in broader terms.

Fløysand et al. (2005) state “the link between an investment and actual welfare for the local population is a complex one” and criticise that the argument that “FDI is always good for a country’s development and poverty situation, and that a liberal policy towards multinationals is sufficient to ensure positive effects, fails to be upheld by the data.” They see “structures and relationships” that can reveal how FDI-effects are produced. This means also that a country’s political and socio-cultural setting can determine the outcome of regional development through FDI and the reduction of poverty on a local and national level. With reference to Giarratna et al. (2003), Fløysand et al. claim that “the relationship between FDI and regional change can generate two different outcomes” - “Development” or “Dependency”.
FDI as “Development” may cause vertical linkages, knowledge spill-overs, spinoffs, innovation networks and technology transfers. Vertical linkages heighten the possibility of the establishment of local suppliers for FDI – investors. In the case of Chiloé these are for instance companies supplying feeding for salmon producers and transport as well as diving services. Also, there are technological innovations and knowledge - exchange between MNEs and national companies. More and more national spin - off companies produce smolt for salmon producers or even for other markets.

In this approach, FDI as “Dependency” can lead to a dominant position of FDI in a regional economy, effects of FDI may be restricted to employment in subsidiaries, taxes and some vertical linkages and besides that, profits may be mainly returned to the investing country (Fløysand et al. 2005). To what extent FDI in salmon farming on Chiloé either causes “Development” or leads to “Dependency” will therefore be a question that can be answered on the sideline of the study and will reappear in the presentation of the narratives on the salmon farming activities. Yet, these are absolute factors that have a limited ability of informing about qualitative consequences of the salmon farming activities in a local case. Since this study assumes that there are "empowered" and "disempowered" actors with different perceptions of the qualitative impact of salmon farming activities on regional development, an approach focusing on their interrelation and significance for the development is necessary.

Concerning the motives of FDI, Fløysand et al. (2005) similarly argue for a view of FDI that focuses on it instead of "a purely economic phenomenon" as a "FDI - complex" including economic, social and cultural aspects”. Likewise, Barton and Staniford (1998) propose a research agenda for aquaculture that includes interacting social, economical, environmental and political factors (see section 2.2.). Concerning a concept such as used by Fløysand et al., however, regional change is restricted to be determined by FDI and local conditions that oust themselves in "economical, social and cultural aspects”. For the case of salmon farming activities in Chile I argue for a concept of understanding regional development through FDI and local actors, including relational aspects and that are significantly determining for the further motivation of activities in regional salmon farming both by MNEs and national companies.

Fløysand et al. (2005) argue that there haven´t been done many studies on FDI’s impact on the poverty situation in developing countries. In this study, salmon farming activities are seen as a set of actors and issues (as presented in chapter 2.2.) that is massively stimulated by FDI. Salmon farming activities are seen composed of external capital, interacting in reciprocity with local conditions. This can contribute to a better understanding of the complexity of the dynamic factors
that determine the impact of salmon farming activities for poverty-reduction. The outcome of salmon farming activities for the poverty-situation is to be illuminated by the local case of Quellón. At the same time, I will try to place the local poverty-situation in a national context and connect this to international, institutionalised power-relations that affect the fomentation of liberal economical policies and FDI and consequently are responsible for the socio-economic inequalities and the development of the poverty-situation.

Fløysand et al. (2005) also stress that works often lack of understanding poverty’s complexity. Contrary to a mere quantitative description of the phenomenon the study aims at understanding poverty in broader terms. Narayan et al. (2000) provides a useful approach for researching poverty in a more holistic understanding. In her “Voices of the Poor” study for the World Bank she argues for researching “experiences, reflections, aspirations and priorities of poor people themselves” for including these in poverty reduction policy and programmes. Te Velde (2003) argues that FDI may have positive outcomes for development but not consequently improve the economical situation of the poor. Te Velde’s work focuses on experiences and policy implications which also are an integral part of the study, as mentioned earlier. In the case of Quellón this has to be discussed on the background of the specific Chilean version of economical policies and power relations. Overall, the study intends to use a concept that allows a subjective understanding of poverty, because as Narayan (2000) suggests: “to develop effective poverty reducing strategies, we must understand poverty from the perspective of the poor”.

These kinds of qualitative approaches for understanding poverty motivated my fieldwork and the result was a qualitative research of the poverty-situation in Quellón. Through interviews I was able to get locals idiosyncratic perception of the implications salmon farming activities have for local’s individual economical situation. These aspects require an approach that beyond analysing regional development in a macro-view focuses on a local case. Further, it is necessary to adress relational aspects for the persistence of socio-economic inequalities that are percieved by "disempowered" locals. These aspects can hardly be researched with absolute indicators like "Development" and "Dependency".

2.6. A relational, discoursive approach

The assumption of this study is that the regional development through salmon farming activities in Chile is determined by power relations (Gramsci 1971, Barton 2002, Harvey 2005) that are
manifest in a discourse. These relations determine the production of knowledge and the institutionalisation of it through a specific mainstream narrative on the outcome of salmon farming activities for regional development. The "truth" in terms of the sustainability of regional development through salmon farming activities can be illuminated through a local case study and the analysis of overlapping fields in a mainstream and a counterpoint narrative. In this way, the impact of salmon farming activities on regional development is seen as a relational event determined by the discourse on it.

The following model shows that the discourse is determined by two narratives. Due to power relations, the mainstream narrative overlays the counterpoint narrative. The narratives are differentiated by focus. While the mainstream narrative has a quantitative focus, the counterpoint narrative has a qualitative focus. Through the dominance of the mainstream narrative, some arguments are shared resources. The narratives can be identified through an examination of their semantic content.

![The discourse on the impact of salmon farming activities on regional development](image)

*Fig. 2.2.: The discourse on the impact of salmon farming activities on regional development.*

Du Gay (1996, in Ainsworth and Hardy, 2004) define discourse as "a group of statements which
provide a language for talking about a topic and a way of producing a particular kind of knowledge about a topic”. The term refers both to the production of knowledge through "language" and "representations" and the way that knowledge is institutionalised, "shaping social practices and setting new practices into play." However, "discourse is inaccessible in its entirety, but traces of it are found in the texts that help to constitute it (Ainsworth and Hardy, 2004). Moreover, they argue that "reality is only knowable through social processes of meaning - making". They further state that "truth reflects the social and historical context, and the processes of meaning- making of a given community". The civic society in Chile is riddled with social power - relations that determine meaning - making of regional events on a national scale. State - wide, salmon farming activities in Region X have positive connotations and attract labour - migrants from other regions. On a local geographical level, this meaning - making clashes with a counterpoint narrative. Therefore, a relational approach that considers a context of power relations that determine the discourse, is necessary.

Ainsworth and Hardy (2004) also state that "any particular version of reality is not natural or inevitable and, in fact, may serve political aims of specific interest groups”. As I will show in chapter 4, a specific version of the impact of salmon farming activities on the regional development is told and retold by various actors, however largely fomented by powerful actors in the civic society - i.e. politicians, media and entrepreneurs. The discourse is hence dominated by interest groups. The authors point out that studying discourse entails studying language use "as a form of social practice". In this way, locals’ specific identity interacts reciprocally with a particular mainstream and a counterpoint narrative, because "discourse does not transparently reflect thoughts, attitudes and identities of separate selves but is a shared social resource that constructs identity as individuals lay claim to various recognizable social and shared identities". E.g. there is a local identity rooted in historical existential schemes related to the "homo ruralis" which is challenged by socio - economic changes through salmon farming activities. This identity is also an interacting part of a discourse in terms of A. and H.´s "shared social resource".

The central task in a discursive approach is to apply methods that allow to analyse linguistic and material components of a discourse (Neumann 2001). The semantic content of the mainstream narrative is characterised by a economical, quantitative understanding of the phenomenon "regional development" through salmon faring activities. Similarly, counterpoint narrators tend to use an economical language for describing the impact of salmon farming activities on regional development. Typically, the general increase of jobs in Region X is highlighted. The counterpoint narrative is thus not independent of semantic content also found in the mainstream narrative. Yet, it
is confined through a qualitative understanding of the issue that isn’t reflected in the mainstream narrative. This qualitative understanding is often related to a traditional local identity and typical social patterns that are challenged by the impact of salmon farming activities. For instance, the dissolving of the traditional local social cohesion and the emergence of an individualised, consumerist society is a characteristical qualitative train of thought in the counterpoint narrative.

2.6.1. A model for the discoursive approach in the case study

According to the empirical experience I argue for two interest-groups that determine a mainstream and a counterpoint narrative. The informants in the fieldwork (who will be presented in chapter 4.1.2.1.) can be placed in one of these interest-groups and related to one narrative. However, it is important to remember that actors also relate to issues across the boundaries of the schematic model.

![Diagram of The discourse on salmon farming activities and development in Quellón](image)

Fig. 2.3.: The discourse on the impact of salmon farming activities on regional development, actors and topics.

The study intends to categorise different apparent and less apparent features of the salmon farming activities impact on development in Quellón through a mainstream and counterpoint narrative.
Likewise, Fløysand et al. (2005) argue for a "multi-disciplinary approach" and "that analytical principles that capture the relationship between local conditions, different forms of FDI and regional change are to be developed in relation to case studies". The authors’ approach refers primarily to FDI and regional development. As stated earlier I refer to FDI as represented through the salmon industry in general due to the significant FDI content.

A case study of a national salmon farming company in Quellón contributes to a better understanding of the complexity and dynamisms of the impact salmon farming activities have for local development, reflecting local idiosyncrasies by actors who perceive that they aren’t participating in a regional discourse. For researching such fundamental discrepancies in ontological perceptions, empirical qualitative data is invaluable. Therefore, interviews made with local employee informants are the groundbreaking source of information used in this study to depict the counterpoint narrative and qualitative outcome of salmon farming activities for sustainable development in a local example. Similarly, Barrett et al. (2001) state: "the impact of the salmon farming boom on workers is the most direct, and a critical element of any social sustainability question."

Concerning the impact on the poverty - situation I also argue for a critical theoretical review, as Fløysand et al. (2005, Spicker, 2003) suggest "an acceptance of multi-dimensional perspectives on its conceptualisation, formation and reduction". I argue that a crucial poverty - dimension in Chile and in Quellón is the discursive domination of a mainstream - narrative over a counterpoint - narrative. In consequence, I also support the authors statement, that "the introduction of social capital and cultural knowledge" is being regarded as "relevant for new anti-poverty policies".

A relational approach can help to identify specific social, economical and political relations that determine the influence of salmon farming activities on regional development and poverty reduction. These are power relations (Gramsci 1971, Barton 2002, Harvey 2005). In this way, it is able to pick up normative themes (f.e. the aspect of the ecological impact of salmon farming activities, determined by a great variety of opinions by different informants) that were discovered in the interviews with local informants. A discursive approach is a way of researching such themes. By taking a context of specific local conditions in consideration it is possible to argue for two kinds of narratives in the example of the discourse on regional salmon farming activities and development.

An absolute approach helps to improve this understanding in general. The central theoretical idea in this study is that there exist historical structural and relational aspects that determine the civic
society and policy-making in Chile. They play a strong role for the socio-economic and ecological impact of salmon farming activities through their articulation in a discourse with two narratives on regional development. The implications of this constellation may be of heavy weight for answering of the question whether regional development through salmon farming activities is sustainable or not. An in-depth discourse analysis can prove that power relations may dominate the discourse on development through a mainstream narrative over a counterpoint narrative.

2.7. Conclusion

The theoretical concept of the study is bases on a combination of an absolute and a relational understanding of the impact of salmon farming activities for regional development. The study is focuses on a discourse analysis. It depicts a mainstream and a counterpoint narrative and argues for a domination of the first over the latter one. By taking the specific context in Chile into consideration the theoretical model of this study acknowledges two interest groups that stand behind the narratives. This reflects the relationality of the discourse on the influence of salmon farming activities on regional development.

In the common discourse, quantitative indicators and the influence of FDI are a popular way of argumentation. In fact, FDI plays a major role for regional development, yet a minor role for the case study. However, local development has to be seen in context with FDI. Several studies also rely on absolute indicators. The analytical tools "Development" and "Dependency" can grant insights concerning the influence of FDI for regional development. Yet, their explanatory power for is limited. Few studies have challenged qualitative data gained through empowered, "informed" informants with data gained with the “disempowered” (Peet, 1998). The study aims at categorising the empirical results, defining a mainstream and counterpoint discourse. I argue for an mainstream-discourse by "empowered" informants that dominates a counterpoint-discourse by "disempowered" informants. Moreover, I determine this domination to be strategically motivated and employed by power- relations on different scales.

This theoretical framework can be useful especially in the context of Chilean aquaculture and the discourse on regional development. An in-depth case study can uncover particular local idiosyncracies and determine their place in an existing discourse on regional development which may be dominated by power relations. Likewise, Haarstad (2005) and Dybwik (2006) have contributed to an understanding to the role discourse and power relations may have for regional development, potentially of special importance in South-America.
3. Chapter: Method

3.1. Introduction

To answer the different research questions, several methods are needed. The first sub-question can be answered by drawing on literature and empirical experience made in the fieldwork. Most of the information used in chapter 2 - (RQ 1) - is publicly accessible, i.e. resources about Chile’s political and economical development in the recent decades as well as the development of salmon farming activities on different geographical levels. Statistical data is used to support a quantitative understanding of the development. In order to obtain an overview of the regional development and the salmon farming industry, statistics can be used to correlate for instance the population - or construction - development with the development of the salmon farming industry. This quantitative understanding can then be compared with a qualitative understanding of the regional development.

Primary data obtained during fieldwork is required to answer the second and third research question. Fieldwork was conducted in Region X in the period 12 of March till 26 of June 2006 in order to obtain qualitative data. The fieldwork followed a "top- down"- approach related to different geographical levels. This is also reflected in the structure of this study - from a macro - view of global salmon farming activities to a micro - view in a local case study. Thus, the study goes through a process of "zooming in" to the case through a descriptive part based on literature, empirical observations and quantitative data. The case itself is divided into different relevant aspects of the salmon farming activities which are reflected to a various degree in the narratives on the impact on development by the informants.

In order to answer the fourth subsidiary question and the main research question, the study "zooms out" the case again. The two narratives are contrasted to find intersecting thematical fields and depict overrated and underrated aspects. Quantitative data and empirical observations are complementary instruments to control the validity and reliability of arguments in the two narratives. Secondary sources such as newspaper - articles, brochures and film - material are used as a basis for analysing the inherence of power - relations in the discourse on local and regional development through the salmon farming activities.
3.2. Qualitative research

This study attempts to investigate the factors that determine the discourse on the influence of salmon farming activities through a mainstream narrative. Through case study research, it confronts these factors with the experience locals have of the impact of salmon farming activities and development in Quellón in a counterpoint narrative. For doing this, it needs a qualitative research approach that on one side investigates "the shape of societal structures" and by what "processes" they are "constructed, maintained, legitimised and resisted" (Hay, 2000). On the other side, it needs to address the "individuals´ experiences of places and events". Similarly, Kvale (2001) emphasises the “unique ability of the qualitative method to describe and pose questions about the social reality being investigated”. Concerning poverty reduction, Fløysand et al. (2005) argue that "quantitative data used for most aggregate studies of poverty are only able to tell part of the story, and not the subjective elements of poverty, gendered distribution or coping strategies".

For the central research of the local’s subjective understanding of the impact of salmon activities in Quellón, concerning local development and poverty reduction, I employ qualitative methods. The two pillars of research in the study are hence:

**In-depth interviews**

**Participant Observation**

In-depth interviews are unstructured to semi-structured interviews and will be discussed in chapter 3.1.1., participant observation as a method is presented in chapter 3.2.3..

The central element of the study’s analysis is interviews. During the fieldwork, semi- and unstructured interviews were conducted both with key-informants and local case informants. In some cases, particular groups like the women or divers on the researched production site were interviewed collectively, though never more than 3 people at a time. Marshall et al. (1989) state: “combined with observation, interviews allow the researcher to check description against fact”. Throughout the fieldwork, extensive observations were made of the regional and local impact of salmon farming activities, and most specifically, on the researched salmon production site Cheter in Quellón.
3.2.1. The fieldwork

As stated in chapter 4.1., the study follows a top - down approach of spatial scales which was also employed during the fieldwork.

The first week of the fieldwork was spent in the national capital, Santiago de Chile. Key-informants there had earlier been found through university contacts and literature research. These are the geography professors and key-informants Hugo Romero and Jonathan Barton. Due to their specialist positions fundamental informations about salmon farming activities in Chile as well as further useful key - contacts in Region X were collected. Furthermore, Francisco Pereira in the UN’s FAO/ COPESCAL regional office was interviewed, who is in charge for the organisation’s policies for fisheries and aquaculture in Latin America. An interview with the Norwegian embassy’s first secretary, Øyvind Johnsen, allowed me to get acquainted with the Norwegian economical interests in Chilean salmon farming activities and proved to be key for further regional contacts because the informant invited us (my colleague Thomas Hjeltnes Svensen and me) to a conference about salmon farming activities and Norwegian interests organised by the embassy, in Puerto Montt.

The second week was used to visit the salmon farming fair "AquaSur" in Puerto Montt, where an arrangement was made with the organising administrative institution AquaChile (Fundación Chile). It granted free entrance and accomodation for student researchers during the period of the exhibition. The fair takes place every two years in Puerto Montt and is said to be the southern hemisphere’s largest in terms of exhibitor accounts. Daily visits to the fair turned out to be useful to get acquainted with the various actors in regional and international salmon farming activities. The determining contact for the depiction of the case study - the company Feed Control, was also made at the fair, as I will address later.

The next step was to go to Chiloé and Castro, the provincial capital of the island. In an explorative phase lasting one week I rented a car and made general observations of all major communities on the island with salmon farming activities. Based on this explorative phase, two interesting communities for a case study were depicted, i.e. Dalcahué and Quellón. In chapter I present the reasons for why these communities are interesting for case study research. The rest of the time in Castro was used for interviews with key - informants (Renato Cárdenas, Mauricio Caniggia) and administrative institutions (Dirección del trabajo, Sernapesca, Capitanía del Puerto de Castro [Armada]).
Through one of the key-informants in Castro I was introduced to two Norwegian journalists who did regional research in order to write an article about problematic labour conditions in salmon farming industry, focusing on a Norwegian-owned company. Throughout 5 days, I accompanied these journalists translating the interviews with several widows of men who had died recently due to accidents in the industry, either working directly for or in subcontraction for the case-company. I also obtained valuable inside-views on the industry through further interviews with the management of the company, (ex-) representatives of the administrative institution controlling union- and labour conditions (la Dirección de Trabajo) and (ex-) representatives of the union in the company. The journalists’ article was published in the magazine "MEMO" (10/2006). I refer to it because it is one of the few examples of critical journalism (although foreign) on the industry and it caused regional attention and legal consequences for one case of death in the company in the aftermath of its publication.

In the final stage a suitable community for case study research was found through the company Feed Control (FC), which after personal contact in Puerto Montt contacted my colleague Thomas Hjeltnes Svensen and me. A FC-representative asked for support in translating a technical manual for an automatised feeding system, which at the time, the company was installing and test-running on a salmon farming production site owned by the company (Salmones) Pacific Star (PS) in Cheter, Quellón. My earlier acknowledgement of Quellón as being a potential community for doing a case study motivated me to make an arrangement with both FC and PS to work locally on the "translation job", with material compensation in form of provisioning and accommodation as well as the opportunity to do interviews with the staff of PS and an opportunity to be a participant observer on the site. Thus, the case study community became Quellón, more specifically the PS salmon production site "Cheter", for a period of aprox. 6 weeks.

### 3.2.2. In-depth interviews

For Marshall and Rossman (1989), qualitative in-depth interviews are an extensively used data collection technique. They argue that in-depth interviews “are much more like conversations than formal, structured interviews”. While the researcher provides a general guideline of the topic the interviewee is hereby given the possibility to partly frame and structure the responses. The setting in the community did demand exactly this flexibility for conversations because of the difference of status interviewer and respondent have (see chapter 3.2.4.). The crucial aspect of this kind of qualitative research for Marshall et al. is that “the participant’s perspective on the social
phenomenon of interest should unfold as the participant views it, not as the researcher views it”. The main task in the interaction between interviewer and interviewee is “to obtain valid and reliable information”. Hence, dependent on the interview partner, the interviews were done more or less formally and structured.

Marshall and Rossman (1989) also state that “formal interviews are sometimes necessary in research in order to standardize interview topics and general questions. The most important aspect of the interviewer’s approach concerns conveying the idea that the participant’s information is acceptable and valuable”. In the fieldwork both the local population and key informants on other geographical levels were interviewed. For interview- experienced and informed key- informants such as the university professors a rather unstructured interview- guide was used. A less formal way of interviewing showed to be useful because these informants understood the way of looking at the research problem and provided both useful general information and proposed access to further key-informants. Concerning the local population of the case- study the interviews were respectively more formal and structured, in order to gain a more profound subjective understanding of the issue and to guarantee the validity and reliability of the data through standardisation. By doing semi - to un - structured interviews I always had the opportunity to adjust the questions to the understanding of the interviewee.

Marshall and Rossmann (1989) highlight several advantages of interviews. They argue that it is “a useful way to get large amounts of data quickly”. This is a relevant aspect for the fieldwork, since the possibility of gathering information was limited to a period of three months. Moreover, interviewing several informants on different geographical levels provided a broad range of information on various subjects. This also guaranteed a high validity of the gathered information. Follow – up interviews were arranged when given information had to be clarified. This was for instance the case when gathering information from administrative institutions such as SERNAPESCA or Direcccion del Trabajo.

The strategy of using a flexible questionnaire in the interviews proved to be appropriate in order to grasp the variable opinions on the different issues inside the topic salmon farming on Chiloe. It was an important factor to give the initiative of entering into the various issues concerning the topic to the interviewed. By avoiding to predict issues I was able to guarantee the validity of the data. It also permitted the introduction of individually perceived aspects, especially concerning the information the interviewed locals had to share concerning for example their private economical situation. For analysing the counterpoint - narrative, the study lays a focus on the interviews with local employee informants, because as Barrett et al. (2001) state: "the impact of the salmon farming boom on
Avoiding formal language permitted a certain amount of intimacy in the conversation and "eased" the interview itself as well as it offered the possibility to stimulate subjectivity of the interviewed instead of it being the interviewer who dictated the issues to be covered with possibly rather "standardised" answers with less validity. Less formal language and questions also helped to give the interviewees a feeling of security and hence freedom to talk about issues they see in their view and not in the interviewer’s view. Both problems and benefits of the employment in the salmon farming industry could then be uncovered with a high estimation of validity. Certainly, the use of the local language contributed to more intimacy in the interviews and a consequently higher validity in the answers. Single-person interviewing allowed to "dig deep" into individual cases and cast a often quite personal light on the conditions and consequences of the employment in the industry workers faced. I was able to conduct the interviews without a translator and with a pre-knowledge of the locals’ Spanish. This assured the reliability of the answers, too.

3.2.2.1. Role and Status

Marshall et al. (1989) highlight the importance of the role one has when doing qualitative research. They refer to Patten (1980), who proposes “a serious of continua for thinking about one’s role during the conduct of qualitative research”. During the case study it was necessary to adopt such a concept for both interviews and participant observation. Complementary to Patten’s concept of role Aase (2006) argues that participant observation “implies that the researcher takes or is ascribed a local status, and thus enters the local web of social relations (status sets)”. In this approach, status can be defined as a social position to which both rights and duties are attached, therefore many statuses are inherent in any social person. A social person can for instance both be a student, boyfriend, flatmate, son brother etc. - complementary statuses would be professor, girlfriend, flatmate, parents, sister etc. Statuses and complementary statuses form a status set. Role might be called “the dynamic aspect of statuses”. According to Aase, culture defines role expectations, thus there is a space of different accepted roles. Status, for instance being a "student researcher", is challenged by a range of roles from role 1 to role n. The dynamic lies in the different degree an individual lives up to these roles.

As argued above for in-depth interviews, Marshall et al. consider trust and cooperation between interviewer and interviewed to be essential for gaining valid data. Without these aspects, they fear, there can’t be any confidence about getting “right” answers on questions. Thus, the validity and
reliability of data can be guaranteed by considering status and role in the individual cases. Creating a trustful conversation through identifying oneself’s attributed status by the interview - partner and matching connected role expectations is a way of meeting such concerns in interviews. From case to case, these processes have to be repeated, because the interview partners are different and they, themselves, have different statuses.

This is in particular the case in Chile, which for example compared to Norway has a rather male dominated society structure and a distinct hierarchy in socio-economic terms. These are two main aspects to reflect on, because interviews were both done with operators, on one end of the socio-economic ladder, and managers, on the other end. Women may even have a different point of view than their husbands, despite of doing the same job and having a similar income. In fact, some of the informants in Cheter were related to each other through family ties, there were both couples and sons and fathers, working at the same site. Female informants often tended address the socio-economic situation of their families far more detailed and critically than male informants. This can be connected to the traditional role of women on Chiloé being responsible for existential matters of the family while men traditionally left their homes to work as fishers or to find labour abroad.

While doing participant observation in the case site, I prepared the interview phase. In other words, I obtained role and status attributes primarily during the participant observation phase. Similarly to Marshall et al.’s (1989) argument for considering the role aspect, Aase points out that the researcher engaged in participant observation actually finds himself in social relation with the people directly surrounding him. According to his concept, the student researcher and his informants on Chiloé will be attributed or have statuses, form a status - set and be in a social relation. For him, participant observation is metaphorically like being “frontstage” and trying to get “backstage” the scene. To get “backstage” and obtain reliable and valid informations, gaining trust is regarded to be crucial. Hence, the question is how to gain trust - Aase says, the key for gaining trust is to be reliable. A reflection on status and role is therefore important both for interviews and observation. Aase recommends a methodological approach in four stages:

1. Identify the status you are put in by your informants (´sociologist on oneself´)
2. Identify role expectations attached to that status
3. If you are content with the information you get access to through that status, act according to role expectations
4. If you are not content with the informations you get, act in contradiction to role
This approach was a guideline for the methods “in-depth interviews” and “participant observation” on Chiloé. In the case study of the community Quellón, I was able to become part of the local working life in the salmon farming industry due to an arrangement with the company Feed Control (FC). I provided translation services to this company in exchange for access to a salmon farming production site owned by the company Pacific Star (PS). At that point of time, the company FC was installing and testing automated feeding systems on the production site "Cheter" (PS). In agreement with the site manager (PS) I was allowed to do interviews with the employees of the site. Thus, I obtained an official status as "translator" and became known to the local staff as part of Feed Control’s technical staff which would be present and working at the site for several weeks. Our "team" consisted of an FC technician and his assistant, my colleague Thomas Hjeltnes Svensen (who conducted his fieldwork at the same time and also translated) and me.

In daily life, I entered and left the site regularly at the same times as the employees, thus becoming part of their scheduled working day. By this means, many chances for conversations and participant observation occurred - e.g. sitting next to the employees in the on-shore canteen in the morning, before the boat would bring us to the offshore site, or talking to them in the lunch breaks and in the afternoon, or whilst waiting for the bus to pick the employees up for bringing them home. As a consequence, I became part of the staff in the eyes of the employees. Mutual acceptance and acquaintance grew through these kinds of association with the employees over a period of weeks. Throughout my stay at the site I felt that I became accepted as functional part of the labour activity and was gradually better integrated into the staff’s social relations.

On the offshore site, I used to sit at a working desk in a feed shelter building ("bodega"), which is used for storing salmon feed and operated by a determined group of "operarios" (engl.: operatives), responsible for managing the feed. Located there with my translation job and a laptop, I got to know these employees better by casual conversation. The "feed staff" in Cheter is responsible for storage and supply of salmon feed on the site. It consists of a male supervisor and 3 women (all the women on the site worked in the bodega).

During my first week on the site I concentrated on the translation job and spent spare-time and breaks to get to know the site’s installations, personnel and their functions through extensive observation and casual conversations. I also asked to be put into service by the site’s foreman for doing practical daily work such as feeding the salmon or maintaining nets, together with other workers. In this way, I was able to participate in practical tasks in close physical proximity to the
operators. Thereby, I felt that my abstract presence as a external "technical assistant" and "translator" on the site became gradually accepted by the staff. The mutual personal understanding improved through working with the employees in their tasks, besides my desk - job in the store-house. This also allowed me to observe labour tasks and conditions on close hand.

Due to the physical and functional proximity at work I was able to introduce myself as a "student researcher" (my actually primary reason for being present) in an unpretentious and casual way. It was benefitial first to get acquainted with the staff through being kind of a professional colleague, because this officially legitimised my presence in "their" environment and gradually allowed me to introduce my status as "student researcher". Thus, I went through a transition from the status "translator" to also being a "student researcher".

My primary statuses and the site manager´s official legitimation authorised me simultaneously to the translation job to do research in terms of participant observation and interviews with the staff. Out of a general, demonstrative interest in the employees working experiences and casual conservations about the industry itself I thus carefully approached the second "student researcher" status. As personal contact with the employees improved through time, intimacy and the willingness to speak about controversial issues increased. In this way, I was able to obtain information about how the employees "really" saw their job, income and labour conditions as well as ecological aspects of their activity as part of the salmon farming industry.

After a while I realised that the closest, surrounding employees in the bodega began to understand my role on the site, i.e. in a double function as "translator" and "student researcher". At that stage, I started to do individual interviews with the staff, beginning with the personnel in the bodega. I also did the first interviews with the site´s female operators in the bodega, which turned out to be useful in the further phase of more concrete data - collection, in which I did semi- structured interviews. The women I interviewed proved to be interested and open - minded towards my role, hence also expressive and willing to illustrate their individual perception of their job and the salmon farming activities in general. Since they had understood my status and my concerns as a "student researcher" through earlier conversations they were cooperative in the interviews and helpful when it came to recruit more informants. Unrequested, they talked about me to other employees which were more reserved and sceptical to my role and thereby contributed to my acceptance as "student researcher". This allowed me to do interviews with most of the employees in all the occupations on the site Cheter.

Thus, the women became key - informants in terms of being "gatekeepers" to other informants.
Likewise, the site manager (HUMBERTO) was a "gatekeeper" due to his position on top of the site’s hierarchy. As stated above, he explicitly authorised my request to do observation and interviews in terms of my fieldwork. However, the secondary status on the site could have been achieved to the same degree if I wouldn’t have had the primary status as part of the technician’s team. As illustrated above, my "translator" status allowed me to enter the site sensitively through participating in the employees daily life and gradually gaining their trust - it gave me a "raison d’être" on the site. Last but not least, the site - manager’s open - minded understanding of my research approach and his own critical view on some problematic issues like the employees (and his own) income situation, labour conditions and the ecological impact of the activities (of "his" site and in general) granted me rather direct access to data and further informants.

Carl Sauer, the representative of the school for cultural geography ("Berkely School"), argued that "the best training a geographer could receive came through fieldwork and through developing the skills of observation" (Holt- Jensen, 2001). He used to remind his PhD students who studied in Latin America of "the need for first hand field experience and for learning the language of the people being studied" (Jackson, 1989; in: Holt- Jensen, 2001).

During the fieldwork, I experienced a challenge when speaking to locals about the impact of salmon farming activities. Such a challenge could be depicted as a methodical problem of communicative origin. Before the fieldwork, I reflected on a possibly difficult "language"- compatibility, also based on ontological perceptions, which could be linked to a status as a "foreigner" and "student researcher", as f.e. Aase suggests (1997). Beneficial for avoiding a potential fixation on the status "foreigner" thus was certainly my personal familiarity with the informants language, due to the earlier stay in the same region. It can be hinted that the "rural language" in southern Chile is quite distinct to accents in the rest of the country. Thus, I was able to acknowledge and apply a specific code of conduct in the interviews with the local informants. This helped to create intimacy and trust in otherwise rather formal interviews.

3.2.2.2. The informants

The following list shows the different interviewed actors. They form part of the discourse on the influence of salmon farming activities on development on different geographical levels, what is indicated by their location. As indicated in chapter 2.6., they can be associated with mainstream and the counterpoint narrative. I intend to locate these informants role according to their participation in the discourse in the analytical part of the study.
The informant list illustrates the top-down approach of the study in the geographical and chronologic scales of the fieldwork’s progress. In terms of the different informant’s "field of action" the list includes: the salmon farming companies employers’ and employees’ point of view (in a Chilean company, PS), the unions’ point of view (CUT, the local PS internal union, diver’s union, artisanal fisher’s union), the salmon farming industry organisation’s point of view (SalmonChile; Intesal), the administrative’s point of view (Sernapesca; Dirección del trabajo), the Media’s point of view (Periodico de acuicultura; Renato Cárdenas), the NGO’s point of view (Ecoceanos, Fundación Terram, Organización Canela), the scientific milieu’s point of view (i-mar; Richard Barton; Hugo Romero) and other key informant’s point of view.

**Informant list:**

<table>
<thead>
<tr>
<th>Informant</th>
<th>Institution</th>
<th>Position</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jonathan R. Barton</td>
<td>Universidad Catolica</td>
<td>professor geography</td>
<td>Santiago</td>
</tr>
<tr>
<td>Øyvind Johnsen</td>
<td>Norwegian embassy</td>
<td>first secretary</td>
<td>Santiago</td>
</tr>
<tr>
<td>Francisco Perreira</td>
<td>United Nations / FAO</td>
<td>senior fisheries officer</td>
<td>Santiago</td>
</tr>
<tr>
<td>Hugo Romero</td>
<td>Universidad de Chile</td>
<td>professor geography</td>
<td>Santiago</td>
</tr>
<tr>
<td>Patrick Dempster</td>
<td>Akvasmart</td>
<td>managing director</td>
<td>Puerto Montt</td>
</tr>
<tr>
<td>Hector</td>
<td>diving company / union</td>
<td>entrepreneur, union represent.</td>
<td>Puerto Montt</td>
</tr>
<tr>
<td>Marcelo Lillo Miranda</td>
<td>Periodico de Acuicultura</td>
<td>journalist</td>
<td>Puerto Montt</td>
</tr>
<tr>
<td>Mauricio Trujillo Vega</td>
<td>I.N.E. Los Lagos</td>
<td>techn. chief regional statistics</td>
<td>Puerto Montt</td>
</tr>
<tr>
<td>Meyling Tang Ortiz</td>
<td>SalmonChile Intesal</td>
<td>journalist, P.R. manager</td>
<td>Puerto Montt</td>
</tr>
<tr>
<td>Robert Stead</td>
<td>i-Mar Chinquihue</td>
<td>biologist, researcher</td>
<td>Puerto Montt</td>
</tr>
<tr>
<td>Victor Inostroza Flores</td>
<td>Dirección del Trabajo</td>
<td>provincial inspector</td>
<td>Castro</td>
</tr>
<tr>
<td>Renato Cárdenas</td>
<td>teacher, film maker</td>
<td>teacher, film maker</td>
<td>Castro</td>
</tr>
<tr>
<td>Mauricio I. Caniggia</td>
<td>LAMAR Asoc.</td>
<td>ingeniero acuicultor</td>
<td>Castro</td>
</tr>
<tr>
<td>Alejandro Oyarzun</td>
<td>C.U.T.</td>
<td>national union representative</td>
<td>Ancud</td>
</tr>
<tr>
<td>A. Salinas, P. Penaloza</td>
<td>org. CANELA (NGO)</td>
<td>activists</td>
<td>Ancud</td>
</tr>
<tr>
<td>Alejandro Cárdenas</td>
<td>Infocentro comunal</td>
<td>municipal economy repres.</td>
<td>Quellón</td>
</tr>
<tr>
<td>Ingrid Godoy Mora</td>
<td>Dirección del Trabajo</td>
<td>fiscalizadora</td>
<td>Quellón</td>
</tr>
<tr>
<td>Informant</td>
<td>Institution</td>
<td>Position</td>
<td>Location</td>
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<td>--------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Hector Morales</td>
<td>Fed. de pescadores artes.</td>
<td>union representative</td>
<td>Quellón</td>
</tr>
<tr>
<td>Ivan</td>
<td>Sernapesca</td>
<td>inspector zonal</td>
<td>Quellón</td>
</tr>
<tr>
<td>Hugo Ryks</td>
<td>Pacific Star</td>
<td>human resources manager</td>
<td>San Antonio</td>
</tr>
<tr>
<td>Andrea Trivino</td>
<td>Pacific Star</td>
<td>human resources manager</td>
<td>San Antonio</td>
</tr>
<tr>
<td>Humberto</td>
<td>Pacific Star</td>
<td>gerente planta (plant manager)</td>
<td>Cheter</td>
</tr>
<tr>
<td>Agustin</td>
<td>Pacific Star</td>
<td>asis. gerente planta (2. plant manager)</td>
<td>Cheter</td>
</tr>
<tr>
<td>Ronald</td>
<td>Pacific Star</td>
<td>capataz (foreman)</td>
<td>Cheter</td>
</tr>
<tr>
<td>Dany</td>
<td>Pacific Star</td>
<td>operario (operator)</td>
<td>Cheter</td>
</tr>
<tr>
<td>Lucio</td>
<td>Pacific Star</td>
<td>operario (operator)</td>
<td>Cheter</td>
</tr>
<tr>
<td>Amilcar</td>
<td>Diving Service Sur</td>
<td>diving teacher</td>
<td>Cheter / P.M.</td>
</tr>
<tr>
<td>Pedro</td>
<td>Pacific Star</td>
<td>buzo (diver)</td>
<td>Cheter</td>
</tr>
<tr>
<td>Onofo</td>
<td>Pacific Star</td>
<td>buzo (diver)</td>
<td>Cheter</td>
</tr>
<tr>
<td>Don Juan</td>
<td>Pacific Star</td>
<td>buzo (diver)</td>
<td>Cheter</td>
</tr>
<tr>
<td>Patricio</td>
<td>Pacific Star</td>
<td>operario (operator)</td>
<td>Cheter</td>
</tr>
<tr>
<td>Juan</td>
<td>Pacific Star</td>
<td>operario (operator)</td>
<td>Cheter</td>
</tr>
<tr>
<td>Victor</td>
<td>Pacific Star</td>
<td>operario (operator)</td>
<td>Cheter</td>
</tr>
<tr>
<td>Rina</td>
<td>Pacific Star</td>
<td>operaria (female operator)</td>
<td>Cheter</td>
</tr>
<tr>
<td>Monica</td>
<td>Pacific Star</td>
<td>operaria (female operator)</td>
<td>Cheter</td>
</tr>
<tr>
<td>Carmen</td>
<td>Pacific Star</td>
<td>operaria (female operator)</td>
<td>Cheter</td>
</tr>
<tr>
<td>Eduardo</td>
<td>Pacific Star</td>
<td>planta de proceso (operator)</td>
<td>San Antonio</td>
</tr>
<tr>
<td>José</td>
<td>Pacific Star</td>
<td>planta de proceso (operator)</td>
<td>San Antonio</td>
</tr>
<tr>
<td>José Alfredo</td>
<td>Pacific Star</td>
<td>planta de proceso (operator)</td>
<td>San Antonio</td>
</tr>
<tr>
<td>Carlos Gallegos</td>
<td>Pacific Star</td>
<td>sindicato (oper./ union repr.)</td>
<td>Quellón</td>
</tr>
<tr>
<td>Cristian Vargas</td>
<td>Pacific Star</td>
<td>sindicato (oper./ union repr.)</td>
<td>Quellón</td>
</tr>
</tbody>
</table>
3.2.2.3. Confidentiality

Guaranteeing privacy on sensitive information given by local interview partners wasn’t necessary to obtain the required information for the study. Since no informant asked for anonymity it wasn’t taken in consideration to treat the informants’ names sensitively for reasons of privacy. The quotations in the analysis don’t require names, yet the position of the interviewees is indicated.

In the descriptive part of the study publicly accessible data was used. Therefore, the sources aren’t treated sensitively for privacy purposes. Concerning other publicly accessible informations and statistical data, the study doesn’t keep their source confidential.

3.2.3. Participant Observation

Holt – Jensen (2001) argues that “geography, more than any other natural or social science, is a visual science (...).” He reasons that “we analyse landscapes and provide methods of visual presentation in our teaching of geography”. For geographical research, participant observation is thus a suitable method to gather information about changes in the socio-ecological environment. Interviews can grant an understanding of how informants subjectively perceive these changes. Their comparison with participant observation allows to control the validity of the information.

While the data gathered in interviews is largely based on individual qualitative understandings of the impact of salmon farming activities in Quellón, participant observation in combination with local statistics can provide a complementary understanding and allow to check the reliability of the data. Observation helped depicting salient aspects (e.g. the varying use of more or less sophisticated diving equipment) and by confronting respondents with this view cause critical reflection around the individual perception of the issue. Therefore, participant observation was a secondary method applied in the study that warranted data-reliability.

The fieldwork-period of three and a half months opened the possibility of observing the community Quellón on Chiloé and its recent physical changes such as new roads, a school, health care infrastructure, cultural facilities etc. as well as the general socio-economic situation that for instance can be seen in the quality of housing. Likewise, Marshall and Rossman (1989) argue that “observation entails the systematic description of events, behaviors, and artifacts in the social setting chosen for the study”. The specific socio-economic situation in Quellón will be described
and put into the context of relations on higher geographical levels in chapter 4.

Marshall and Rossman (1989) state that “participant observation is a special form of observation and demands firsthand involvement in the social world chosen for study. Immersion in the setting allows the researcher to hear, see, and begin to experience reality as the participants do. Ideally, the researcher spends a considerable amount of time in the setting, learning about daily life”. According to the survey of the fieldwork in chapter 3.2.1. and the discussion of role and status in chapter 3.2.2.1 I spent an extensive amount of time on participant observation and personal involvement on the salmon production site Cheter.

3.2.3.1. Observation, Concept and Category on Chiloé – Cultural Analysis

In order to obtain a subjective understanding of the local population concerning the impact of salmon farming activities in the community Quellón it was necessary to “go behind the scenes” in the fieldwork and make observations of underlying perceptions. According to Aase et al. (1997) “Actions and statements can be observed behind the scene, but to become data they have to be conceptualised. Because data is conceptualised observation, it follows that data is not collected, but produced by the scientist”.

According to Cato Wadel (1991) “data = observation + concept”. Wadel warns the reader against "using own cultural categories when we are analysing an event, because it is not given that the informants are using the same categories as the scientist”. In the study-case the “concept” can be defined as the impact of salmon farming activities on the development in the community Quellón. The event may be labelled differently by locals than by an external student researcher. The fieldwork showed that there exist culturally determined categories, as Aase et al. (1997) state, “we can however not assume that there exist a predestined matrix of categories that everyone possesses”.

Wadel’s warning against using our own categories when we describe the lifeworld of other people applies especially in studies of other cultures. This concern had to be reflected on in the case of Quellón, as people there might perceive their environment in a different way than an external observer would. Hence, the local populations’ categories in the issue had to be examined. Aase (1997) proposes a 4 step model for the interpretation of categories:
### Step 1
**Find which categories the informants have of a certain topic (your research question)**

### Step 2
**Find out how the categories are constituted (their semantic content)**

### Step 3
**Find which other categories a given category is related to (context)**

### Step 4
**Find in which category a certain observation is located**

Aase calls this method “cultural analysis”, arguing that “when the goal is to interpret others perception of reality, it is more useful to define ‘culture’ as common categories than common values”. The task of the case study in the community Quellón was to depict which cultural categories of the impact of salmon farming activities were dominant. This entails, of course, a self-reflective student-researcher who is aware of his own cultural categories.

During the fieldwork I emphasised giving the local informants space for initiative when addressing various issues concerning the impact of salmon farming activities in Quellón. As described in chapter 3.2.2.1, I followed daily work shifts and participated actively in several tasks, thus casual conversations. In the semi-structured interviews I addressed various issues in particular, according to the research agenda (see chapter 2.2.). However, I always started the interviews with an open question, i.e. to ask for the background of the interviewee, his connection to the salmon farming activities and his general thoughts about the industry. Thereby, the informant obtained the chance to enter own fields of interest and perception. This also turned out to be a reasonable way of finding categories.

To follow up step 2 and 3, an earlier experience of Region X and a certain familiarity with the (regionally peculiar) language and mentality allowed my to recognise much of the meaning of local informants’ language without a translator. Secondly, in order to understand the cultural construction of the category and its semantic content, it was important to see the categories in a political and historical context. Hence, the remarks on sub-research question 1 in chapter 4 emphasise on describing the Chilean, more specifically the Chilote cultural and socio-economic setting. Through participant observation over a period of weeks I was able to build up sufficient trust and intimacy.
with local informants to speak about controversial issues.

In step 3 and 4 the categorisation made by the local informants concerning the development - influence of salmon farming activities has to be seen in context with other categories. According to the author it’s an important “methodological point that categories must be seen in relation to each other to be able to interpret other lifeworlds”. Originally local informants often critised the ecological impact of their "own" activity in terms of the negative effect on the local ecosystem. In several cases, locals had earlier made a living through subsistence in the environment they see endangered by salmon farming. Yet, they accentuated that they wouldn’t argue publicly about these issues. Thus, they saw the impact in context with "their" original natural environment and traditional socio-economic schemes of subsistence.

Local informants typically related the impact of salmon farming activities to the change of the traditional habits of subsistence through agriculture and fisheries and to other social implications (consumerism, less social cohesion in the community). They perceived the ecological impact of the salmon farming activities as an intrusive factor to "their" environment (exhaustion of maritime resources, contamination). Moreover, local informants were very well aware of the fact that they didn’t actively participate in a broad public discourse on the impact of salmon farming activities in their region and community due to perceived power relations originated in socio-economic inequalities and politico-economical linkages.

In conclusion, the local employee informants tended to superficially argue about the impact of salmon farming activities in terms of the "mainstream narrative", while in confident conversation amongst each other (observed in participant observation due to my status as "colleague") and in the interviews, they also emphasised salient issues of the "counterpoint narrative". These are categories that are employed by this study in order to reflect the abstract perception of lacking discursive participation, as expressed by several local informants. Therefore, the study lays an emphasis on the "mainstream narrative" and "counterpoint narrative".

### 3.3. Quantitative data

Statistical data is supposed to challenge the qualitative data and ensure a correct quantitative understanding of the economical development of the salmon farming industry in a global context. Several institutions on different geographical levels provide this kind of data. It also serves to check
the validity of the qualitative data.

The United Nations - Statistics Division and - Development Programme provides data on development and poverty on the global scale. The umbrella - project has so far also relied on this source for macro - data for researching FDI in developing countries. The Food and Agriculture Organization of the United Nations (FAO) “leads international efforts to defeat hunger” (FAO - homepage) and states that “since our founding in 1945, we have focused special attention on developing rural areas”. Its under - department for fisheries makes global statistical data for aquaculture available online. Its subsidiary body COFI (Committee on fisheries) was created in 1965 and “constitutes the only global inter-governmental forum where major international fisheries and aquaculture problems and issues are examined and recommendations addressed to governments, regional fishery bodies, NGOs, fishworkers, FAO and international community, periodically on a world-wide basis. COFI has also been used as a forum in which global agreements and non-binding instruments were negotiated.“ (FAO – homepage). In 2001, the Sub – committee on Aquaculture (“COFI:AQ”) was founded. Its function is to “provide a forum for consultation and discussion on aquaculture and advise COFI on technical and policy matters related to aquaculture and on the work to be performed by the Organization in the subject matter field of aquaculture.“ (FAO – homepage).

These institutions provide general informations on global aquaculture as well as statistical data. FAOSTAT/WAICENT is an on-line database offering global statistical data on fish farming production and values. Yet, a more powerful tool to be used is FISHSTAT+, a downloadable set of databases including a software for producing graphs and making analyses (www.fao.org). It contains more detailed data than the FAO - online - database and is the most valuable tool to obtain data on the global level. Data on this level is largely used to show the global significance of salmon farming activities in the contextual chapter 4.

The Chilean National Institute for Statistics (Instituto Nacional de Estadisticas – I.N.E.) provides data on economical development in the fisheries sector as well as it can contribute with statistics about labour force in the different economical sectors and over time. Data is accessible publicly on its homepage (www.ine.cl). Further contact with I.N.E. has been established with the regional office in Puerto Montt, where both data on the regional and the communal level is accessible. This office also provides data for Chiloé, comparative studies of data collected in the last census in 2002 and in 1992 can be done with variables like population, housing, T.V. and internet - access per capita, vehicle registrations etc. The census data can be used to indicate regional, provincial (Chiloé) and communal development. The contact in the regional office of I.N.E. provided this data after request since it is not publicly accessible on the communal level but only on the regional level. This data
was mainly used to show the regional impact of salmon farming activities in chapter 4.7.

Since geographical survey and mapping is controlled by the armed forces of Chile - because of historical reasons, useful maps - especially maritime maps including the localisation of concessions and corresponding production sites - can only be acquired with the Armada (Navy of Chile). Administratively, the island Chiloé is divided into "Capitanías de Puerto", i.e. sectoral military governance according to the most important harbours (Castro / Ancud / Quellón). In the first step to get access to a production site, companies have to apply for a concession at the sectoral Navy command. The Navy grants concessions concerning their geographical localisation and works with 1 : 50.000 scaled maritime maps. Only in a second step a national economical institution for fisheries is consulted (SERNAPESCA) for acceptance of the application, regarding its economical usefulness. Both institutions have data about the quantity of salmon production centres in an area (and the development in time), which companies are active in one area. This data can be used to correlate the development of the salmon farming industry with the general regional development by looking at communities, drawing on the communal data provided by the I.N.E. in Puerto Montt.

A central institution for salmon farming in Chile is Fundación Chile. In 1995 it founded TechnoPress S.A. (partly owned by Fundación Chile and and Editec S.A.) - a company that has as its main goal to support growth and development of the national fisheries and fish farming sector as well as of the forestry industry by providing information both nationally and internationally. Its main mediums for fisheries and fish farming are an internet - portal and the two fairs on fisheries and fish farming “AQUA SUR” and “PESCA SUR”. On its internet portal “www.aqua.cl” it provides statistical data that is updated monthly. During the fieldwork the "AQUA SUR" - fair - held from the 22.03. to the 25.03. 2006 in Puerto Montt - was visited. This offered the possibility to get to know salmon farming companies and their representatives and to acquire informations and data such as the 2006 catalogue. Institutions such as Intesal and the University of Puerto Montt also were present with a stand and provided information. These are typical actors that actively participate in shaping the discourse on the impact of salmon farming activities in Region X and represent the mainstream narrative (chapter 5).

SalmonChile is an association consisting of Salmon and Trout farmers in Chile. It is comprised of 47 member companies, of which, more that 50% are salmon and trout producers, while the rest is made up of companies that supply the industry with a variety of products and services, such as salmon feed, package manufacture, laboratories, processing plants, and others. (SalmonChile – homepage). On the internet portal “www.salmonchile.cl” it provides data about world and national salmon production as well as about Chilean exports. These informations are used both for the
contextual chapter 4 and for showing the significance of SalmonChile as a powerful actor in shaping the mainstream discourse (chapter 5).

Regional data is on one side provided by the national institutions described above, on the other side company data can grant insights on a regional to local level. Existing company data can be accessed via the contacts that are established between the umbrella – project and international salmon farming companies that are active in the 10th region. AKVAsmart Chile Ltda. is a company that has provided statistical data for the umbrella project earlier and has provided further data for this study. Central company data for the case of this study was obtained directly from the management of Salmons Pacific Star. It includes production figures and prospects as well as information about the geographical location of production sites. This information is largely used in chapter 4.

3.4. Secondary Sources

For the discoursive approach, further data in form of brochures, newspaper clips and statements were collected by:

The salmon farming employer´s point of view (Pacific Star, Ventisqueros, Marine Harvest)
The general salmon industry´s point of view (company managers, INTESAL)
Administrative measures / regulations and point of view (Subsecretaria de Pesca, Armada)
Media´s point of view (Per. de Acuicultura, Diario La Estrella, Diario El Llanquihue)
Other key informants (Hugo Romero, Jonathan R. Barton, Renato Cárdenas, Mauricio Cannigia)
Union´s point of view on the salmon farming industry (CUT, Federación de Pesca Artesanal)
NGOs point of view (Fundación Canela, Ecoceanos, Fundación Terram)
4. Chapter: The Background of salmon farming activities in Chile and in Quellón on Chiloé

4.1. Introduction

This chapter provides a historical context and a quantitative understanding of the study’s research issue on different geographical levels. It refers to the subsidiary research question 1: **What characterises the history of salmon farming in Chile and in Quellón on Chiloé?** In this chapter there are also discussed important political and socio-economic aspects that significantly determine the impact of salmon farming activities on regional development in Chile.

I will firstly give a brief introduction on the global accounts of salmon farming activities and the national significance in Chile (section 4.2.). I will also refer to the significant role of FDI in international salmon farming activities and provide general characteristics of the Chilean aquaculture sector.

Secondly, in section 4.3., I will address the significance of liberal economical policies for the emergence of salmon farming activities in Chile. I will also discuss the basic aspects of the various historical forms of governments in Chile and their impact on the socio-economic situation, today. This chapter also provides a understanding of why FDI became significant in regional salmon farming activities.

Thirdly, in section 4.4., I argue that there are basic socio-economic inequalities in Chile and discuss several examples to unveil them. These inequalities are central for the discussion of the discourse on the impact of salmon farming activities on regional development. They are present in a mainstream and a counterpoint narrative on the regional development through salmon farming activities.

Lastly, in the sections 4.5., 4.6. and 4.7., I will narrow the focus to the case community and see it in context of the impact of salmon farming activities. In short terms, the chapter will adress the national, regional and ultimately local significance of salmon farming activities and its impact on development.
4.2. A bird’s eye view

In terms of global food supply farmed salmon may become even more important in the future than it is today. According to a report published in Science (03.11.), global fisheries face a forthcoming crisis. Studies made by a group of ecologists project that all commercial fish and seafood species might collapse in 2048. At the same time, global demand for seafood is expected to grow more than three times by the year 2025 (NOAA, 2006). For more than 1 billion people fish is the main source of protein income - "many of these are poor" (CNN, 08.11.2006). Not unprobably, much of the projected protein - demand will be covered by breeded Chilean salmon.

Chile has a long coast with numerous islands, fjords and protected bays and manifold climatical settings to offer for aquaculture. Vergara et al. (2003) call the 1.700 kilometers long stretch of land between Puerto Montt and Punta Arenas “cinturón del salmon” (“salmon belt”). This part of the country is located approximately between 49 and 53 degrees of southern latitude and it provides optimal environmental conditions for salmonids. Comparative natural advantages to other countries are certainly one key - aspect that made the country a “global player” in salmon farming. Yet, there are also other important factors that led to the dominant position Chile achieved in this aquaculture sector and that are relevant for the aim of this study. There are political, economical and social conditions that are central for the rising of salmon farming activities and will be adressed in the following sections.

In Chile there is a significant production of various types of fish, shellfish and seaweed. However, salmonid production outranks any of these aquaculture products. In terms of export value it is the most important national aquaculture product. This is shown by the following figure.
Fig. 4.1.: Aquaculture in Chile, harvest and export values from farmed resources; source: SUBPESCA (2007)
4.3. A brief history of economical policies in Chile

Chile has gone through a period of economical and political changes from 1970 to 1990. It made a transition from a politically interventionist economy before the early 1970s to becoming a (democratic) liberal market economy during the 1990s simultaneously with the re - democratisation of the country (Fontaine, 1993). Important economical reforms towards an opening and a liberalisation of the economy were made during the military regime which lasted from 1973 to 1990. This development has to be accounted to understanding why salmon farming activities and FDI on a big scale in Chile emerged in the middle of the 1980s and expanded massively in the 1990s. Not to forget, the world - wide augmentation of FDI during the same time was a boosting factor for salmon farming in Chile. Much of the "salmon- boom" can be traced back to the political economical foundations layed by the "Chicago Boys".

The "Chicago Boys" were a group of Chilean economists who in the 1970s first studied at the Universidad Catholica in Santiago de Chile and later on graduated at the Chicago School of Economics. They were considerably influenced by the neoliberal theories of Arnold Harberger and Milton Friedman and believed in minimum government and emphasis on a free market as a way to control the economy (Harvey, 2005). During the government of Salvador Allende they criticised the nationalisation of key enterprises like copper mining, which for instance had been under private (MNE) control before. Under the dictatorship of Augusto Pinochet the Chicago Boys came to political power in 1975, holding the office of the minister of economies and finances in different phases of the government. Thus, a liberal, market - based economy in Chile was practised throughout the regime. This policy has been perpetuated in the following democratic governments until today.

In 2000 Ricardo Lagos won the presidential elections in Chile and became the first socialist president since Salvador Allende and the break of democracy in 1973. At present, several countries in South America have experienced a political swing to the left, although to different degrees. The nationalisation of key enterprises like the oil - and gas - production or the mining - sector has (re-) appeared on the agenda of the governments in Venezuela or Bolivia, recently. Yet, the Chilean government still pursues a path of support for the private sector and continues to open and liberalise the economy for foreign capital, having signed free trade agreements with different states like the USA and South Korea, a policy that at first glance seems to further the promotion of FDI in Chilean salmon farming.

According to Barton (2002), the period from the end of the Pinochet - regime can be described as a
transition he calls "regime shift" which meant no changes for the "capitalist accumulation model" in Chile. According to him "the political structure and means of the authoritarian capitalist state were replaced by those of a democratic capitalist state". In his article on Chilean political transition Barton argues for a dual view of the transition period from the authoritarian state to democracy in what he calls "Continuismo" and "Pinochetismo".

"Pinochetismo" refers to the personal presence and influence of Augusto Pinochet Ugarte during and after the regime in the national politics (after the regime, as a senator and commander in chief of the armed forces). His political "heritage" characterises the Chilean society which is deeply split into those who legitimise and not too seldomly idealise Pinochet’s regime and those who condemn it for its cruelties. Barton’s approach of "Continuismo" can provide an understanding of the socio-economic implications the transition had - which are still present today. As he says: "the form of the state was continuous in terms of socio-economic organisation thus social relations". In this approach the state is seen "as represented by social relations". It is these social relations, "as defined by values and their realisation, that define the state and through its institutions shape national development". Barton further argues that Gramsci "(...) revealed the ways in which social relations are perpetuated by the dominant interest groups - principally large business interests, the leading media organisations and the political class in case of the contemporary Chile".

For discussing the socio-economic impact of the salmon farming industry it is important to bear in mind that in Chile "elite interest groupings have sought to establish a system of social relations, constructed around neoliberalised production and consumption patterns" (a hegemonic project rooted in the export-oriented mode of production)" (Barton, 2002). For Barton, this may have led to "private sector success" and "strong national macroeconomic indicators", yet "this has done little to promote greater equality or sustainability of the Chilean economy". The following figures show a significant increase of the Human Development Index (UNDP, 2004) in Chile from 1975 to 2004 and Chile’s top position in total Gross Domestic Product - growth from 1970 to 2004 (UNDP 2004).
Fig. 4.2.: Human Development Index, Chile compared to different regions; source: UNDP (2004)

Fig. 4.3.: Latin American Income growth (Chile on top), source: UNDP (2007)
For this study it is less important to go further into detail concerning the change of political structures in Chile but it is fundamental to acknowledge that social relations (i.e. the dominating political class, the mainstream media and salmon farming companies) in Chile determine the public discourse on the salmon farming industry. Macro-economic indicators like export accounts, FDI or the low unemployment rate in Region X are often used by politicians and the media to describe the benefits brought by the salmon farming industry. This kind of discourse can lead to an inconsistent perspective on the "true" impact of salmon farming activities in terms of regional development. Attempts to euphemise the significance of salmon farming activities for sustainable development in Region X by the representatives of this kind of mainstream narrative can hardly be excluded. Several issues like for example water contamination or the socio-economic situation on the micro-scale are strikingly seldom picked as central themes in public debate.

An important task of this study is the contrast of macro-economic indicators with a case study of the micro-economic situation, i.e. statistical data on the local scale and the interviews with the employees of the salmon farming company "Pacific Star" in Quellón as well as with other informants in the community. In this way, local development can be affirmed or it may be seen in a different way than what is widely portrayed publicly. Common problems inside the industry can be depicted as they are seen in a concrete example and may be projected onto a regional scale. The sustainability of regional development can be illuminated through a comparison of the mainstream narrative with the counterpoint narrative.

4.4. Socio-economic inequalities in Chile

Causes for conflicts in the Chilean civic society have to be seen in context with socio-economic inequalities that are produced and perpetuated by "ruling (business) elites" (Barton, 2002, Harvey, 2005). According to Barton, the "1975 model`s focus on market concentration by the grupos económicos and latterly by multinational capital and increased liberalisation and greater flexibility of labour, has led to increased underemployment, and subsequent social and cultural polarisation during the 1990s". He also states, that "it is clear that state continuismo along the lines of the capitalist accumulation strategy implemented from the mid - 1970s has perpetuated existing inequalities in the Chilean society, and will continue to do so".

For Barton, the more concrete outcome of such economical policies is "a perpetuation of social
polarisation in terms of income and sharper differentiations in access to, and quality of welfare and services”. In Chapter 6, when discussing the counterpoint narrative, this will be exemplified with information gathered in the case of Quellón and the situation faced by the employees of Pacific Star. In fact, salmon farming activities have caused a large increase of employment in Region X in recent years. Yet, the case study shows that the income and labour conditions, i.e. the quality of jobs provided by the industry, may be rather poor. Welfare and services in Quellón are lacking quality and access in the eyes of local informants when compared to arguments used in a mainstream narrative of the regional development.

On a national scale, social and cultural inequalities became manifest in several remarkable incidents in 2006. Apart from the issue of this study, potential conflicts as described above can be illustrated with the nationwide student - uprisings that took place during the fieldwork, more precisely in May 2006. Facing unequal opportunities in access to and the quality of public and private education students took to the streets in several cities all over the country (also on Chiloé). After fierce confrontations with the public authorities, growing public support and eventually a national strike provoked by the students the protests led to the intervention of the newly elected president Bachelet. In a public speech on television she announced a "national summit" to bring the administration, educational institutions and the students together for talks. Yet, concrete and substantial measures to change the fundamental inequalities are still missing, for many.

In Chile, private school - students have much better chances of getting higher education and "good" jobs than public school - students but private schools can only be afforded by a minority of the population. The interesting aspect of this example is on one side that the massive protests and the national halt of all school education for several days forced the government to react and on the other side that students from all kinds of schools (more and less privileged students in terms of wealth and access to better education) came together in the protests.

This example shows that national public unrest caused by socio - economic inequalities is a latent issue in Chile, though its practical outcome in terms of governmental reaction besides "mesas de diálogo" (engl.: round table for talks) may be of little substance, so far. In the case of the socio - economic impact of the salmon farming industry public unrest might not have been on the verge of erupting in 2006, but the example of protests and blockades in the Chilean mining sector in the same year (September) shows that also the industry may face upcoming problems when ignoring social responsibility. In 2007 (Aftenposten, Økonomi, 08.02.2007) 300 employees of the multi - national company Mainstream striked for higher wages and better labour conditions. According to the newspaper, the protest went on for several days. Mainstream is owned by the Norwegian
company Cermaq, of which 43% is owned by the Norwegian state.

In 2006 also cultural conflicts, which are affiliated to the inequalities mentioned above, erupted among the indigenous population of Mapuche ([Mapudungun] - "ma-"= people; "puche"= earth) which mainly are to be found in the central and southern part of Chile. Massive protests by Mapuche - communities against supposed judicial unfair treatment provoked the public authorities to imprison several indigenous activists. Yet, this "illegal" detention gained so much public attention through the media, that students protesting for their cause at the same time, opted to blame the administration for "racist" policies, triggering even more demonstrations by students and Mapuche which ultimatly resulted in violent clashes with police forces and acts of vandalism. Only recently having come to power, the government surely underestimated the breadth and massiveness of responses to its actions or "lacking actions" (as accused of concerning educational policy by the students).

Concerning the matter of this study, sustainability in socio-economic terms as well as in terms of the ecological impact of salmon farming will determine if future civic conflicts may find their origin in problems caused by the salmon farming activities. In chapter 7, this will be discussed more in-depth. Though new employment has been created by the growth of the salmon farming industry, the income situation hasn’t improved significantly for many. The general income in South America has grown in the last fifteen years, Chile being a precursor also in terms of the U.N.’s human development index (see section 2.3.). Though Chile has managed to reduce the total amount of absolute poverty in the same period, the country has today still one of the worst income distributions world-wide, which can be indicated by the Gini-coefficient (see the following figures).
**World's Worst Income Distribution**

**Top 12 Countries Gini coefficient Year of survey:**

- Botswana 0.63 1993
- South Africa 0.59 1995
- Brazil 0.59 1998
- Columbia 0.58 1999
- Chile 0.57 2000
- Paraguay 0.57 1999
- Mexico 0.57 2000
- Panama 0.56 2000
- Nicaragua 0.55 2001
- Honduras 0.55 1999
- El Salvador 0.53 2000
- Argentina 0.52 2001
Many Chileans bind new hopes for their personal socio-economic situation to the president Michelle Bachelet, who is in charge for the legislative period 2006 – 2011. One of the main problems of the country is the unequal distribution of resources. Concerning the salmon farming industry, many employee informants hope for better wages and working conditions. The application and control of new administrative norms concerning these issues in the salmon farming industry is supervised by SERNAPESCA and Dirección del Trabajo, correspondingly. Yet regulations like RAMA often lack efficiency, as this study indicates. Doubts about far-reaching changes concerning the different resource-allocation in the society are expressed by almost all informants in the study. Bachelet’s government, “la concertación” (a coalition of left- and centre- parties) is facing the difficult challenge of bridging the rift between a politically polarised society and smoothening the effects of harsh socio-economic discrepancies.

4.5. Critical public discourse in Chile

Traditionally, the critical public discourse in Chile of the economical policy is weak. The extent of democratic participation in the civic society has grown since the end of the dictatorship, yet its effectiveness is an issue that is often criticised by the informants in this study. Unions have never had a strong position in Chile. Their weakness dates back to an event in the year 1907, when police forces opened fire on protesting saltpetre miners in Iquique. Protesting their lot, a group of around 8,500 miners marched into town and gathered inside a (Santa María-) school. The incident became known as the "Santa María massacre" and it’s become a historical legacy of oppression imprinted in the minds of workers in Chile. Throughout the 20th century, initiatives to create a more solid base of union activity, such as in European or North-American traditions, failed (e.g. 1973).

Through a history of caudillos, dictatorship and mostly rather liberal republican governments the labour unions face a difficult situation in Chile. The relatively new salmon farming industry, as part of a rapidly evolving economical sector, finds a poor opponent in the biggest national umbrella-union, the C.U.T.. The union’s adjustment to the booming salmon farming industry can carefully be described as tentative. This concerns is also true for the other unions relevant for the salmon farming industry. These are largely unions that are integrated in the companies. According to Chilean law, their activity (such as union leader elections) is to be supported and supervised by administrative institutions (the "Dirección del trabajo"). However, in practice, union activities in the salmon farming companies are regularly, sometimes in an audacious way, boycotted by the management. Every once in a while public rumors appear criticising singular union leader’s or even
hole union board’s loyalties, as they shortly after having come into charge suddenly are seen with new cars or show off other expensive propensities to consume. This means a tendency of the companies managements "to ease” negotiations with their employees through sometimes clumsily covered special bonuses for "their" internal union representatives. Problematic union aspects - which noteably are connected crucially to immanent labour conditions in the salmon companies are to be discussed further in section 6.3., exemplified in the situation of the company Pacific Star in Quellón and based on interviews with workers and internal union leaders and the company’s management as well as with the provincial and local representatives of the C.U.T. and of the administrative "Dirección del trabajo" which is supposed to control union issues. The role of the unions in the salmon farming industry is subordinate to the role of salmon companies in the public discourse. Union viewpoints are restricted in the counterpoint narrative on the development in Region X and salmon farming activities.

Some NGOs in Chile try to evoke more public attention to problematic issues in the salmon farming activities. These are mainly: Ecoceanos, Fundación Terram, Fundación Canela. But, only one of these NGOs (Canela) maintains an office on Chiloé, while the other two are presented in the capital Santiago. From a distant position, they face difficulties in reaching locals (employees) in the industry. The NGOs maintain internet pages that are regularly updated with informations about the salmon farming industry and salient issues such as the environmental impact or difficult labour conditions. They have also produced several films about these issues. However, their critical arguments typically aren´t present in Chilean mass media. Thus, the Chilean NGOs´ role in the public discourse on the development in Region X and salmon farming activities is restricted to a secondary role and has to be seen as part of the counterpoint narrative.

The conclusion of the sections 4.4. and 4.5. is that social segregation in Chile still produces "those who have" and "those who don’t have" in the society. The socio - economic segregation in Chile is reflected in the public discourse on the influence of salmon farming activities on development in Region X. The individual economical status determines who can afford higher education and who can’t in Chile. Those who can afford a higher education typically also become the leaders ("gerentes") of both national and international salmon farming companies. Multinational companies have discovered the usefulness of local managers because of their network access that is crucial for being successful in establishing necessary economical linkages - a generally well - known phenomenon in Latin- America. The vast majority of Chilean managers, salmon farming technicians etc. is recruited from the central area of the country, i.e. from the metropolitan area of Santiago, where economical ressources and institutions for higher education are concentrated. In
contrast to this, the "normal" workers, divers and guards on the salmon production sites are from Chiloé or labour-migrants from southern regions. This could f.e. be observed on the production site "Cheter" during the fieldwork in Quellón, and will be discussed further chapter 6. Economically better positioned informants in the study generally tend to argue in the terms of the mainstream narrative. Less wealthy informants often argue in the terms of the counterpoint narrative.

4.6. The origin of salmon farming activities in Chile and FDI

Salmon farming has become an important economical sector for two regions in the south of Chile, Region X and Region XI. The marine farming activity takes place in the coastal areas of the Pacific Ocean. In Region X, industrial salmon farming is concentrated on the island Chiloé, which so far hasn´t had any other significant industry. Around 50 % of the regional salmon production comes from Chiloé (C.U.T., 2006). The Atlantic Salmon has become the most popular species presently farmed by the industry on Chiloé. Atlantic Salmon is traditionally also used in the Norwegian fish farming industry. Hence, salmon - smolt has earlier been a product largely imported from Norway while today, most of the smolt is produced in Chile. This is a national emancipation in terms of technology and supply in the industry.

The subsecretary for fisheries in Chile reports that there has been an increase of 7.3% in Atlantic Salmon production during the year 2005. In total amounts the production increased from 170.3 mil. t. in half a year in 2004 to 183.3 mil. t. in June 2005 (www.aqua.cl - 29.08.05). This growth in production corresponds with a global tendency of growth in the sector in the last years. Fløysand et al. (2005) stress that Chile has been able to increase its share of the global production of salmon from 8 % to 35 % in the period 1990 - 2002. Montero et al. (2006) argue that "as a result of its continuous investment, Chile´s farmed salmon industry grew 17 - fold between 1990 and 2002 and has reshaped the global trade in salmon".

The salmon industry in Region X is a product of both national and international endeavours. Yet, it is beyond question that without significant Foreign Direct Investments in the industry, salmon farming wouldn´t have grown to the dimensions it has today - FDI accounts for aproximately 65% of the investments today (Barton, 2006). The major share of international investments came to Chile at the end of the 1990s. Facilitated by the open market principle, as described in chapter 4.3., this led to a boom of investments made by multi - national enterprises (MNEs) in salmon farming activities. Montero et al. (2006) argue that the result of this was a "increase in aquisitions and mergers" that characterised the late 1990s and led to a "reduction in the number of firms but an increase in the average firm size".
In the early years of the new millenium, several national companies also grew to remarkable size in terms of capital and production figures. Today, the industry has entered a phase of consolidation that manifests itself in company - fusions and an ongoing stream of capital of both international and national origin. Among the 20 largest companies there are now national, international and mixed enterprises represented. The Chilean company Pacific Star, which will be discussed further in this study, is located at the lower end of the list with ambitions to expand further in order to remain autonomous in terms of production.

Ranking of exporting salmon farming companies, Chile 2004

<table>
<thead>
<tr>
<th>Company</th>
<th>Tons</th>
<th>Value in thous. US$</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine Harvest Chile</td>
<td>36.376</td>
<td>160.502</td>
<td>11.2%</td>
</tr>
<tr>
<td>Aquachile S.A. (Salmones Pacífico Sur S.A.)</td>
<td>32.634</td>
<td>126.523</td>
<td>8.8%</td>
</tr>
<tr>
<td>Cía. Pesquera Camanchaca S.A.</td>
<td>20.453</td>
<td>99.669</td>
<td>6.9%</td>
</tr>
<tr>
<td>Salmones Multieexport Ltda.</td>
<td>21.582</td>
<td>95.139</td>
<td>6.6%</td>
</tr>
<tr>
<td>Salmones Mainstream S.A.</td>
<td>25.091</td>
<td>88.506</td>
<td>6.1%</td>
</tr>
<tr>
<td>Fjord Seafood Chile S.A.</td>
<td>19.115</td>
<td>75.330</td>
<td>5.2%</td>
</tr>
<tr>
<td>Cultivos Marinos Chiloé S.A.</td>
<td>16.183</td>
<td>74.529</td>
<td>5.2%</td>
</tr>
<tr>
<td>Pesquera Los Fiordos</td>
<td>19.908</td>
<td>65.957</td>
<td>4.6%</td>
</tr>
<tr>
<td>Salones Antártica S.A.</td>
<td>14.972</td>
<td>63.884</td>
<td>4.4%</td>
</tr>
<tr>
<td>Aguas Claras S.A.</td>
<td>12.506</td>
<td>63.125</td>
<td>4.4%</td>
</tr>
<tr>
<td>Stolt Sea Farm Chile (Pesquera Eicosal Ltda.)</td>
<td>13.128</td>
<td>54.893</td>
<td>3.8%</td>
</tr>
<tr>
<td>Pesca Chile S.A.</td>
<td>11.114</td>
<td>43.932</td>
<td>3.1%</td>
</tr>
<tr>
<td>Salmons y Pesquera Nacional S.A. (Salmones de Chile S.A.)</td>
<td>11.175</td>
<td>37.796</td>
<td>2.6%</td>
</tr>
<tr>
<td>Trusal S.A.</td>
<td>10.208</td>
<td>37.729</td>
<td>2.6%</td>
</tr>
<tr>
<td>Ventiqueros S.A.</td>
<td>8.238</td>
<td>36.538</td>
<td>2.5%</td>
</tr>
<tr>
<td>Invertec Pesq. Mar de Chiloé</td>
<td>7.536</td>
<td>35.703</td>
<td>2.5%</td>
</tr>
<tr>
<td><strong>Salmones Pacific Star Ltda.</strong></td>
<td>9.113</td>
<td><strong>31.325</strong></td>
<td><strong>2.2%</strong></td>
</tr>
<tr>
<td>Mainstream Chile S.A.</td>
<td>5.684</td>
<td>20.200</td>
<td>1.4%</td>
</tr>
<tr>
<td>Robinson Crusoe y Cía. Ltda.</td>
<td>5.192</td>
<td>19.895</td>
<td>1.4%</td>
</tr>
<tr>
<td>Salmones Friosur S.A.</td>
<td>3.757</td>
<td>17.425</td>
<td>1.2%</td>
</tr>
<tr>
<td>Congelados Pacífico S.A.</td>
<td>3.609</td>
<td>15.794</td>
<td>1.1%</td>
</tr>
<tr>
<td>Other exporters</td>
<td>41.904</td>
<td>156.711</td>
<td>10.9%</td>
</tr>
</tbody>
</table>

Total                                                                 354.739  1,439.393  100%

Fig.4.6.: Company ranking; data source: Directorio de Acuicultura y Pesca de Chile, SalmonChile (2006)

Chile was ranked second in the world after Norway in terms of total production figures the last few years and the gap is diminishing. In the years to come Chilean salmon farming is expected to grow further and to become the largest in the world. Norwegian enterprises are among the most influential in the Chilean salmon farming industry accounting for approximately 1/6th of the investments (2003, Asociación de la Industria del Salmon de Chile A.G., Salmon Chile). The following figures show a historical correlation between FDI in Chile and the growth of salmon farming activities.
Fig. 4.7.: FDI in Chile 1992 - 2005 (as % of GDP); source: Central Bank of Chile, Foreign Direct Investment Committee (2007)

Fig. 4.8.: The 5 biggest salmonid producing countries in 1,000 tons, source: FIGIS, FAO (2007)
4.7. Region X and salmon farming activities

The importance of the sector in Region X is illustrated by the fact that salmon export in 1990 represented 43 % of the total regional exports, this increased to 76.8 % in the year 2002, while in 2004 it was estimated to be around 77 % (Dempster, 2004). Regionally, the salmon farming industry became the prime economical activity in 2005, having been ranked as sixth activity only 6 years earlier, in 1996. Today, it may have passed 84 % of the national exports of aquaculture products (Emilfork D., 2005).

The country’s two key advantages in international competition are of natural and economical origin. Region X (still) offers suitable natural conditions for salmon farming. Labour costs as well as transportation pricing are low, compared to other salmon producing countries like Norway or Canada. The infrastructure is relatively good and an increasing amount of international as well as home-grown competence and technology for the sector is available. Access to international markets is facilitated through export-friendly policies and transport infrastructure.

These factors are regional advantages that can’t be matched by other Chilean regions. The water temperature is less favourable for Salmon farming in regions further North of the 10th region and further South of the 11th region. Labour costs are higher in the metropolitan region because of its importance as the national centre of almost all economical endeavours and in Region XI and XII because of its relative remoteness to economic activity. Region XI attracts more and more salmon farming companies because of its natural qualities - favourable water temperature and less polluted water than in many parts of the "crowded" Region X. Yet, in production quantity Region X is still far behind Region X as it lacks infrastructure. Thus, the transportation costs to the markets are high and labour costs more because the labour force is small and poorly educated.

The salmon fair in Puerto Montt ("AquaSur"), that takes place every two years, attracts exhibitors from all over the world. Its importance illustrates the significance Puerto Montt and Region X have for global salmon farming activities. The exhibition has become the biggest of its kind on the southern hemisphere - according to the organisers, i.e. Aquachile, an offspring of the state-run institution Fundación Chile, which assists national aquaculture. The exhibition virtually covers everything that is necessary for modern industrial salmon farming, from boats and antibiotics to anti-sea lion nets.
Since most of the salmon is exported (see section 4.2.) in both fresh and frozen conditions, the airport in Puerto Montt has become of crucial importance for the industry in the last years. Most of the Chilean salmon starts its international travel here, through Santiago and then further, mainly to the U.S.A., Japan and Europe. As a transport hub and administrative capital the prime regional position of the city is undisputed. It attracts many commuters and visitors from the region and beyond as an administrative centre for the salmon farming industry. In Puerto Montt there are
several modern leisure facilities like a newly finished big shopping mall including a hotel and a cinema in the city centre.

The population growth of 35.4% in Puerto Montt during the last censal decade (I.N.E., 1992-2002) is remarkable, compared to the overall increase of the regional population by only 13.2% and 15.3% in the metropolitan region of Santiago during the same time. In total numbers, the city grew from 129,236 to 175,938 inhabitants. This is also significantly more than the average national augmentation of 13.2%. Such an explosive urban growth obviously causes problems for the city planners, last but not least in providing housing. Challenges become manifest in social conflicts and infrastructure - problems, like in the failed suburban project "Alerce" (Emilfork D., 2005).

The following graphs show that FDI - inflows in Chilean aquaculture and fisheries largely increased in the middle and towards the end of the 1990s, maintaining a high level in the early years of the new millennium. Likewise, the building activity in Region X has reached its highest peaks in the same time. There can be seen a correlation between FDI, salmon farming activities and infrastructure improvements in terms of building construction in Region X. Moreover, the national importance of the regional economical activities and the scope of aquaculture can be discerned by acknowledging that Region X in terms of construction activity is located third in a the national ranking while it was fifth in 1980.
Fig. 4.10.: Cumulative FDI in Chilean fishing and aquaculture, source: FDI Committee Chile, database (2005)

Fig. 4.11.: Approved and initiated construction in Region X and national rank by regions, 1980 - 2004, source: CChC, Emilfork D., (2005)
4.8. Chiloé and salmon farming activities

Chile is divided into 13 political regions. These regions were created at the beginning of the Pinochet-regime in the 1970s. Because of administrative and economical inequalities and difficulties today, the creation of 2-4 new regions has been proposed and is being discussed in the national parliament (2006). The process will probably end with the creation of 4 new regions, "Chiloé" being one of them. At the time of the fieldwork the "old" division into 13 regions was still active. Chiloé will be discussed in the context of the 10th region with the regional government being located in Puerto Montt. Chiloé as part of the 10th region is administered by a provincial governour who has his main seat in Castro, the administrative capital of the island. The province is further divided into 10 communities.

Chiloé (Chilhue [Mapudungun] = lugar de gaviotas [Spanish] = place of seagulls [English]) is an archipelago of islands located between 41° 44’ and 43° 17’ South and between 72° 45’ and 74° 30’ West. The main island is aproximatlly 250 km long and has an average breadth of 50 km. With a surface of 9,306,9 km² (archipelago 23,400 km²) Chiloé is the second largest island in South America, after Tierra del Fuego. The closest distance to the continent is the Canal de Chacao in the North (ca. 2,5 km) of the island. Most of the smaller islands are situated on the Eastern side of the main island, except a small group of islands to the South. The largest group of islands on the Eastern side are situated in the Golfo de Ancud, in the shallow sea between the main island and the continent to the East. The West coast of Chiloé is characterised by higher mountains, less accessibility and a smaller population. Only a few small islands are found in the North-Western part.

The last census conducted in 2002 counted 153,670 people living on Chiloé (INE). According to an estimate the population was at 163,186 in 2005 (INE). The Western part of Chiloé is far more scarcely inhabited than the Eastern part. The most densely inhabited area is the Eastern central zone around the main city Castro. The inhabitants of Chiloé have old traditions of subsistence through agriculture and fisheries. Since the island is geographically rather isolated, far to the south of the main economical and cultural centre Santiago, the Chilote´s identity can be characterised as special. Chilote´s "way of life" in pre-salmon times can largely be described as self-sufficient. As illustrated in chapter 2.3., for Holt- Jensen, de la Blache´s method is still well suited to the study of historical geography of Europe up to the Industrial Revolution, and also for the study of those parts of the world where society depends on subsistence economies.
Similarly to Holt-Jensen’s example of the Mormons in West America, the arrival of the Spanish in the 16th century had a long-term influence on the society and the economy on Chiloé. Most of the last names on Chiloé today are of Spanish origin and the cultural heritage left by the Iberian colonists is manifold (e.g., an active Spanish-Chilean firefighter brigade "2da compañía de bomberos de Castro"); peculiar architectonical remains are Spanish Jesuit’s wooden churches, "tejuela"-houses [i.e. clapboard houses made of local woods] or "palofitos" [see chapter 2.6]). The Spanish influence on Chiloé is historically significant because it lasted long and few other foreign influences came to the island. Over time, these circumstances created a particularly isolated mestizo culture of Spanish and natives that is different to other mestizo cultures in Latin America through unique socio-economic relations.

The original inhabitants of the island at the time of the Spanish arrival were the Chonos, which a little earlier had been partly subdued and pushed towards the archipelagos of islands further south and east of the main island by Huilliches - in pre-columbian migrations from mainland areas.
further north *(descendants of the Mapuche who again are part of the "Araucanos"- culture on the hole southern conus of South America). Few African slaves and some German, Italian, French and Dutch (pirates) settled on the island. Yet, these settlers came either much later or weren’t significant in numbers to take influence in already developed, particular socio- economic relationships on Chiloé. Throughout the centuries it was thus a mixture of spanish - indian elements, which produced a Chilote "homo ruralis" (Cárdenas, 2006) who lived on "low scale farming and fisheries". These people became out of necessity largely independent of outer provisioning throughout a long- lasting isolation.

In the 18th century, the Spanish abandoned their southern - central bases in Chile because of Mapuche uprisings - Chiloé was hence abruptly left on its own. Cárdenas stresses that a provisioning ship from the spanish viceroyalty in Peru, to which Chiloé became a direct dependency (1784) could be expected only every 1 - 3 years, supplying Chilotes with some fundamental non- local products (not unlikely of metallic origin since there are no iron depositories in the region). These ships loaded wood and some farming products from the island in order to bring them to other Spanish colonial possessions. However, Chilotes could only achieve low prices for these products and poverty through the extraction of local resources and an economic dependency - situation was known to the communities on Chiloé. This history of specific socio- economic foundations created the base for a peculiar Chilote identity, which may be taken in consideration when discussing power - relations and discourse today.

The end of spanish colonialism marks an important historical break for the socio - economic situation on Chiloé. Due to the early ethnic mixing provoked through the socio- economic necessities described above hierarchies had become rather flat (Cárdenas, 2006). Thus, the incorporation of the island into the Chilean republic’s territory through violent conquest in 1826 meant a new domination and hierarchies the locals hadn’t experienced in a long time. Chiloé was actually one of the last provinces to be incorporated into the newly created Chilean republic that was born 8 years earlier in 1818. In a final stage of annexation, Chilotes fought alongside spanish forces to defend the independence of the island until submitting to the superior Chilean troops. In this late phase of bolivarian fights for republican independences (Waldmann, 2000) Spain had already lost most of its colonial claims on the continent - Chiloé was actually the last major spanish holding in South America beside one colonial posession in Peru.
There are plans to connect the island Chiloé to the continent through the construction of a new bridge in 2010. Chiloé has been isolated for a long time and a new bridge connecting it to the continent would mean an end for the isolation and could mean an improvement of the infrastructure. It could become the most emblematic symbol for the development of the island. The bridge would last, but not least, create better conditions for the traffic of trucks carrying smolt to the island and salmon from the island to the port and airport of Puerto Montt.

Large, industrial salmon farming activities on Chiloé started in the early 1980s, in the eastern central area around Castro, an area protected against adverse weather conditions through due to the fjords and islands present there. More specifically, the community Dalcahué considered as the original place of salmon production on Chiloé. While Dalcahué makes a neat and tidy impression and is attractive for tourists because of its idyllic location and the trendy wool articles sold on the local market, Quellón has a rather pristine charme that is reflected in the more rustic rudiments of local civil life. Salmon farming activities came to Quellón later because of its relative remoteness in the extreme south of the island and a climatically more exposed location.
4.9. The community Quellón and the case study

Quellón is a good site for empirical research because the salmon farming activities recently came to the community. Thus, the impact of the industry is manifest in many aspects of actuality. The jobs in the salmon farming industry offer locals both chances and challenges. Conflicts in socio-economic and ecological terms are common for locals who earlier lived mainly of fishing and agriculture and now are on a way to development through the emergence of local salmon farming activities in their community.

In other words, the socio-economic and ecological impacts of salmon farming activities are happening right now. In Quellón the reciprocity between local conditions and global trends like the world-wide growth of aquaculture can be observed. Several questions that arise in the context of globalisation can therefore be discussed; e.g. to what extent do local factors matter for the growth of salmon farming activities? Are both positive and negative outcomes of the industry significant or rather irrelevant for the future development of the region and its communities? How sustainable is the local development through salmon farming activities?

Quellón is the community on Chiloé with the recently biggest growth of population, i.e. 45 % (1992-2002, census I.N.E. 2002). This means a total increase of the population from 15.055 in 1992 to 21.823 inhabitants in 2002 - 8.167 of these are located in a more urban centre while 13.656 are to be accounted in rural areas. Apart from being community, Quellón is one of four sectors on Chiloé according to an administrative division by the Armada, SERNAPESCA and Dirección de Trabajo (labour supervision).

It has a representative size for other Chilote communities with salmon farming activities like Chonchi (10.693 inhab.) or Dalcahué (12.572 inhab.) The population growth of these communities is 18,3 % and 37,7 %, respectively. Castro (39.366 inhab., 31,7 % pop. growth) is untypical compared to most Chilote rural communities as it is a central place with a multi-faceted economy and has a special position as a provincial capital, without being a prime community for salmon farming activities. In terms of population development, Quellón is an unusual society on Chiloé.

As the southernmost community on Chiloé it is traditionally in the less developed area of the island. Therefore, in Quellón the contrasts between low development and persistent schemes of subsistence through traditional micro-scale agriculture and fisheries and rural development through the impact
of salmon farming activities is possibly the widest on Chiloé. The dense forests in southern Chiloé were partially cleared in the recent century. Originally, the more urban centre of Quellón was founded around 1900 as a camp for lumberjacks and distillers, this contributed probably to the raw charm of the town. Most of the other communities on Chiloé date back to colonial and missionary Spanish foundations and have a longer settlement history (Pérez, 2004).

Salmon farming and processing is the most important economical activity in Quellón. There are both multinational and Chilean companies active in the place. The largest producing and processing salmon companies in Quellón are Salones Pacific Star, AquaChile (MNE), Yadran, Salones Mainstream (MNE), Fjord Seafood (MNE), Salones Invertec, Soc. Pesqu. Chillehué. According to the municipal "Infocentro" in Quellón, there are 35 salmon production sites in the community. Data from the Armada shows that since 1982 there have been given in total 227 concessions (shellfish / salmon) in the sector Quellón, and the administrative authority for maritime concessions continues to authorise concessions in the community. This indicates a still prevalent significance of shellfish production. However, in terms of labour intensity, the salmon industry is more important. Last but not least, the salmon processing plants provide a large amount of jobs in the community. There are 6 salmon processing plants in Quellón - of a total of 26 authorised marine product processing plants (Infocentro, 2006). For the year 2006, the construction of 3 new salmon processing plants was authorised.

The case - company Salmon Pacific Star’s (PS) production site "Cheter" is located in the rural community area of Quellón. The following figure shows the location of the 9 PS salmon production sites in the community Quellón and one ("Auchemo") in the continental province "Palena", also part of Region X. PS has been active in the community for 22 years and remains one of most important actors. Cheter is located ca. 5 km east of Quellón’s urban centre in the rural area San Antonio. It is one of the oldest sites in Quellón and in the early stages around 20 years ago the salmon cages in the bay of San Antonio were made of wood, while today they are made of floating concrete - and steel - cages. The site comprises an on - shore management - building and two off - shore floating platforms - one for experimental breeding and one for production of salmon. Workers on the smaller production site "Oqueldon" further south- east are also supplied by the Cheter centre. During the fieldwork in Quellón, I spent most of the time at the Cheter production site, which is the biggest in size (twelve 30m x 30m production cages + storage house), harbouring 20 -30 workers according to shift and work - load.
Fig. 4.14.: The company Pacific Star’s production sites in the community Quellón, source: PS (2006)

Fig. 4.15.: Estimated annual production growth of Salmones Pacific Star, source: Salmones Pacific Star (2006)
5. Chapter: The mainstream narrative

5.1. Introduction

In its concluding remarks, the UNCTAD´s "A Case Study of the Salmon Industry in Chile" (Montero et al., 2006) state: "the development of the industry has improved the economic status of Region X. The infrastructure (e.g. roads and bridges) in the region has improved, several services (e.g. insurance and banking) have been established and a number of R&D and training facilities have emerged. More importantly, there has been a major improvement in the general living standards. For instance, the number of people employed in the industry has increased threefold and the poverty index has almost been halved in the region."

The UNCTAD - report casts a light on technology transfers and evaluates the regional development on a basis of technological innovation and general economical macro - indicators. Likewise, the mainstream narrative of regional development through salmon farming activities is presented in other studies and retold by politicians and public media in Chile. Controversial issues like the ecological impact aren’t reflected equally in the UNCTAD - report and are also generally underevaluated if not completely ignored by the actors who dominate the discourse on the outcome of salmon farming activities for development in Region X.

The mainstream narrative is also expressed by local employees and labour - migrants from other regions in Chile who come to Quellón because of job possibilities in the salmon farming activities. Out of general conclusions made through the observation of infrastructure improvements, increased job access and an overall fascination of new economic ventures and their supposed refreshing breeze for regional development, the reputation of salmon farming activities is in principle widely positive among most of the local (employee) informants who were interviewed. Quantitative data also support this approach, indicating increased employment, job - migration, better housing standards, more paved roads, risen building construction in Region X etc. (see also chapter 2).

However, the study argues that the informants are decidedly influenced by actors who dominate a discourse that actively avoids controversial issues and views on the outcome of the aquaculture activities. The local and regional discourse on the outcome of salmon farming activities and development is significantly dominated by the prime Chilote newspaper "La estrella de Chiloe" and the X Region´s (Puerto Montt) "El Llanquihue". On a national scale, the story of the positive impact
of salmon farming activities is recounted, e.g. by "El Mercurio" and, as shown on the example of the UNCTAD - report, it finds a global stage in some international publications. A popular regional radio station ("Radio Reloncaví") has established a weekly serial programme that informs about recent news in the salmon sector. It focuses on technical innovation, employee accounts of newly established salmon - production sites or processing plants and similar economical advancements in the sector. Significantly sponsored by industry, it contributes to a generally positive public image of regional salmon farming activities and development in terms of the mainstream narrative.

It is a difficult task to identify informal ties between the media, economic and political actors. They can only be assumed due to the onesided image of salmon farming activities that is presented publicly. But the mainstream narrative is often challenged by numerous views that are more critical but attain less publicity. This indicates that the mainstream narrative only constitutes part of a "reality" concerning the impact of salmon farming activities on regional development. While this chapter focuses on a more typical argumentation around the local impact of salmon farming activities, chapter 6 will present a more differentiated view on the issue from which arguments have a potential to emerge as counterpoints to the image displayed in the mainstream narrative. Though representatives for the narratives ocassionally cross the boundaries established by this study (see chapter 2.6.), typical mainstream "narrators" are the company managements (e.g. also their association SalmonChile), politicians on different levels and the mainstream media.

For presenting the mainstream narrative in this chapter there are used interview results with various actors, largely connected to the impact of salmon farming activities in Quellón. Participant observations and statistical accounts are also included in this chapter. Moreover, there are considered several newspaper clips and brochures. The discussion in the following sections centres around local salmon farming activities and three salient issues: the general economical development (typically infrastructure improvements), the socio - economic impact and the ecological impact. The role of political intervention is also discussed in these sections. In a conclusion, these aspects will be brought together in order to argue for a broadened view on the local impact of salmon farming activities in terms of a mainstream narrative.

5.2. The general economic development - infrastructure

As illustrated in chapter 2.5., the building construction (housing, office, service and welfare facilities, transport and leisure facilities) has increased, ranking Region X on a third place in
national comparison to the other 12 regions - this has also to be seen in context of the undisputed primacy - situation in terms of construction development of the metropolitan region and Valparaiso / Vina del Mar as main national harbour terminals. However, as Emilfork (2005) suggests, there are still outspread deficits in terms of housing and especially in terms of housing quality. Access to higher- standard housing is dependent on the individual economic potency which, as illustrated in chapter 2.4., varies greatly in Chile. While housing standards in Puerto Varas (as exemplified in chapter 2.1.) are relatively high, they are generally lower on Chiloé. Only a minority of the population (not seldomly the managers of salmon farming companies) can afford the costs of livelihood in Puerto Varas, compared to Puerto Montt or Quellón.

Social housing programs aren’t uncommon in Puerto Montt and its suburbs, and also not unseen further in participant observation on Chiloé. In Quellón, as suggested in chapter 2.7., housing has traditionally been of poor quality due to outspread poverty. Still today, rather hut - like housings with plastic windows are common features of the urban and especially rural areas of Quellón. Social housing programs, yet, have also improved living standards in terms of housing in the community. In 2006, the basic observation could be made that housing standards are higher in all recent construction since salmon farming activities have had a local impact. The pavement of the road from Castro to Quellón has been a major infrastructure improvement and is by several informants seen connected to the grown importance of salmon farming activities in the community and the need for better transport access.

In succession of emerging salmon farming activities, the municipal administration in Quellón has created an "Infocentro" in order to foment communal development through concentrating and dispersing competence in different economical fields. The institution informs locals about municipal infrastructure improvements and social welfare services in the community. Community inhabitants can f.e. attend free courses in computing or "micro - management" of small - scale farming. In terms of infrastructure development in the community the department leader argues for three examples of cooperation with the local salmon farming companies:

"[1] In Quellón, we now have a cultural centre. The second construction stage of the building was financed by local salmon farming companies. It was inaugurated in the beginnings of this year (2006) [2] There is a project for the pavement of the rural road that leads to San Antonio - Oqueldan - Chayhuagua, whereby all the local companies of the sector have promised to make contributions for financing the pavement together with the Ministerio
de Obras Publicas [MOP - engl.: ministry for public works] The project is in a phase of beeing planned (...) It is an important compromise that the salmon farming companies partially finance this because the companies have a social responsibility to the community"

However, contesting the time - frame of the paving of the road the informant answers:

"The topic of administrative projects in Chile is a bit complex. It goes through different stages.(...) There have been some difficulties. It is advancing, but not at the speed we would wish. I wouldn’t dare to judge when it could become realised, maybe this year or next year. But, there exists a compromise with the salmon farming companies and there is a will to realise it."

"[3] A third example is that the municipal administration together with the salmon producing companies in the community organise the "Fiesta del Salmon", in the summer. This is a fair where the different aspects of salmon farming activities are presented and besides that there is a show with artists and competitions. Moreover, there are free appetizers for all members of the community and the tourists who wish to come."

The informant highlights the support by the salmon farming companies and argues that they have given contributions to local kindergardens, sponsored garbage bins and supported events organised by the community. Professional public relations are certainly a field administered fairly well by the salmon farming companies. Hence, bright lights such as festivities, are a typical way of shaping a splendid impression of salmon farming activities in the region. Communal leaders are certainly open to such kind of contributions. The establishment of a cultural centre has certainly to be acknowledged as being positive for local cultural life. However, the fundamental question is the question for sustainability of local development. Thereby, the courses offered by the municipal infocentro can make a contribution to development on the micro - scale. Delays in important road-improvements, yet, demonstrate that substantial infrastructure improvements in the community are constrained by bureaucracy and an unassertive cooperation by local salmon farming companies.

The public opinion concerning infrastructure improvements is therefore not unlikly to be manipulated by "cosmetics on the surface". "Flashy" new garbage bins and festivities establish a superficially positive image of the salmon industry’s impact in the community which is obviously supported by both administrative actors and salmon farming companies in the community.
5.3. The socio-economic impact: "Work for all"

The first answer given by most local employee informants concerning the socio-economic impact of salmon faring activities was: "the salmon farming activities brought us jobs and a new source of income". Such statements reflect the popular argumentation for job creation through the salmon farming industry in Region X. There has to be acknowledged a basic perception by local employee informants that salmon farming activities in Quellón in principle have caused a positive economic impact. This corresponds to a mainstream-narrative that generally highlights the economical benefits through the impact of salmon farming activities and its job creation. It is necessary to bear in mind that traditional subsistence earlier largely determined the socio-economic situation and historical poverty on the island. Therefore, this acknowledgment by the typical representatives of the counterpoint narrative illustrates the complex perception of the socio-economic impact and a common crossover argumentation between the two narratives. At any rate, the abstract dominance of the mainstream narrative is characterised by the supression of a more differentiated argumentation concerning the issue. It focuses on basic quantitative indicators and eludes qualitative aspects.

"I started working here 16 years ago. One important aspect is the social impact. In former times, people here didn’t have jobs. The men went to work to Argentina (...). The women stayed alone (...). And the other issue are the roads. In earlier times, there were practically none."

(employee informant)

Pereira’s (FAO) argument, that "salmon farming in Chile is capital intensive, but not employment intensive", supports the statement that large (foreign) investments in the industry might not lead to a significant increase of jobs. Likewise, he suggests a view common among other informants which sees successive proliferation of technology in the industry critically as it may lead to even less need for manpower. In this view, the result would be a situation that could be described as a case of "dependency", because the growth of technology like further application of automatic feeding systems in the salmon farming production indeed is a matter of large investments and these investments de facto not uncommonly are made by the more powerful actors in terms of resources, that means the dominating and better positioned multi-national companies among the salmon producers in Chile.
Likewise, Montero (UNCTAD- "A Case Study of the salmon industry in Chile", 2006) et al. argue that "the entry of large firms into the Chilean salmon industry has facilitated the introduction of new technologies and practices such as automated feeding and fish-counting systems. It has also facilitated expansion of production, fostered vertical integration and increased the average size of firms". Consequently, profits may be returned for the most part to the mother-country of the company (if MNE), while natural resources might become depleted locally. Replacing human labour force through automatised systems contributes little directly to local development in terms of employment. However, some potent national salmon producers have also understood that technological innovation now and in the future will be necessary in order to survive in an industry that has entered a "phase of consolidation", as one informant puts it, and an increasing use of technology. These companies are willing to provide further training to their employees in order to keep them in the companies as technical supervisors or in the maintenance, e.g. the company PS.

In the case of the (Chilean) company PS (among the ten biggest companies) production site Cheter, I observed an increasing level of technology, too. During the fieldwork the multi-national company Feed Control (Norwegian/Chilean, i.e. FDI) equipped the site with automatised feeding systems, in the first place replacing manual feeders, but in times and terms of maintenance still requiring manpower\(^1\). This indicates that there are potentials for job-creation that counterplay the argument of less development through further technology. The fear for further technological innovations and a hypothetical consequent reduction of employee isn’t prevalent among young employee informants. On the contrary, they rather see possibilities for further training inside the company and eventually "better" jobs and a higher income (ca. 8 of 22 permanent operators in Cheter are 18-30 years old).

"I started working in Cheter in 2004 because I made an internship in Pacific Star which was connected to my school education in the "Liceo Rayu Mapu" [technical school] in Quellón. I grew up in Quellón. I think Quellón has changed significantly in the last 20 years. The population and job-chances have increased. Quellón is the community with most fisheries activities in Chiloé. Therefore I chose to study salmon farming. Concerning the job possibilities, this is positive but, ... concerning the ecological range it isn’t. (...). There are much more job possibilities now that earlier didn’t exist. In former times the only way to earn a living was to go fishing, whereby the men left in boats. Therefore, the women didn’t work, manual feeders are required when feeding machines are out of order and technically skilled employees will be needed for the future operation of the systems
Having been asked for an account of the perception of salmon farming activities in general the informant hence answered in a typical way for most of the local employee informants. Firstly, he highlights the creation of jobs through the salmon industry, which is generally seen as positive. This is consistent with an outspread mainstream-argumentation about the impact of salmon farming activities. Secondly, he highlights chances for improving the living standard, compared to the earlier fishermen´s lifes in Quellón. Thereby, he acknowledges that the chances for a higher living standard is connected to better education possibilities than his parents for example had when they were young. Similarly, a mainstream argumentation also focuses on the emergence of training and education facilities through salmon farming activities (see Montero et al. (2006), INTESAL (2006)).

However, the informant also addresses two key issues which repeatedly appeared in the interviews with the employee informants, i.e. the perceived ecological impact and the labour conditions (low wages and problematic labour conditions). This will be discussed further in chapter 6.3., as part of a counterpoint-narrative on the salmon farming activities. Interestingly, the older operators have a more sceptical view on further training and future prospects in the salmon farming company. In the start-up phase, they often started working in the salmon farming activities with poor earlier education. This explains also the outspread use of basic divers without training in the industry. The "older" generation of divers for instance was largely recruited as original shellfish-divers who traditionally used poor equipment and (in many cases still today) don´t know how to use decompression tables\(^2\).

\[\text{"I left school after the fifth grade. From there on it was working, no more. We could have studied outside the island or in Castro. My brother could have studied in Castro, because he was a good student. But, we had little money because there were no jobs. We had to make a living working in the farm and selling some wood. My father also left to work in Argentina. We had some animals, mainly sheep. Later on, my father worked in the distillery. Since there were no jobs, the state founded a distillery where alcohol was produced with wood, here in Quellón. Many people worked there, everybody had familiaries, there." (employee informant)\]
without much money. Why? Because they had their little farm with some animals and besides, they had the sea, where they could go fishing and collect shellfish." (employee informant)

Local (employee) informants address qualitative aspects like the obsolete job - migration through new local job possibilities. However, they typically tend to argue for the general economical development like infrastructure improvements (roads) when speaking of the salmon industry’s socio-economic impact. As indicated by this individual view, the widespread argumentation in the mainstream narrative is characterised by a focus on general, quantitative aspects. The general use of economical macro - indicators thus affects counterpoint - narrators like the employee informants which absorb mainstream arguments. Likewise, asked for the social impact of salmon farming activities, the leader of SalmonChile (the association of salmon farming companies) points out that: "In this moment, Chile is the second largest producer of salmon and the prime producer of trout, in the last decade the industry expanded at a average rate of 22 %, (...) the industry employs 53,000 people directly and indirectly (...)" (interview in the magazine "Visión Acuíola", No. 79, p. 40, 2006). In this way, the concept of "social impact" in the mainstream narrative is thus characterised by a quantitative, economical language which is propagated by prominent actors, diffused by the media and absorbed to a different degree by typical counterpoint - narrators.

5.4. "Ecological production"

Recent studies are well aware of the ecological impact of salmon farming activities in Region X. Likewise, Montero et al. argue "The Chilean salmon industry has yet to attain the efficiency and environmental standards of competitor countries such as Norway. The technologies needed to handle waste, reduce the use of antibiotics and improve the harvesting of fish are just emerging. Similarly, the regulatory agencies have not kept pace with the rapid expansion of the industry. This is important in ensuring that the environmental standards are maintained for the future development of the industry."

In fact, ecological sustainability has recently emerged as a major issue in administrative programmes and publications by various salmon farming industry organs and other media in the region. Simultaneously to the fair AquaSur 2006 there were arranged seminaries and workshops concerning the ecological sustainability of salmon production, drawing on experiences from other salmon producing countries such as New Zealand and Norway. One of the important organs of the salmon farming industry, Visión Acuícola (Nr. 79 / 2006), gives an account of a workshop...
concerning the sustainability issue, based on a programme of cooperation between Chile and Canada. There are hence international initiatives based on cooperation and exchange of experiences which aim at more ecological consciousness in Chilean salmon farming activities. An outspread argument in the mainstream narrative is also that ecologically sustainable production is improved through automatised feeding systems. Ecological ISO standards in Chilean salmon farming companies increase in importance because of the successive consolidation of the sector. These endeavors are also picked up by the media and supported in statements made by politicians.

The subsecretary for fisheries, Felipe Sandoval, argues in a special edition of the national newspaper "La Nación" (06 / 2005): "The fisheries sector is a leader in economic growth and in the generation of jobs in our country. The accessible resources by the public sector for investigation and control have duplicated in this period [last 5 years]." Concerning the ecological impact of aquaculture he argues that the subsecretary for fisheries has implemented a "conceptual framework" which grants a "sustainable development of the activities". According to the administrative approach, there are three principles for the shaping of National politics of aquaculture: "economical growth, ecological sustainability and equity in access".

The basic national legal framework for the managing the ecological impact of salmon farming activities is the so-called "RAMA" (Reglamento Ambiental para la Acuicultura, SUBPESCA). In sectoral supervision the administrative SERNAFESCA is supposed to control salmon farming companies to comply with the legal framework. In the case of Quellón, this is enforced by a sectoral department of SERNAFESCA with 5 "fiscalizadores" ("law enforcers"). Concerning the impact of salmon farming activities on regional and local development the head of the department in Quellón argues in a typical way for the mainstream narrative focusing on the general economic development.

5.5. Conclusion

In the terms of the mainstream narrative, regional development through salmon farming activities in Region X is guaranteed through a focus on quantitative indicators. The argumentation in the narrative is characterised by the use of an economical terminology. Typically, production - and export - accounts, employment numbers as well as FDI cyphers (see also chapter 4) are used to create an image of a prospering industry in Region X. Promising chances for further expansion of the sector in Region X and Region IX are pronounced in light of positive location factors such as low production costs and good environmental conditions. The lasting of these factors is commonly
supposed to be guaranteed by a growing sustainability of the regional salmon farming activities in the region. An increased adoption of international standards in the sector supposedly encourages social and environmental responsibilities of salmon companies. A growing research apparatus and a big supplying sector for the regional salmon farming activities are acknowledged to display the positive radiation of salmon farming activities for regional development. Region X has become a stage for the appearance of a "cluster", speaking in the economical terms of the mainstream narrative.

Infrastructure improvements such as more paved roads, better transport facilities, better changes for higher education are typically associated with the impact of salmon farming activities and highlighted by the mainstream narrative. Socio - economic improvements for the regional population are generally presented as a positive effect of salmon farming activities. There exists a widespread regional consensus that the increase of jobs and introduction of stable wages benefit the regional population. Potentials for higher education and consequent socio - economic ascension are typically pointed out. The ecological impact of salmon farming activities is poorly addressed by the economical language of the mainstream narrative. Through enhanced productivity and technological innovation a public impression is created that ecological sustainability of the sector is successively granted.

Sustainability of regional development is becoming a more and more popular phrase in the public discourse on salmon farming activities. Salmon farming companies in Region X seem to address the sustainability question of their activities busily in the consolidating sector. Successively concerned with international standards, ISO normatives and administrative regulations salmon companies react with programmes for better management of human resources and ecologically sustainable production. Publicity through company - internal social welfare programmes and financial donations to communities are popularly aimed at shaping a positive image in socio - economic terms. Ecological responsibility is similarly shown through corporate identity measures and public relations activities. Strategical cooperations with the media seem to be a part of salmon farming companies policy to shape a positive image of their activities. The mainstream narrative is a popular public image that is constructed by salmon farming companies as a point of origin. It is absorbed by the media, politicians and the regional population (working) in - and outside the sector. The role of the mainstream narrative in the discourse on salmon farming activities´ influence on regional development is thus imperative.
6. Chapter: The counterpoint narrative

6.1. Introduction

Adressing the ecological impact of salmon farming activities Montero et al. (2006) argue: "the Chilean salmon industry has yet to attain the efficiency and environmental standards of competitor countries such as Norway. The technologies needed to handle waste, reduce the use of antibiotics and improve the harvesting of fish are just emerging. Similarly, the regulatory agencies have not kept pace with the rapid expansion of the industry. This is important in ensuring that environmental standards are maintained for the future development of the industry". Thus, the UNCTAD- report includes a critical assessment of salmon farming activities and development in Chile. Yet, originated in its overviewing approach and focus on indicators such as knowledge transfers and technological innovation, it lacks consistency when it comes to judge the sustainability of development and to analyse it on a lower geographical scale.

With focus on cultural change and the socio-economic impact of salmon farming activities on a community level on Chiloé, Barrett et al (2001) argue more critically: "A modernist perspective on economic growth underlies the salmon farming boom in Southern Chile. From this perspective the growth of industry is nothing less than a blessing to a marginal region that has been mired in poverty for generations. Social sustainability will come as households are given a opportunity they did not have before to gain modern skills, experience, training, and an education. The disparity between the high profits in the industry and the low incomes of the population are a small price to pay for these benefits to the community. Eventually, the living standards of the population will improve. Disruptions, such as the damage to an antiquated road system caused by industry trucks, are temporary obstacles to be tackled on a case-by-case basis".

Contrasting to such outspread argumentations, Barrett et al. state that "there is substantial evidence that surplus labor, low wage levels, and poorly enforced or non-existent health and safety standards are conditioning factors in the growth of the salmon industry. Further evidence indicates that the traditional lifestyle, namely that of fishing-farming subsistence households, which has characterised Chiloé for generations is not being abandoned as rapidly as expected. While modernity, in the form of increasing consumerism and the creation of a credit-based society, is advancing in the communities. Overall communities seek to adapt to the new conditions presented to them as modern industry tends to impose its presence."
In 2006, the authors criticism of the "modernist" view and the social realities in Chilote communities have still actuality. Contesting the case of Quellón, the empirical results of this study concerning the socio-economic impact indicate similar effects of the salmon farming activities as Barrett et al. depict. Moreover, a perhaps further outcrop of ecological consequences throughout the last 5 years is constituent of a narrative that opposes common arguments of the mainstream narrative of development in Quellón. The sustainability question of development through salmon farming activities is seen far more critically in the counterpoint narrative.

This chapter endorses an argumentation around the salmon farming activities in Quellón and the local infrastructure situation, wages and labour conditions in the industry, the perceived ecological impact and the political intervention. Finally, a conclusion will sum up the arguments and discuss the outcome in terms of a potential counterpoint-narrative to the narrative presented in chapter 5. Participant observations and local informant interviews are constituent to this exposure of a counterpoint-narrative on the impact of salmon farming activities in Quellón.

6.2. The general economic development - infrastructure

There are remarkable income-differences between managers and other employees generally in the salmon farming business. Hence, an argumentation for local development through employment has also to be seen critically in terms of the levels of the salaries and amounts that are spent locally. The income-flow out of the region can only be estimated, yet it may be notable, considering that most managers aren’t locals, that they commonly have family somewhere else and thus their lifes rather circle around the urban centres Santiago, Puerto Montt or Puerto Varas and that they frequently only spend the working days in the rural production areas like Quellón (in the case of Pacific Star in company-owned houses close to the sites or the offices). In this way it is also relevant that those who actually spend there money largely locally are the local workers and that their salary may be around eight times less than what a manager earns.

In terms of rural development, this kind of resource-streams out of the community may have a significance for the local economy. The introductory description of the casino in Puerto Varas and the salmon industry’s profiteurs emblematic demand for a "better" lifestyle than in rural communities like Quellón might be described as a kind of "Dependency"-situation. Managers working in Quellón "extract" local resources, yet they prefer to spend their income in more urban, developed areas. At the same time, necessary local improvements like in transport infrastructure, educational and medical services are poor and apparently sidelined in priority in public spending or
constrained by bureaucratic hinders.

"I think that in former times, some years ago, our [economic] situation was influenced positively by jobs in the company. We got semestral and annual bonuses that allowed as more than mere economical survival. Though it is bad for the health to work in the salmon farming activities this was a positive aspect, originally. At the same time, the young medics that come to Quellón only come for training, the service they provide is unprofessional. They leave soon, after coming [to the community]. For some reason good doctors don’t want to stay in Quellón. (...) Therefore, I think the influence of the salmon farming companies in Quellón isn’t good. As much as they demand from their employees to perform well in terms of productivity, as much should they care about the welfare and health of their employees. But it is not like that. There is a appearance that a person in charge of human resources would care about the welfare of the employees. Only recently, we [the employees] realised that she actually exists. (...) I have a sick girl of 8 years. I want to get treatment for her. My husband and me asked this person for support by the company several times. But they haven’t responded. They demand too much from the people and when it comes to help them they ignore them." (employee informant)

In fact, the case company has made several donations to local public institutions (schools) and maintains for example a day nursery for the youngest children of its employees. Yet, many employee informants criticise these support to be marginal and only motivated by wishes to create a good public image. Many local informants also perceive the lack of more important municipal infrastructure improvements such as better health care services and road improvements. This is also indicated by statistics of communal spendings for social and cultural welfare programmes. The total amount of founding almost quadrupled from $ 10.569.000 to $ 38.767.000 in the period 2000 - 2005 (INAMA). Yet, its percentage of all communal spendings maintained a low level from 1,43 % in 2000 to 2,85 % in 2005. A public debate concerning the whereabouts of main municipal spendings is confined by local media that intriguingly concentrates on the few minor infrastructure improvements such as the cultural centre.

Looking at the example of the roads in Quellon, an participant observer finds that there is a general lack of paved roads, compared to communities of the same size, like Puerto Varas. For instance, the main access road to the researched production site Cheter and the neighbouring process plant, management offices and housings as well as the freshwater production site of Pacific Star is in a bad, unpaved condition. This access road is part of the municipality Quellon, though it leads into the outskirts of the parish where more salmon farming sites than private housing areas are to be
found. The local authorities are hesitant to spend money on road improvement in this area, so far already facing a lack of resources for pavement in centre areas. Private salmon farming companies in Quellón don’t feel urged to provide resources for the improvement of the roads, arguing that this is "public responsibility" (municipal informant). The main access road to Pacific Star’s sites is largely in a bad condition due to the heavy traffic of salmon trucks and supply transports for the facilities (ironically but symptomatically the company sponsors garbage bins along the access road to its sites, which actually doesn’t have a sidewalk).

Local public benefits of the salmon farming activities aren’t high enough to sustainably improve the infrastructure and living standards in Quellon, though the industry at the same time expands massively locally (a new shipping terminal for local industrial supply and the future expansion towards the projected and partly active salmon production centres around the islands further South of Chiloe was recently opened close to Pacific Star’s facilities in Quellón). Private companies like f.e. Pacific Star have taken social responsibility in financing a kindergarden for their employee’s children in Quellon and the salmon farming industry’s organisation "SalmonChile" has sponsored a communal cultural centre. Yet, the question for the local costs seems to be outbalanced negatively by the benefits the salmon farming companies extract in terms of high yields thanks to low local wages, lax public control of working conditions and of the ecological impact of their activities, in the eyes of many local informants.

"In the last 4 -5 years we [the employees] haven’t recieved the bonuses that were common earlier. In those former times, it was good to work [in the salmon farming industry]. The last bonus I recieved wasn’t worth talking about. I was hardly able to pay the school shoes for my son with it. I really don’t see any economical future, it is very difficult. That is the reality. Some people are satisfied with what the situation, but I’d like to live better than with minimum standards. I would like to have a house and something I could give my sons a chance with." (employee informant)

Managers living in Puerto Varas prefer to access services of higher quality there, which also is the reason for why they often have "weekend"- families living there. In this way, the manager’s families, not unrarely, f.e. have access to better medical services in the community or in the regional hospital in Puerto Montt and their children get a chance to visit the private "German school" in Puerto Varas which has an outstanding reputation compared to the schools in Quellón. In conclusion, children in Puerto Varas for example get a better kind of "starting position" required for rising high in Chilean strata of society and economy (as described in chapter 2) than if they would live in Quellón. In Quellón comparable premises in terms of good local infrastructure, i.e.
education, medical services and even the most basic needs such as proper housing, clothing and nourishment aren’t given, in the eyes of local informants. This contributes to tendentially permanent socio-economic inequalities which are passed on through generations and manifest quite distinctively in local development as described in the comparison Puerto Varas / Quellon.

6.3. The socio-economic impact - jobs, the income situation and labour conditions

Local informant interviews indicate that a socio-economic impact in Quellón is largely characterised by a rapid change of the livelihood. As illustrated earlier, subsistence, e.g. an economical outcome without a stable source of income has imprinted a traditional local lifestyle characterised by the custom to only cover most basic needs. With the salmon farming activities there came a new source of stable income for many. But locals also had to adapt to patronisation and fixed working-shifts. Off record, some employers complain about singular cases where Chilotes’ habits of not appearing to work punctually or missing for several days without explanation. These aspects can be seen connected to a local, traditional identity ("homo ruralis") that is challenged by an alternated way of livelihood. As Barrett et al (2001) note, the socio-economic impact of salmon farming activities in Quellón also means tendencies to increased consumerism and a credit-based society that more than occasionally is tempted to enter a dangerous domain of debt. Typically, the pace of growth of salmon farming industry in Quellón is perceived in an asynchronous manner compared to the benefits of its socio-economic impact for locals.

"I have worked 8 years in the company and I am originally from Quellón. The wages are generally low in the salmon farming industry (...). There have come many people for work to Quellón. I see more complications than positive sides with that aspect. Basically, nothing has changed for the people in Quellón, they have jobs now but the conditions for life remain largely the same. The wages are so low. We have stable jobs now, but they aren’t well paid."

(employee informant)

Several employee informants highlight that wages have diminished in recent years, contrary to the mainstream approach that implicitly argues for a constant growth of wages that is correlated with the growth of the sector. Employee informants in the case company state that they could earn around $800,000,- extra per semestre through production bonuses. Today, production bonuses have diminished to the degree that they earn the minimum wage of $127,500,- per month with sporadic
bonuses that might not surpass $40,000,- per semestre. This is commonly attributed to changes by the company which stopped paying the earlier common bonuses 4 - 5 years ago, informing the employees that production quantities weren´t sufficient for paying the bonuses. Many employee informants thus perceive an unfair cost - performance ratio in the salmon farming industry that has deteriorated in recent years.

"There is a central problematic issue with the impact of salmon farming activities, in Quellón. When there are people who don´t have jobs, it is very easy to get very good labour force at very low costs. Throughout the growth period of salmon farming activities the costs for labour force costs have remained at a low level - this is a situation we also face today. For the workers, they [the company] continue to pay the minimum wage. Inside the company we have a commission to negotiate exactly this issue. (...) Because of the poor education of many employees - many here don´t have more education than 8th grade - there is little awareness of the legislative labour standards the company actually is tied to. In the company, we have to comply with ISO-standards. We have a chance to provide further training in the company. If the people would become better informed and better educated, they would have a better understanding for these issues. I hope we can achieve a change of mentality of the people and better labour conditions for the employees." (employee informant)

Many employee informants highlight the benefits of permanent employment and a fixed income, but also criticise low wages and poor labour conditions in terms of a subdued counterpoint narrative. While the increase of employment in Quellón based on the salmon industry is widely acknowledged in terms of the mainstream narrative, there are frequent doubts among locals about the future outcome for their individual economic situation. Many employee informants utter concerns when it comes to discuss the costs of livelihood in terms of housing, education for their children and health services. Commonly, they argue that wages aren´t high enough to cover the expenses. Therefore, persistent subsistence traditions besides their jobs in the salmon farming industry are no uncommon feature for original locals. Labour - migrants to Quellón apparently tend to cover the expenses through extra work. Likewise, on the site-case there worked two generations of one family, i.e. father, mother and son. "Youngsters" from local schools are also likely to do an internship in the company, following work-shifts for several weeks. There were three such cases at the site Cheter during the fieldwork. These interns obtain an enhanced option for labour by the company, when finished the compulsory school (preferably the optional technical school).

In consequence, there is constant stream of new labour force that readily looks for jobs in the salmon farming industry in Quellón. Both locals and labour migrants constitute a well-filled pool
of labour force for the industry. On the one hand, young employees (who commonly aren´t older than 18 when they start working), thereby contribute to the stretched monthly budgets of their families. On the other hand, they seldomly gain more education than the provisional school. Occasionally, they remain in a cyclical replacement by generations of labour force in the salmon farming companies that draws on "cheap" local labour force for basic tasks, while it recruits more educated personnel from a more exclusive pool of higher educated (f.e. aquaculture engineers) employees who commonly are labour migrants from the more potent central region in terms of economy, infrastructure and education. Though for young local employees a job in the salmon farming industry often is attractive, they typically also see their future in the industry critically:

"The positive thing is that you don´t have to go far away anymore to get a job. I like the job at the salmon production site because I like to work at the sea. (...) But I dislike the low wages. The wage at $ 127,500,- is very low. There has been a semestral bonus for production amounts, but in reality this isn´t considered anymore. (...) At the moment I am not so affected by the low income because I live with my parents, I don´t have an own family or extra [economical] responsibilities. But as soon as I will have an own family or want ot earn more money I will have to leave. I don´t think the wage will improve and we will get more benefits though we are negotiating with the company at the moment. All the employees here want better wages. That is the most important thing at the moment." (employee informant)

Local employees perceive problems through the socio-economic impact of salmon farming activities connected to the rapidness of change. Often, the parental generation is concerned about future prospects for their offspring. If it can be afforded, many prefer their children to be educated further instead of taking a job in the salmon farming industry. The often perceive its impact as unsustainable for socio-economic advancement because locally it doesn´t significantly improve chances for socio-economic ascension. Likewise, an employee informant whose wife works at the same site and who earns slightly more than others on the site argues:

"I have two daughters. So far, they go to school in Quellón. It is expensive to send them to school after that and there is no good further education in Quellón. But I want them to study more after school, so I will send them away to study." (employee informant)

As shown in chapter 5.3., local employee informants generally highlight a positive outcome of salmon farming activities on local development through the creation of jobs. In further questioning the employee informants tended to relativise their generally positive utterings about the personal economic impact of salmon farming activities due to relatively low or diminishing incomes.
Generally, wage levels are low in Chile. The mandated minimum wage for workers is $127,500,- per month (ca. US$ 240,-). Commonly, the employee informants in the case company earn between $127,500,- and $250,000,- per month. A manager wage in the salmon farming industry is specified to be around $1,000,000,- per month (ca. US$ 1,900,-). These wage discrepancies are widely perceived to be unfair by numerous employee informants. Common socio-economic inequalities are thus perceived to also prevail in the salmon farming industry. Female informants tended to address the socio-economic impact of salmon farming activities more specifically than their male colleagues. Commonly, they put it in context with other aspects like local health services and the education situation faced by their families.

"In fact, there are some very good things about the company that appear in the media - like donations to the community. Through their publication in the TV and the radio they create a very good image of the company. But they don’t treat us, the employees as they should or as it seems to be viewed from outside. My husband and I work at two different sites for the same company, but we don’t see a [economical] future because we still have to rent housing with two children, one of them is sick. We rent a single room for the family. With the costs for education, housing, wood for heating etc. we can’t afford more. We earn a wage like any other operators in the salmon farming industry. Recently I saw a person in the news who said that the salmon farming companies take care of their employees, generally paying more than $250,000,- (ca. US $ 470,-). But I think it is even internationally known that it never is like that. That is something they only say. (...) As workers we achieve half of that wage, with luck. It is a lie that Chilotes earn a lot in the salmon farming industry. Earlier, we got annual and semestral bonuses. You could make a decent living with that, some could even afford a small house. I didn’t have the chance to study because I would have had to go far away for it and my family couldn’t afford it. I hope my sons might be able to study further than me, one day. But with the situation we face at the moment, I don’t think it will be possible. What we [the parents] earn at the moment hardly is enough to survive. It is pure propaganda that the company takes care of its employees, because it isn’t like that. Likewise, they say they fulfill the ISO normatives, but I think the company doesn’t even fulfill half of them.(...)"

(employee informant)

As argued earlier, the chance for higher education in Chile depends largely on economical potency. The segregation in terms of access to education through a socio-economic rift between Chileans from different regions thus manifests in Quellón through the fact that the vast majority of basic employees (operarios, guards etc.) in the salmon farming company in Cheter are locals while f.e.
the site manager is a labour migrant from the north of the country who was enabled to study in a university due to his economical starting position. The poor chances for socio-economic ascension through higher education and better wages are hence constrained by fundamental socio-economic discrepancies and a rift between locally different access to higher education. This creates a dependency-situation for many local employee informants who commonly are well aware of this aspect but feel tied to complain publicly because they fear for loosing their jobs and conform with the mainstream narrative.

During the fieldwork the internal union activists of the company PS collected signatures of the employees in the different production sites and plants. The signatures would be presented to the management, requesting a general pay increase and better labour conditions. Yet, in the case-production-site Cheter, none of the employees was willing to sign the petition. There was outspread sceptisism about the use and purposefulness of the campaign. In other words, the employee informants were indeed interested in the goal of the petition, yet were careful to utter this publicly. Standing up for the cause was hence inhibited by an outspread preference of criticising the company in anonymity.

The quantitative growth of jobs through the salmon farming industry thus hasn´t significantly improved a basic socio-economic situation of locals in Quellón. The qualitative data concerning the factual labour situation and economic outcome for the "normal" employees shows that employee informants perceive dependency through patronalisation, low wages, poor chances for higher education and consequently blocked ways for improving their own or their offspring’s socio-economic position. Typically, original locals perceive competence for jobs with countless labour migrants. They often argue that this competition for labour constrains there chances to negotiate better wages and labour conditions with the company. Sustainable socio-economic development through salmon farming activities in Quellón is arguable in light of such fundamental hinders for further improvement besides the "new" situation of access to jobs and fixed incomes.

"There are coming more and more people from outside [the community] to find labour here. They are mostly better educated. This also means competition for local employees that haven’t even visited the technical school in Quellón. Some of them only went to school until the 7th or 8th class and do their jobs according to the working experience. Yet, the companies want better educated employees. So, there are complications, because the management says for example: we have 500 employees, of these there are 100 employees who only have basic education skills. On the other side, we have 400 better educated persons who apply for a job in the company and would do the job for the same money that [the less educated] employees
earn. So, there is a lot of pressure on the jobs and wages. In fact, on this site we have only one employee with technical education. It is like a time bomb. Socially, this creates a very tense situation." (employee informant)

The quality of the jobs in the salmon farming companies and the general socio-economic outcome is likely to be examined critically by most employee informants in terms of a counterpoint narrative that contrasts a mainstream narrative which focuses on the benefits of a mere quantitative increase of jobs in the region. Due to economic dependency on their jobs in the industry locals perceive arguments in terms of the first prevail over their qualitative perception of the socio-economic impact in terms of the latter narrative. They perceive this domination both in public debate and company - internal discourse.

6.3.1. Problematic labour conditions - the diver´s case - a symptomatic issue

One of the most emblematic issues for problematic labour conditions in the industry is the situation faced by over 3,000 divers in the regional salmon farming industry. The divers often work in small firms that provide service through subcontraction to the salmon producing companies. Especially bigger companies tend to subcontract these kind of diving services, passing on responsibilities for labour security. Most of the divers working in the industry are original shellfish- divers without training who often lack basic knowledge, e.g. of decompression tables.

"All [salmon farming] companies work with "contratistas" [engl.: contractors]. There lays the problem. Thereby, the companies free themselves from responsibility. Besides that, there is a lack of control by the maritime authorities [the military navy]. The managers of the companies and the supervisors of the production sites have to understand the dangers that are comprehensive to the diving. You have to change the mentality to improve the security of the workers. It is a great task to change the culture [of labour practice] that exists. We [the diving teachers] are working in changing the perception and it isn’t easy."

(diving company proprietor, diver union representative)

The diver’s tasks on the production sites include repairing nets, "cleaning" nets (extracting dead salmon from the bottom of the nets) and maintaining sea- lion protection nets. Regularly, divers suffer grave health damage (e.g. embolisms because of poor or non- fulfilled decompression when surfacing) or not seldomly lethal accidents happen when they use poor equipment (e.g. inhale CO2 due to defect air compressors) or get trapped in anti- sea- lion nets and drown. The national NGO
"Ecoceanos" maintains a list of deaths in the salmon farming industry whereby strikingly many lethal accidents are accounted - 16 in 2006. Diver deaths are also one of the few publicly known problems of the industry. Likewise, the regional newspaper "El Llanquihue" published this title in...

In the case company PS and the site Cheter divers were employed directly and during the fieldwork they were receiving training in the site, using new equipment according to a recently adopted diving regulation (2005). Divers from Cheter and other PS sites continued to work in shifts while other shifts received training. Throughout the stay the divers on the production site continued diving with the equipment they had used, so far. In participant observation, hence, I could follow the implementation of new diving equipment and the further use of "old" equipment. One of the local divers on the production site describes the common diving conditions in the salmon farming industry as following:

"The salmon producing companies don’t want to take responsibility (...) we [divers] are doing a dangerous job (...) we are using tubes that aren’t apt for diving. Yet, on the tube it says "para buzos" [engl.: for divers]. Sometimes we [the divers] don’t get enough oxygen because of a bend in the tube or because we breathe in exhaust gases. According to the new regulation we will have to use tubes which allow us to communicate with the surface through a facial mask. I want to use better tubes with more millimetres of diameter and a more robust texture - but they [the companies] don’t pay it - they want to save money - those are bad working conditions" (employee informant, diver)

Further, the informant describes a common aspect of diving in the salmon production sites according to his experience, also having worked earlier for a subcontracted diver company in production sites of various salmon companies:

"We are supposed to dive to a maximum depth of 20 metres, no more. But, the nets go down to 23 - 25 metres, here - I have been diving down to 37 metres [in other work orders] - I have a colleague who has gone down to 48 metres - this is known to everybody, but nobody

3 The "new" regulation prescribes the use of facial masks which allow communication through a wired tube with the surface and the use of emergency bottles additionally to surface- provided oxygen through tubes and air compression

4 These are plastic tubes that can be bought in local "ferreterías" [engl.: hardware store] and are traditionally used by Chilote shellfish divers in combination with an air compressor which most likely is combustion driven. The tubes are practically identical with hose pipes used for watering garden plants. Due to the narrow diameter and not seldomly malfunctioning compressors divers often lack of oxygen supply under water. They often inhale exhaust gases emitted by the gasoline - driven compressors. In some cases divers have to emerge rapidly to the surface due to mechanical problems with old air compressors, hence risking significant health damage because they don’t decompress properly. Physically paralysed men who suffered of embolisms due to inadequate decompression in diving are no uncommon sight in Quellón.
Another informant, who is proprietor of one of the competing diving companies providing services in the salmon farming industry and simultaneously representative for the regional "federación de buzos" [engl.: diver union] provides an intimate account of the factual situation divers face:

"There will be more diving accidents, because the salmon producers are using more and more deep cages, because the production sites are so far away. Make cages deeper and you can produce more effectively. They [the companies] want to reduce costs and rise the effectivity of production, that means more risks. There are ca. 3.000 divers in the regional salmon industry, 94 % are "buzos mariscadores" [engl.: shellfish divers or basic divers] and only 6 % are "buzos comerciales" [engl.: comercial divers]. "Buzos mariscadores" are only allowed [by regulation] to dive down to 20 metres, "buzos comerciales" are allowed to dive down to 36 metres if they have training and use the proper equipment ["equipo intermedio", according to the new diving regulation]."

(diving company proprietor, diver union representative)

Concerning the training of divers according to the new diving regulation the Chilean military navy is responsible for training, examination and control of the application of the regulation. Yet, the informant sees the navy’s role and fullfillment of control rather critically:

"The maritime authority, the Armada [engl.: military navy] is responsible for the training of divers, yet it is inefficient. Of 200 diver trainees maybe 10 pass the exam [to become "buzo comercial"]). The new norms have been used for 1 year. Yet, all of them [the divers] continue to dive down to 36 metres even if they didn’t pass the exam [and officially aren’t allowed to dive to that depth] and remain basic divers. The training provided by the military navy is very basic. They ask for a written and practical exam though we [divers] would only ask for a more thorough practical examination."

(diving company proprietor, diver union representative)

In fact, many divers don’t pass the navy’s exam because of their generally low education and poor reading, writing and calculating abilities. Therefore, they also have difficulties using decompression tables which are compulsory to the navy examination (and actually necessary for any diving endeavours bellow 3 metres). Concerning future diving enterprises the informant thus argues from a general and a personal stance:
"It is a general phenomenon, the conditions remain the same. One diver dies per month. I am a diving business entrepreneur. I have to work [his employed divers] with the bad working conditions because I have no alternative. There is lots of competition on the [diving subcontraction] market."

(employee informant, diver)

Divers in the salmon farming industry hence face forthcoming difficult labour conditions, while the public opinion of the issue is shaped by an image that illustrates an improvement of labour conditions in this dangerous job through new regulations. Seldomly, like illustrated with the newspaper title, the real dangers of diving in the salmon production sites are known and presented in public media. Through future spatial movement towards the south, establishing more isolated and outspread production sites in Region IX, the salmon producing companies may make a further evasive step away from public attention and administrative control of problematic labour conditions on the production sites. The continuing practice of subcontraction by the successively expanding big salmon companies is an additional element of dynamism to this policy of avoiding responsibilities and "circumnavigating" regulative norms. Lax administrative control of regulations in a competitive market inhibit substantial improvements for the diver's dependency situation in terms of job security.

6.4. The ecological impact of salmon farming activities

When a worker on a salmon farm f.e. was asked what he thought about the ecological impact of the salmon farming activities, the response could vary significantly between no comments at all to "profound" analytical answers that for example reflected on a negative historical development of local fisheries, related to a supposed ecological impact of salmon farming activities. In other words, local informants tended to connect the impact of salmon farming activities to "their" local social and ecological environment and give both positive and negative critical attributes to the impact, whereas non - locals typically didn't do so at all or just in a sidelined view.

The local employee informants sometimes even related to still present habits of farming and fisheries which they pursue in addition to their jobs in the salmon farming industry ("weekend" - agriculture). The reason for such specific local socio - economic existences was regularly related to low incomes in the industry. Further questioning was also likely to provoke an argumentative "flashback" of local informants to former times, when living in the local community still was
determined by subsistence through agriculture and fisheries (some informants saw these former ways of life endangered by salmon farming activities, for example because local native fish species or mussels disappeared or toxic residues now impede their consumption). Some of the informants automatically focused on the ecological impact when talking about the general impact of salmon farming activities. Especially many divers who originally were shellfish divers from the region and now work in the salmon farming industry are sensitive to the ecological impact of salmon farming activities. Commonly, the disappearance of natural maritime resources like sea urchins and various sorts of fish and mussels that traditionally were caught is connected to over-exploitation and water contamination caused by the salmon farming industry.

"Earlier I was diving for sea urchins. This changed with the arrival of the salmon farming industry sea urchins are widely extinguished and you earn better in the salmon farming industry. All the kinds of contaminants [from the salmon production sites] like feed that falls through the cages and other garbage that is just dropped in the sea from supply boats is washed away with the tide, therefore, the sea seems to be clean.(...) Where you have the streams caused by the tidal waters [tidal waters can vary 6 - 7 metres in height on Chiloé], you don’t see the contamination caused by the salmon farming sites. On the sea floor it accumulates. We have had talks about how to take care of the environment. But, if the practice remains the same, the ecological impact will be irreversible. It is necessary to take much more care [of the environment]."

(employee informant, diver)

Artisanal fisheries have been traditionally strongly represented, Quellón. Today, artisanal fishers on Chiloé are organised in various federations and they try to obtain publicity for their concerns connected to salmon farming activities on Chiloé. The local representative for Quellón is simultaneously president for the provincial artisanal fisheries federation. He perceives concrete problems concerning the ecological impact of salmon farming activities that aren’t debated on in a mainstream narrative he argues to be dominating the public discourse.

"Quellón is the community with the biggest artisanal fisheries activity [on Chiloé]. Today, to be an artisanal fisher is no decent job, anymore. There are 2 central problems with the salmon farming companies: [1] they occupy more and more coastal areas that traditionally have been used by artisanal fisheries and [2] they contaminate [the water]. Today, we [the artisanal fishers] have to go up to 20 [sea] mile away from the coastal areas to catch fish and shellfish. (...) It is a constant struggle to be heared with these complaints from our side. The
politicians and the companies have the power, it is very complicated. You have to argue with the politicians, which is very tiring. (...) They typically conceal such issues in the media. They conceal it in the newspapers and in the radio." (artisanal fisheries federation, president)

Growing interest conflicts between locals who perceive their natural environment as endangered by salmon farming activities also tend to manifest in criticism of job - migrants who in the eyes of locals have little understanding for local mentality and traditions, and sensitiveness to the natural local environment. However, the main criticism by locals is expressed concerning the salmon activities in general and in the community. Locals perceive changes in the local natural environment. Local artisanal fishermen observe that their catch diminishes generally and certain species (for example Merluza) aren’t caught, anymore. In their view this is caused on one side because of overfishing in recent years, but also by a supposed environmental impact through salmon farming activities through water contamination. Local informants who work in the industry are critical to their "own" environmental impact through their jobs in the salmon farming activities, observing the water and sea - floor contamination by algue - growth and sedimentation on the sea floor (observed by divers).

Local informants also perceive that mussels disappear from beaches and in natural environment. However, mussels are observed to grow numerously in the salmon production sites. According to an informant in the regional research institution I - mar in Puerto Montt this is supposed to be fomented by high nutritional contents in the water (originated by salmon feed and faeces). Increased nutritional contents in the water supposedly also stimulate the growth of micro alguea which are concentrated in the mussels because of their water filtering character. Because of several fatal victims due to the so called "marea roja" [engl.: "red tide"] in the last years locals have become sceptical to mussel consumption. There are few scientific studies on the regional impact of salmon farming activities on the environment. Speculations about its negative impact are outspread among local informants due to the observations they make in a the local natural environment. The lack of debate on this issue in the public discourse (newspapers, TV, radio) indicates a regional mainstream narrative that sidelines the issue and a local counterpoint narrative that observes factual changes in its natural environment.

Commonly, there is also little debate around the common view of salmonids on local fish markets. These salmonids are typically caught by artisanal fishers, some informants also argue that salmon is popularly stolen from production sites. The common use of large amounts of antibiotics (up to five times more than for example in Norway, according to an informant on a conference in Puerto Montt) might add advisable doubts to the consumption of this salmon because typically, the sighted
salmon on local markets is not adult (salmon antibiotics decrease throughout the growth stages of salmon and are thus concentrated in salmon that isn’t adult). In light of such potentially grave regional health impacts due to an obvious outspread consumption of salmonids that aren’t acquired legally, suppressed arguments for an unsustainable ecological impact through salmon farming activities in the region, as expressed by the artisanal fishers, should supposedly gain prominence⁵.

The ecological sustainability of salmon farming activities is intricately connected to persistent socio-economic dependencies on natural maritime resources (by artisanal fishers as a source of income and by the population as a fundamental source of alimentation). Likewise, an informant in a central scientific research institution (I-mar) for regional maritime ecology argues:

"We are concerned about the ecological impact of salmon farming activities. Typically, the issues are interconnected [socio-economic and ecological impact]. (...) So far, there are for example no studies about influence of salmon farming activities on the growth of microalgaeas. However, it is reasonable to believe that there is a significant ecological impact [of salmon farming activities]. I-mar has asked for support through [water/sea floor] samples by the salmon farming companies in order to do more research."

(I-mar institution, research representative)

Concluding, the outcome of potential salmon-over-production and consequent local water-contamination as well as potential health risks for the regional population due to the consumption of salmonids with high concentrations of antibiotics or mussels with high concentrations of toxic microalgae is not surveyable in the case of the still growing salmon farming activities of Quellón. Also on the regional scale there is little research on and knowledge of the biological consequences of escaped salmon. Local informants such as the artisanal fisher’s union president on Chiloé also argue that salmon farming activities have a negative sustainable impact on the native biodiversity of fish. In other words, there is a counterpoint narrative of a decrease of native fish in recent years which is connected to salmon farming activities, water contamination and and the predatory character of escaped salmonids and their offspring in open waters. Not surprisingly, salmon farmer’s neglect these arguments and intriguingly, there is little publicity for these aspects in the media and consequently in a public mainstream narrative.

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⁵ By law, artisanal fishers aren’t allowed to catch escaped salmon, yet the president of the provincial artisanal fishers’s federation also argues that in some coastal areas, salmon is the only species that is caught and thus brought on the market, today.
6.5. Conclusion

The counterpoint narrative is a secondary version of the impact of salmon farming activities on regional development that highlights qualitative aspects. On one side the main actors in the counterpoint narrative acknowledge economical growth indicators such as production cifres and employment accounts in Region X. On the other side they typically argue for an absence of public debate on qualitative issues on a micro-scale. The counterpoint narrative thus forms part of a discourse that is dominated by the mainstream narrative. The counterpoint narrative embraces a range of more differentiated arguments concerning the qualitative aspects of infrastructure improvements, socio-economic development and the ecological impact through salmon farming activities.

The economical sector, media and politics are widely perceived to be interconnected and allied in fomenting a largely positive outcome and masking negative aspects. Representatives for the counterpoint thus perceive that mainstream narrative dominates the discourse on regional development and that counterpoint views are subdued. Especially on the macro-level, the distinct arguments of the counterpoint largely remain in a shadow existence. It is necessary to do micro-research, i.e. a local case study, to unveil the counterpoint narrative.

The sustainability of development through salmon farming activities is commonly perceived critically in the counterpoint narrative. The narrators of the counterpoint arguments are largely employees in the industry, typically affected locals like artisanal fishers and some other actors such as NGOs, administrative agents or reflective managers in the industry. Typically, these actors argue that the source for the two kinds of narrative can be found in basic socio-economic inequalities and consequent social power relations. They assume that these conditions determine different access to democratic participation. Social relations are perceived to obstacle some actor’s participation in the discourse on the outcome of regional development through salmon farming activities.

The counterpoint narrators attitude is sometimes characterised by frustration and apathy. Perceiving little participation in public discourse in face of the dominating mainstream narrative employee informants see poor chances for sustainable socio-economic ascension. This may create future public tensions and can potentially lead to conflicts in the industry. Specifically locals perceive the ecological impact of salmon farming activities critically. The actual regional development through salmon farming activities is perceived to be unsustainable in the counterpoint narrative. In various ways, the socio-economic and ecological impact is perceived to create dependencies.
7. Chapter: General conclusions

7.1. Contrast of the narratives

As illustrated in chapter 3.5., I argue for an examination of the intersecting issues that are addressed differently by a mainstream and a counterpoint narrative. In the chapters 5 and 6 I presented the arguments of the two narratives according to the research agenda I introduced in chapter 3.1. and adopted in a model of the discourse on the impact of salmon farming activities in Quellón in chapter 3.5.. In order to gain an understanding of the factual sustainability of development in Quellón an answer to this question was approached through focusing on the empirical data in 3 central fields of interest. These are: the general economic development, e.g. infrastructure improvements, the socio-economic impact and the environmental impact. The following figure shows their perception in the two narratives.

<table>
<thead>
<tr>
<th>Mainstream narrative</th>
<th>Development through salmon farming activities in Quellón</th>
<th>Counterpoint narrative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economical growth, improved infrastructure</td>
<td>General economic development, infrastructure</td>
<td>Infrastructure, welfare and services lack of quality</td>
</tr>
<tr>
<td>New employment, better living standards, social responsibility of companies</td>
<td>Socio-economic impact</td>
<td>Low wages, poor labour conditions, continued traditional subsistence</td>
</tr>
<tr>
<td>Lacking signs of negative impact, sustainability through normatives and technical innovation</td>
<td>Environmental impact</td>
<td>Water contamination, depletion of maritime resources, health risks</td>
</tr>
</tbody>
</table>

Fig. 7.1.: Concluding figure; own production.
The discontent about the persistence of socio-economic inequalities and the ecological impact of salmon farming activities that manifests in the counterpoint narrative challenge the image of sustainable regional development as articulated in the mainstream narrative. The mainstream narrative on the development in Region X and salmon farming activities generates a onesided discourse. This may subserve the interests of elite interest groups (Barton, 2002, Harvey 2005) but it doesn’t promote greater socio-economic equality and ecological sustainability. Social and ecological responsibility are issues that may require increased attention by the salmon farming companies in Region X because of their potential for conflicts. But primarily, the administration has to meet the challenge of bridging the socio-economical inequalities through responsible governance. This means that it has to create more equal chances for education in rural areas like Quellón, provide better infrastructure like roads and health care services. Centrally, it has to improve the access to such services for the economically less privileged Chileans. It has to implement better control of social- and ecological norms in the salmon farming industry. In face of strong politico-economical linkages and the role of the mainstream media in the discourse on salmon farming activities and regional development an emancipation of the counterpoint narrative is necessary.

7.2. The socio-economic impact

The case-study shows that relatively low incomes and the reduction of production bonuses may lead to a dependency situation in qualitative terms. Employee informants tend to conduct subsidiary income-activities in aditional to their jobs in the salmon farming industry. Not seldomly, local (employee) informants pursue traditional habits of subsistence through small scale farming and fisheries in order to improve the income situation. The environmental impact of salmon farming activities is seen to be a challenging factor for the survival of traditional artisanal fisheries and shellfish collection. In abstract terms, the identity of the local "homo ruralis" is perceived to be challenged by the socio-economic and ecological impact of salmon farming activities. Social conflict potentials are rooted in the local identity-questions, which remain in transition from a (part-time) subsistence existence to a modern consumerist society.

Some locals in Quellón pursue fulltime-subsistence habits in terms of artisanal fisheries and micro-scale farming which also is fostered by political intervention, e.g. the courses in micro-management offered by the municipal administration. Thus, to a certain degree traditional subsistence habits fomented by political intervention. Other locals and especially job-migrants from other southern regions in Quellón make largely a living of jobs in the salmon farming industry. These informants again are split into those who still pursue part-time micro-scale
farming and fishing (mainly locals from the community), on one side. On the other side, informants who are job-migrants largely depend on their incomes in the industry without pursuing micro-scale farming and fishing.

As shown with the divers´ case, there is also a problematic situation connected to job security. Salmon farming activities and FDI have caused an increase of vertical linkages and the emergence of various supplying strings of service companies, hence fomented general regional economical development. A closer look on the tough competition and the subcontraction phenomenon in the industry and its effects on the quality of the jobs, i.e. low incomes and poor labour conditions, however, indicates a dependency situation.

The information gathered with employee informants indicate strong competition for jobs in the growing salmon industry. Locals tend to see job-migration critically and regularly refer to the rising criminality in Quellón, rooted in the strong population increase and the fact that not all job-seekers - especially the migrants - obtain labour. Locals tend to criticise job-migrants for their competing role on the labour market, thus in their eyes causing pressure on their individual income-situation in the industry. The overflow of labour force in Quellón is perceived to cause diminishing incomes and keep labour standards low.

7.2.1. The impact on the poverty-situation

In the case of salmon farming activities in Quellón, the study indicates that poverty isn´t reduced sustainably. Though the industry provides jobs, the income situation among the "common" workers and labour conditions are in deficit of quality for sustainable micro-economic development of the local society. The industries´ ecological impact affects the natural environment as traditional asset of local´s livelihood negatively and creates a further dependency-situation of locals on their jobs in the salmon farming companies. The employees in the salmon farming companies are trapped between a status quo of expanding salmon activities which provide jobs, yet of poor quality, and the consequences of over-exploitation of natural resources. Traditional habits of subsistence through maritime resources are endangered through the ecological impact of salmon farming activities. Local (employee) informants thus typically relate their lack of social, economical and environmental assets to their vulnerability and exposure to risks (Narayan, 2000).

In terms of poverty-reduction, locals feel they only profit marginally from relatively higher wages in the salmon industry compared to earlier habits of subsistence. Rising housing prices, provisioning costs, the general inflation and (as in the case of PS) the reduction of formerly
common production bonuses tie locals in Quellón to perceived difficult socio-economic existences (sometimes, as illustrated also to "secondary - subsistence" through small-scale agriculture in the weekends), i.e. a dependency in socio-economic terms.

At the same time, profits extracted by the salmon farming companies in Quellón partly "leave" the community because of the unequal income situation and manager’s tendency to live and spend their earnings outside Quellón (f.e. in Puerto Varas). PS’s central management is seated in Santiago and according to the information obtained from the company it projects to invest further profits in order to expand in terms of production and spatially towards new concessions that were acquired in the south of Quellón. The local investments by salmon farming companies in a new shipping harbour for exploration and supply of existing and planned production sites further south of Quellón indicates this, too. This means that internal company profits largely aren’t re-invested locally. Profits made through the extraction of local resources in Quellón, as illustrated above, aren’t passed on to the local employees in Quellón (in 2006, PS paid the minimum wage without bonuses) nor are they used for investments in sustainable ecological production (e.g. less use of antibiotics and over-feeding which leads to water contamination; cleansing of the sea bottom under the site). The effects of the introduction of automatised feeding systems in Cheter remain to be seen. Potentially, employees may be reduced or trained further for maintaining the feeding systems. The use of less feed in the automatised feeding process may contribute to produce more considerately of the ecological impact.

The extraction of local social and natural resources through salmon farming activities is perceived to be unsustainable by local informants when it comes to local socio-economic development and poverty reduction in Quellón. Locals remain tied and subdued to power-relationships due to socio-economic inequalities (as illustrated in chapter 2). In other words, they lack (partly consciously) of democratic participation in the decision-making due to local, regional and national social hierarchies, i.e. elitist economical and political interest groups (Barton, 2002, Harvey 2005). These social power relations dominate the mainstream discourse which argues for the positive aspects of development caused by the salmon farming activities in the region and locally. This discourse dictates the terms for the further development of salmon farming activities according to interests of an economical elite with strong ties to politics and media on all scales in Chile. The local, regional and national counterpoint narrative is restricted by these power relations and the mainstream narrative.

In the case of salmon farming activities in Chile there has been success when it comes to mixed- and national enterprises, i.e. off-springs. There is also an ongoing stream of knowledge and
technology which is transferred last but not least from Norway. Chilean suppliers in the industry are also capable and flexible to adopt innovations. Yet, socio-economic change on the local scale in terms of equitable repartition of profits made hasn’t been achieved. Though salmon farming activities in Chile have created new jobs in Region X, the income situation doesn’t reflect a sustainable development in socio-economic terms. The discrepancies between the earnings of managers compared to the income of workers is perceived to perpetuate traditional socio-economic inequalities in Chile. On a national scale, this inequality is fomented by ruling political and economical elites and hence founded in power relations (Gramsci 1971, Haarstad 2005) that are immanent to the society. Since the mid-1970s, neoliberal national policies ("Chicago-boys") have promoted FDI and the opening of markets. On a supra-national scale, the financial support via credits by actors like the World Bank or the IMF have backed this policies.

As illustrated in chapter 2, the governments in Chile have succeeded in reducing total numbers of the population who lives in extreme poverty and poor conditions. However, they haven’t managed to reduce income inequalities which are reflected in one of the highest gini-coefficients worldwide. Thus, mainstream arguments of national poverty-reduction have to be examined critically. For the poverty situation in Quellón this means no significant improvement. Since many locals have chosen to earn a living in the salmon producing companies, traditional social habits of subsistence are fading away. Though the total income may have risen, increased costs of living such as higher prices for housing and comestibles and school fees students constrain the employee informant’s budget. The massive growth of population in Quellón in the last years has also lead to an increase of criminality of "migrants without work". The poverty situation in Quellón thus is perceived to not develop sustainably through salmon farming activities.

7.3. The ecological impact

Future research on the ecological impact of salmon activities in Chile is necessary to determine its role for local conditions that in a mainstream discourse are presented to be beneficial for salmon farming activities. Local ecological conditions may deteriorate to the degree that salmon farming activities regionally would become difficult, causing possibly a move of companies to other areas (likewise, new concessions are acquired by salmon producers in areas further south). This scenario is far from being unlikely, looking at the evolving salmon farming activities in the Region IX.

In consequence, such a development may mean negative aspects for shortly termed exploited local ecological and socio-economic conditions and gain significance for further development of salmon
farming activities. An ecologically exhaustive cultivation of salmon isn’t likely to cause sustainable socio-economic development because salmon farmers may just "move on” to ecologically virgin areas and leave locals to ecologically depleted marine conditions they were dependent on for survival before salmon farming activities gained prominence.

7.4. FDI, smaller companies and governance

Lall and Narula (2004) argue that "it is clear, for instance, that the creation of linkages and the internationalisation of spillovers from MNE activities still depend on local absorption capacity”. In the case of Chilean salmon farming activities local absorption capacities might be positive for technological innovation, yet in terms of social and ecological responsibility they are poor, last but not least because of liberal national policies concerning application and control of actually existing regulation like RAMA. Qualitative standards become more and more important concerning salmon production on the global scale. International ISO-standards are likely to become more popular in Chile, too, as the national salmon farming is facing global competition since it mostly enters international markets.

Social and ecological responsibilities in Chilean salmon farming activities are most likely to be taken seriously by MNEs, because they tendentially have internalised international standards and from time to time are in the spotlight of criticism by media and NGOs (though this criticism might be mellow in Chile, see: Mainstream/Marine Harvest articles; NGO: ecoceanos.cl). At the same time, MNEs count to be the strongest companies when it comes to production cifres of salmon. e.g. the largest company Marine Harvest accounts for 11.2 % of the export market share. The case company PS accounts for 2.2 % of the export share. Smaller, national salmon producing companies are not seldomly located in less favourable or dislodged locations, are less in the view of public attention - both in terms of administrative regulative control and media coverage of accidents and similar events. Also, they often can’t or don’t want to afford "expensive" investments in job security and ecological sustainability unless they are forced to do so.

PS tries to improve the effectivity of production in order to survive in a market of consolidation, where big MNEs successively are taking over smaller companies. Hence, the entrepreneurial considerateness of social and ecological responsibilities is negatively affected by competition in the industry which again is favoured by globalisation and liberal national policies in the case of Chile. Simultaneously, administrative regulations are getting off the ground tenaciously and their control is
lax, last but not least because of the friendly attitude to economical endeavours of a political elite. These factors affect both regulations that for example concern labour conditions and are supposed to be supervised by the Dirección del Trabajo or ecological regulations like RAMA which are supposed to be supervised by SERNAPESCA.

7.5. Implications

The reasons for the concrete impact of salmon farming activities in Quellón have to be seen in context with liberal economical paradigms and a conditional discourse on development immanent to the structure of Chile’s civic society.

Because of this situation it is important to do qualitative research on the local scale. Typically concealed problems can thereby be uncovered and put into relation with structural aspects that are part of the civic society in Chile, which normally would remain hidden to an observer of the industry on a macro - scale. The case study of the PS production site is also important, because as described in section 7.4., smaller companies face more difficulties in the strong competition of the industry. There are still many of them in the region (see list in section 4.6.). Smaller companies like PS dispose of less capital and naturally this allows less space for economical manoeuvers of the business administration, compared to MNEs in the industry. Hence, it is possible to speak of a catalysing effect for the negative impacts of the salmon farming activities in smaller companies on Chiloé, originated in a market situation of strong competitiveness, both on a global and regional scale. Moreover, in Quellón the impacts of salmon farming activities are of special actuality, as presented in chapter 2, and all typical actors affected by its impact were found, there.

In the case of Quellón, many locals don`t feel they are participating in a public discourse which mostly highlights the benefits of the salmon farming activities. The locals who have jobs in the industry, yet not seldomly they struggle for an economical outcome with their families because of low wages, planting potatoes and collecting mussels in the weekends. Their jobs on the salmon production sites are often dangerous because they are located far away from the mainland and not too rarely exposed to extreme weather conditions. People die because of drowning in storms, divers drown getting caught in nets they are supposed to repair and workers in salmon processing plant are stick to death by boxes full of frozen salmon. Of course, accidents happen in all kinds of industries, yet the frequency of accidents in the Chilean salmon farming industry and their often missing presence in public debate must be alarming reflecting on the social responsibility of the salmon farming companies. Sometimes, the bereived of lethal victims in salmon farming activities don’t
feel they are supported enough by the companies and public authorities, maybe not even perceived by the public media. There are outspread poor working conditions in the salmon farming industry which rather seldomly are addressed by the actors who dominate the discourse on the outcome of salmon farming activities for regional development.

Many locals are also aware of an ecological impact, on close hand. Traditionally, mussels constitute an important supplement to the daily meal on Chiloé. They are collected on beaches or by divers and also farmed in large amounts all over the island. High nutritional contents in the sea, i.e. contamination of the coastal waters have led to a high concentration of toxic algae in mussels (mainly various forms of popular blue mussels) and several people on the island have died because of the feared "marea roja" [engl.: "red tide"]. Much of this toxic contamination is attributed by the locals to the impact of an exploding salmon farming industry. Yet, little is being researched on the issue and the real causes of the "red tide" remain in a shadow existence because the phenomenon doesn’t get much public media attention. However, locals in the industry are aware of this kind of suspected side-effects their profession may have because they know the environment through longer time-frames than external observers.

There are several more aspects that come to light through such a kind of analysis of local conditions. It are these aspects that make it reasonable to argue for an indepth-study of salmon farming activities and rural development in the case Quellón and analyse the outcome in face of existing theories which may be informed through new points of view based on an explorative case study. The entrepreneurial and administrative sense of responsibility and effectiveness concerning these issues is to be seen critically in the case of Chilean salmon farming activities, the sustainability of the development hence to be judged as doubtful.

Social power-relations in Chile (Barton 2002, Harvey 2005) constrain local’s participation in the meaning-making through the domination of the discourse on the outcome of salmon farming activities for regional development. Unequal chances for education, services and welfare are reasons for a major group of underprivileged and a minor group of privileged Chileans in terms of access to central functions in the state that grant power for shaping the discourse. Democratic and discursive participation is hence limited for Chileans in rather poor and rural areas like Quellón. A sensitive qualitative research of the locals position is necessary to analyse their perception of the impact of salmon farming activities. This kind of explorative case study affirms aspects of the mainstream narrative. But it also adds new points of view to the topic and disputes some points of the mainstream narrative. Sustainable rural development in Quellón "sits on the bench" and waits for more fundamental, structural changes in the Chilean civic society.
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