

The fair way or the Chiloé? Exploring the role of certification in the governance of labour in  
aquaculture in Chiloé, Chile

By

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## **ABSTRACT**

Aquaculture has emerged as an increasingly important element of global food production systems as the total global population continues to rise, and climate change impacts yields in both agriculture and capture fisheries. However, in order for aquaculture to effectively contribute to food security in the face of these changes, it will need to be executed in a manner that is both environmentally and socially sustainable, the latter meaning that human suffering cannot underlie its expansion. Given the relative newness of the sector and the importance of social justice for its sustainability, it is critical that investigations into the social aspects of aquaculture are carried out to enrich the academic literature, before the sector becomes more established and further regulations are set in place. The existing scholarly literature indicates that governance of the sector has not adequately regulated labour practices in farms in the global South. Certification is promoted by NGOs as a regulatory measure to improve governance in aquaculture and other resource commodities, but the literature contests the extent to which certification is appropriate or effective for farms in the global South. This paper explores the extent to which certification is able to effectively govern labour practices in aquaculture production in the global south. The evolution of governance of labour in Atlantic farmed salmon production in Chiloe, Chile is used as a case study to exemplify the role of certification specifically, along with the state and NGOs, and what this has meant for labour. The analysis reveals that there are two ways in which certification fails to adequately govern labour practices in the Chiloe example. First, the environmental focus of the five most prominent transnational aquaculture certification standards has meant that the social criteria required to improve labour conditions are overwhelmingly absent. Second, though the literature points to the importance of collaboration amongst both public and private actors in order for certification to be effective as a regulatory measure, the case study of Chiloe shows that even when cooperation between these bodies occurs, the concerns of workers are still marginalized while the interests of industry are elevated.

*Keywords:* aquaculture; Chile; labour; certification; governance; sustainable livelihoods

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## **ABBREVIATIONS AND ACRONYMS**

ASC	Aquaculture Stewardship Council
BAP	Best Aquaculture Practices
Contrasal	National Confederation of Workers in the Salmon and Shellfish Industry
CLP	Chilean Pesos
FAO	Food and Agriculture Organization of the United Nations
FOS	Friend of the Sea
GDP	Grosse Domestic Product
GlobalGap	Global Good Aquaculture Practices
ILO	International Labour Organization
ISA	Infectious Salmon Anemia
MSC	Marine Stewardship Council
NGO	Nongovernmental Organization
Olach	The Labor and Environmental Observatory of Chile
SalmonAPL	Salmon Clean Production Agreements
SIGES	Integrated Aquaculture Management System

# **1. INTRODUCTION: FRAMING THE GLOBAL CONTEXT OF AQUACULTURE PRODUCTION AND LABOUR**

## **The promise of aquaculture: food security and sustainable livelihoods**

### *Emergence of the industry*

Over the last 25 years, aquaculture has emerged as an increasingly significant aspect of global food production systems. As an expanding worldwide population amplifies human pressure on resources and climate change reduces productivity in both agriculture and capture fisheries, aquaculture has been promoted as a crucial livelihood diversification strategy for rural communities in developing parts of the world. It has also signified important promise for food security and poverty alleviation, especially in the global South. The seafood sector represents a critical source of food protein and global employment and an overall trade value of approximately US\$140 billion, making it one of the most valuable commodities traded internationally (SSI, 2016). Some 3 billion people rely on seafood for their primary source of protein, and at least 10% of the global population is either directly or indirectly dependent on seafood for their livelihoods (FAO, 2014). However, estimates suggest that nearly 90% of stocks are either fully or overexploited (SSI, 2016).

In the face of stagnating production volumes in wild catch, aquaculture has almost single-handedly been responsible for meeting the global increase in seafood demand over the past decade, and now represents half of seafood produced for human consumption around the world (Belton & Thilsted, 2014). Currently, global production of aquaculture is 70.2 metric tons, and the sector is growing twice as fast as capture fisheries and is set to account for two thirds of seafood production by 2030 (FAO, 2015). Fisheries are indeed going through a structural change, with a transition toward the farming of seafood to meet these market demands. As

aquaculture expands into markets and creates new realities for both consumers and producers, it is very much worth exploring the intricacies of the industry.

### *Impacts for consumers and producers*

In the global North, consumption of fish and shellfish has dramatically increased over the past few decades in line with burgeoning consumer awareness of the health benefits associated with seafood. Aquaculture helps to meet this demand, and stabilizes market prices as wild catches become more difficult and expensive to harvest (NACA, 2015). In this way, the sector also helps to secure access for poorer consumers in developing parts of the global South that may otherwise struggle to secure a source of protein for themselves and their families as species sourced from capture fisheries become less available. This is especially pertinent for coastal communities, who traditionally are reliant on the ocean for most of their protein.

The majority of people engaged in the primary sector of fish farming are in the global South (FAO, 2014). Aquaculture production is highly concentrated in the Asia–Pacific region, which accounts for an estimated 90% of global production (Jonell et al., 2013). China alone accounted for 62% of the world’s aquaculture production in 2013. In these regions, aquaculture workers on average earn higher incomes than their counterparts in other food production sectors (NACA, 2015). The strategic development of aquaculture then represents an opportunity to secure more sustainable livelihoods for these producing populations who in many instances are rural, low income, and thus marginalized and often overlooked in development policy (Krause et al., 2015). Coastal communities that have traditionally depended on fisheries for their livelihoods are increasingly turning towards fish farming as a livelihood diversification strategy that either replaces fishing activities or is complementary to them, as aquaculture can serve as a

supplementary activity during fishing off seasons or periods of low harvests (Belton & Thilsted, 2014). Without the provision of employment that aquaculture offers, many workers in coastal communities would struggle to make a living. Well-regulated aquaculture that promotes equity and sustainability presents an opportunity to increase the food security of these vulnerable populations.

### **Threats to the success of aquaculture**

#### *Legitimacy jeopardized by unsustainable practices*

In spite of its promise, environmental groups are critical of the aquaculture sector for its socially and environmentally irresponsible practices. In order for aquaculture to effectively contribute to food security in the face of global transformation through climate change and population growth, it will need to be executed in a manner that is both environmentally and socially sustainable—the latter meaning that human suffering cannot underlie its expansion. Recent confirmations of major labour violations in capture fisheries in the global South (Chantavanich et al., 2016), along with the sector's significance, indicate that it is crucial for best practices to be established early, so as to maximize the potential benefits fish farming may be able to offer. The potential benefits of aquaculture for some should not come at the expense of others. Insufficient governance and regulation of the sector has made critics of the industry—namely NGOs and civil society—wary of the negative impacts associated with farming efforts. While the following points of issue do apply to all aquaculture operations, it should be noted that sustainable aquaculture practices are employed on many farms. Farming methods such as multi-trophic aquaculture, in which an ecosystem approach creates a closed system that minimizes waste and promotes species health, is one of aquaculture's best success stories (Guerra-Garcia et

al., 2016). However, as production increases and small-scale ventures are encroached upon by industrial level operations, low production costs are increasingly favoured over more sustainable systems.

Aquaculture transforms producing regions (Ramirez & Ruben, 2015). Though environmental concerns are the focus of much of the literature, for the purpose of this paper, the examination of aquaculture's limitations will centre on social impacts. In general, and for salmon aquaculture in particular, the social implications can be summarized under three overarching concerns. First of all, the "tragedy of the enclosures", by which public coastal environments are claimed by private capitalist operations, squeezes out local populations and leaves many struggling to preserve their means of livelihood (Veuthey and Gerber, 2012). Second, the process of industrial restructuring, i.e., the rise of industrial aquaculture, has made contentious the relationship between small-scale aquaculture production and larger commercial operations, resulting in social unrest (Vandergeest et al., 1999). And finally, criticisms over the actual effectiveness of current regulations and their ability to address the social challenges of aquaculture, are numerous and well supported with evidence. It is out of these considerations that our discussion of the social and political processes at play in the governance of aquaculture is situated, and within these concerns that the sustainability of the industry is explored. Given the relative newness of the sector and the importance of social justice for its sustainability, it is critical that investigations into the social aspects of aquaculture are carried out to expand the currently sparse scholarly literature, before the sector becomes more established and further regulations are set in place.

### *Labour practices and social injustice*

Social justice is a prominent and important issue in aquaculture since power relations in fisheries are often unequally distributed (Bush et al., 2013; Vandergeest & Unno, 2012; Belton et al. 2011). This is evident in the way transnational companies are routinely pitted against poor communities in rural, peripheral locations (Chuenpagdee et al. 2005). The isolated location of many aquaculture farms has meant that conflicts arising from the contentious interaction between companies and communities are difficult to regulate and enforce. Failure to adequately address these issues can lead to ecological and thus social crises, as will be demonstrated in the examination of the Chiloé case. Such events threaten the well being of communities and individuals who are dependent on aquaculture for their livelihoods. Given the huge importance of the sector for global food security and livelihood provision for coastal communities, the power relations at work in aquaculture production have far-reaching impacts that go beyond the sustainability of regional sectors, and have influence on global food production systems and poverty alleviation in producing communities (Fløysand, Haarstad, & Barton, 2010). For this and other reasons, aquaculture is increasingly relevant for studies of development and social justice. Of particular interest in this paper is the plight of aquaculture workers specifically, and the ways in which they are affected by inadequate regulation in the industry. The existing literature indicates that governance of the sector has not adequately regulated labour practices in farms in the global South (Barrett, Caniggia, & Read, 2002; Bush et al., 2013; FAO, 2014; Oseland, Haarstad, & Fløysand, 2012).

In a 2014 report on improving governance in aquaculture, the FAO highlights the importance of equitable and non-exploitative employment for human well being. Principled, moral values about fairness—such as the ethical treatment of workers and non-destructive

environmental policies—ought to be what guide aquaculture activities. In this way, farms with sustainable practices in place would enact what Lynch-Wood & Williamson (2007) refer to as “beyond compliance” behaviour, wherein corporate social responsibility efforts extend beyond the bare minimum to be driven by the moral desire to behave ethically and sustainably. This includes achieving environmentally and socially responsible production through engagement with local communities, acting transparently, and ensuring the employment of fair labour practices. In other words, the best regulation is self-regulation (Lynch-Wood and Williamson, 2007). Since consumers increasingly demand ethical practices be used in the production of goods, and companies who fail to comply with these demands risk serious damage to their public image, responsible behaviour is thus in the best interest of producers. The reality however is that these ethical considerations are not always in practice in aquaculture operations, often due to company priorities that do not align with such values. For many aquaculture farms, regulations and economic incentives are required to mitigate unsustainable and unjust practices—i.e., self-regulation is not king (Lynch-Wood and Williamson, 2007). This is because the same consumers who insist on ethically sourced food products also insist on low prices, and aquaculture companies sourcing from the global South deliver low-cost seafood is through large-scale, industrial aquaculture that exploits cheap labour (Barrett, Caniggia, & Read, 2002; Cid Aguayo & Barriga, 2016; Vandergeest, 1999). Large-scale production often dominates in regions that lack diverse livelihood strategies, and are thus able to hire labour at low wages and under poor working conditions.

In this way, an army of unskilled and poorly trained workers is amassed. They are coerced, through the absence of alternative options, to take on unjust positions in aquaculture farms that pay poorly and often do not provide safe working conditions (Oseland, Haarstad, &

Fløysand, 2012). This, despite internationally recognized guidelines for ethical labour practices such as The International Labour Organization (ILO)'s labour legislation, which addresses industrial relations, workplace health and safety, employment standards, and social issues like the labour of women, children, and migrants (ILO, 1998). This piece of legislation remains ignored to in much of the global South, indicating that for developing countries especially, the protection of workers in the informal sector remains unresolved (Vandergeest, 2007).

In particular, aquaculture operations in Chile, India and the Philippines, frequently rely on contract labour to cheaply and flexibly fulfill production requirements (FAO, 2014). Contract workers are indirect employees who are hired, supervised and remunerated by an employment agency that is then compensated by the aquaculture company. Contract workers are given inferior status, are employed casually, lack job security and benefits, and typically earn lower wages than their permanently employed counterparts (FAO, 2014). While economic factors such as cost-effectiveness to meet consumer demand may justify the use of contract labour, considerations of social justice have made some organizations such as unions and NGOs advocate its abolition or at minimum, its regulation (Daughters, 2010). Some countries have tried to ease the precariousness of contract labour. In the Philippines for example, a 2001 law prohibits the direct contracting of labour, requiring aquaculture and other industries that seek flexible labourers to contract such workers through labour cooperatives, which act as contractors and handle remunerations and benefits (FAO, 2014). However, NGOs have criticized the Philippines' approach as not actually enacting any real change, citing that such an approach prevents the formation of labour unions and is a distractive mechanism that ultimately serves to avoid hiring permanent workers, thus side-stepping the higher wages and benefits that would otherwise be required for these workers (FAO, 2014).

When commodities are exported from a jurisdiction with weak or poorly enforced labour standards to another jurisdiction with higher standards, the exporter's costs are artificially lower than its competitors. This creates an unfair advantage in trade, called social dumping (Golub, 1997). Low labour costs of course represent a competitive advantage for aquaculture companies who strive to maximize profits while maintaining their appeal with the aforementioned choosy but cheap consumer in the global North. The costs associated with fair labour practices may encourage aquaculture operations to relocate to regions with more relaxed regulations around labour practices. Such has been the case in shrimp aquaculture operations in Vietnam (Vandergeest & Unno, 2012). Fear of decreasing employment opportunities and foreign dollars can then sway governments to lower standards and lighten their regulations, under the guise of economic savvy. This shift in power is more probable when the industry has a monopoly in a region, and is especially the case with transnational companies (FAO, 2014). This is the case in salmon aquaculture in Chiloé, where a single transnational company can operate in many different jurisdictions within a given region (Barrett, Caniggia, & Read, 2002). In salmon farming, 46 farms produced 80% of the world supply of farmed salmon in the year 2006, compared with 114 farms producing the same ten years earlier (Marine Harvest, 2008). One Chilean farm alone, AquaChile, produces more than one-quarter of world output of Atlantic salmon (Terazono, 2016). Commonly, an aquaculture company may enjoy monopolization over the labour force as the dominant employer in isolated rural communities (Islam, 2014). The overwhelming bargaining power that comes with such position means that companies have the ability to make demands, and in order to remain attractive, governments may be prepared to sacrifice regulations.

This is not to say that governments make no effort to protect their working class from

labour violations. Many countries have ratified the international ILO guidelines that are considered fundamental to the rights of labour, including the right of association; the right to organize and to negotiate collectively; the prohibition of any type of forced labour; non-discrimination; a minimum age for the employment of children; and prohibition of child labour (ILO, 1998). The guidelines also cover labour codes, such as acceptable working conditions, minimum salaries, hours of work, maternity leave, and health and occupational safety (ILO, 1998). In addition, the Organization for Economic Cooperation and Development (OECD) has produced the “OECD Guidelines for Multinational Enterprises”. These prevent foreign companies, such as international salmon companies, from imposing a double standard in labour practices between workers they hire in their home, developed countries, and those where they work, in developing countries (OECD, 2008). However, in spite of the presence and widespread, formal acceptance of these ideals, many governments appear to turn a blind eye in favour of enabling low-cost production of goods for export (FAO, 2014; Vandergeest, 2007).

### **Methodological notes**

The central concern of this paper is the modes of regulation employed to improve monitoring and enforcement in aquaculture. Establishment of power in governance of the sector occurs among competing interests between government, industry, NGOs, and civil society. One such governance mechanism, sustainability certifications, is gaining a foothold in the aquaculture industry, expanding at a rate of 76% each year over the last ten years (SSI, 2016). This paper explores the extent to which certification is able to effectively govern labour practices in aquaculture production in the global south. The evolution of labour governance in Atlantic farmed salmon production in Chiloé, Chile is used as a case study to better understand the role of

certification as a potential catalyst for improved labour conditions. Specifically, its role in tandem with government and NGOs, and what this has meant for those most impacted by these conditions—the workforce, is considered. An analysis of current certifiers in aquaculture and the extent to which existing standards may be able to improve labour practices in the Chilean case is carried out using ILO guidelines for fair labour practices. Beyond the functionality of standards, an examination of Chilean salmon farm workers’ process of self-mobilization underlines the potential connections between aquaculture in Chile and elsewhere in the global South.

## **2. IMPROVING REGULATION IN AQUACULTURE: CERTIFICATION AS A REGULATORY MEASURE**

### **Certification: a market-based approach to governance**

Sustainability certifications are market-based systems that seek to increase consumer trust and provide legitimacy to producers (Cid Aguayo & Barriga, 2016). Certification functions by setting environmental and social standards, auditing the compliance of certified producers with standards, ensuring traceability throughout the certified section of the supply chain, appropriate labeling of compliant products, and employing scientific best practices to establish legitimacy in the process (Bush et al., 2013). The approach has been used as a measure for introducing greater regulation to seafood production. In aquaculture, 6.3% of the total global supply of 70.2 million metric tons is certified, representing US\$3.6 billion (SSI, 2016). In 2015, certified seafood accounted for more than 14% of total seafood production with certified aquaculture representing 20% of total certified seafood (SSI, 2016). Certification rewards producers who adhere to a given set of sustainability standards in several ways, such as through product differentiation, which allows access to new markets, or by increasing market value so that producers can earn more for their product.

The trend toward certification is inspired by various factors. Sustainability certifications are part of a wider movement around food security promoting ethical consumption and sustainable consumerism, which is achieved through a shift in consumption patterns. One poll estimates that 80% of U.S. consumers regard sustainable seafood as important or very important. Meanwhile, a survey commissioned by the Marine Stewardship Council (MSC) in 2014 across 15 of its most important markets found that an average of 65% of those surveyed believed retailers should carry sustainable seafood (SSI, 2016). The growing public awareness of the

environmental and social impacts associated with food production and the belief that the state has failed to adequately ensure just practices throughout supply chains has created the now-common concept of consumers “voting” with their dollar, wherein the consumer establishes sovereignty by making informed purchasing decisions, thus politicizing the act. The collective “dollar vote”, over time, creates markets that drive positive change in food sectors (Miller, 2008).

The increasing popularity of organic, for example, has been a cornerstone of this movement and has dramatically expanded, with a sectoral growth of at least 10% each year since 2012 (Organic Trade Association, 2016). Like organic, certification employs traceability and standard setting to make brands accountable for the sustainability of their products. International NGOs like World Wildlife Fund (WWF) proliferate the movement by mobilizing civil society to use environmental, social, and ethical considerations in their purchasing decisions (Vandergeest, 2007). NGOs pressure retailers to adhere to these same ethics using campaigns that threaten brand reputation through association with production that is environmentally harmful or abuses human rights, and products that may pose health risks to consumers (Bush et al., 2013). The result is a growing involvement of Northern food retailers in the regulation of their suppliers, establishing regulatory practices across national borders to ensure specific qualities, which are then guaranteed by the certifier. As demand increases and retailer commitments continue to roll out in response, the certified seafood market is expected to grow in coming years.

### **Current certification schemes in aquaculture**

In aquaculture, certified production has grown exponentially, at an average rate of 76% per year from 2003 to 2015, significantly outpacing the growth of conventional aquaculture (SSI,

2016). Five certification initiatives dominate the global supply of certified aquaculture: GlobalGAP, Friend of the Sea (FOS), Best Aquaculture Practices (BAP), Aquaculture Stewardship Council (ASC), and organic certifier, Naturland. (Table 1) provides an overview of the current top five certifiers of aquaculture. The majority (90%) of global aquaculture production originates in the Asia-Pacific region, with the top five producers—China (60%), India (6%), Indonesia (5%), Vietnam (5%), and Bangladesh (3%)—combining to account for just below 80% of the global total production of aquaculture (FAO, 2013). In spite of this, certified aquaculture is highly concentrated across Norway, Chile, and Spain, which together account for over half of all certified aquaculture.

Chile, the nation with the second highest tonnage of certified aquaculture production, represents nearly 20% of the global total (SSI, 2016). Salmon is the top certified species, representing 56% of the total. This points to the relevance of the Chilean salmon example for exploring the role of certification, since it is the country with the second highest percentage of certified production and salmon specifically is the top species that is certified. Of the top five certifiers, GlobalGAP, BAP, ASC, and FOS certify salmon farms in Chile (SSI, 2016).

GlobalGAP is responsible for the certification of nearly half of all certified aquaculture, and Chile represents one quarter of GlobalGAP's certified total. Chilean product accounts for 28% of BAP's certified total, 13% for ASC, and 2% for FOS (SSI, 2016).

**Table 1 – Introduction of Top Five Aquaculture Certifiers**

<b>Certifier</b>	<b>Percentage of Certified Aquaculture</b>	<b>Program Launch Year</b>	<b>Production Volume (million tons)</b>	<b>Top Certified Species</b>	<b>Top Certified Countries</b>
GlobalGAP	47%	2004	2,101,367	Salmon, pangasius, shrimp/prawns	Norway, Chile, UK
FOS	17%	2008	700,000	Mussels, trout, salmon	Spain, Italy, Greece
BAP	16%	2004	711,827	Salmon, tilapia, shrimp/prawns	Chile, Canada, China
ASC	16%	2012	688,138	Salmon, tilapia, pangasius	Vietnam, Norway, Chile
Naturland	5%	1995	197,153	Salmon, shrimp/prawns, mussels	China, Norway, Ireland

(SSI Blue Economy, 2016)

### *Social criteria in aquaculture certification standards*

Sustainability certifications are one way of introducing regulation into supply chains. However, in order for certification schemes to be able to address labour practices, they require robust social criteria. This would include standards that reference core ILO guidelines for fair labour, such as liveable wage, the right to organize, and non-discriminatory policies. While current sustainability certifiers may successfully target the environmental concerns in aquaculture, the lack of social criteria in these standards means that they are unable to influence the social elements of production such as labour practices. The following analyses the social legitimacy reached by the certificatory process and its potential labour outputs. To determine the extent to which the standards of current certifiers target labour issues in aquaculture production,

(Table 2) outlines indicators of fair labour that are relevant to the Chiloé case are identified, as per definitions from the ILO (1998).

**Table 2 – Indicators of Fair Labour Practices**

<b>Index</b>	<b>Indicator</b>	<b>Definition</b>
<b>Labour rights</b>	Freedom of association	The standard includes criteria for freedom of association, as defined by ILO 87
	Forced labour	The standard prohibits use of forced labour, as defined by ILO 29
	Minimum age	The standard sets a minimum age for workers, with ILO 138 as the minimum threshold
	Non-discrimination	The standard prohibits discrimination due to racial, religious, Non-discrimination social, cultural, age-related, gender or other factors, as defined by ILO Convention 111
	Worst forms of child labour	The standard prohibits the use of child labour, as defined by labour ILO Convention 182
	Collective bargaining	The standard includes criteria for collective bargaining, as defined by ILO 98
	Equal remuneration	The standard requires equal remuneration, in accordance with ILO 100
	Women’s labour rights	The standard includes explicit criteria to protect female Women’s labour rights employees’ rights (e.g., protection against mandatory pregnancy testing)
<b>Employment conditions and benefits</b>	Treatment of seasonal and part-time workers	The standard requires equal workers’ rights and benefits for all types of workers (full time, seasonal, part time and temporary)
	Written contracts for employees	The standard requires written contracts

		with employees
	Timely payment of wages	The standard requires wage payment be made without wages delays
	Maximum amount of working hours	The standard explicitly sets maximum number of working hours
	Paid maternity, paternity, and sick leave	The standard requires provision of paid maternity, paternity, paternity and sick leave sick and holiday leave
	Pension and security benefits	The standard requires provision of pensions and social benefits security benefits
Workers' health and safety	Safety at work	The standard specifies minimum standards for safety at work
	Healthy work conditions	The standard requires protection and promotion of health at work
	Access to safe drinking water at work	The standard requires workers' access to safe drinking water
	Access to sanitary facilities at work	The standard requires sanitary facilities in the workplace (showers, restrooms, changing rooms, etc.)
	Access to medical assistance at work	The standard requires access to and provision of medical care in the workplace
	Access to medical insurance at work	The standard requires access to medical insurance in the workplace

(Indicators based on ILO guidelines)

The standards of each of the top five certifiers in aquaculture were then examined to determine the extent to which the above indicators of fair labour practices were present, and would therefore be able to target through certification. (Table 3) displays the results. Though certification has targeted many key environmental concerns, social issues have not been a significant driver in the development of seafood standards. A review of the standards of each certification scheme reveals that ASC is the only aquaculture certifier that is ISEAL complaint (50%)—a regulatory body that aims to improve social auditing processes—and all five lack the rigorous social criteria that would be required to effectively improve regulation of labour practices in aquaculture. In aquaculture certification, social requirements are poorly to moderately represented, and labour rights related to the enforcement of core ILO conventions are inconsistently referenced throughout certification schemes (SSI, 2016). For example, the provision of employee benefits and especially women’s and maternity benefits are either not required or merely recommended across initiatives. Given the significance of women in the seafood sector, the absence of greater protections for gender-specific benefits is noteworthy.

In another example, core ILO labor rights like freedom of association and minimum age requirements are inconsistently covered throughout initiatives, and FOS and ASC are the only standards that address living wage. The exception to the trend towards poor social coverage in aquaculture certification standards is organic certifier, Naturland, which includes social criteria, such as human rights and employment conditions and benefits (SSI, 2016). Without the inclusion of labour and employment rights, certification will struggle to provide meaningful benefits for poorer stakeholders along the seafood supply chain. The effectiveness of certification schemes is dependent on the extent to which the interests and realities of all stakeholders are thoughtfully incorporated (Cid Aguayo & Barriga, 2016).

**Table 3 – Criteria Targeting Labour Practices in Top Five Aquaculture Certifications**

<b>Index</b>	<b>Labour Issue</b>	<b>GlobalGAP</b>	<b>FOS</b>	<b>BAP</b>	<b>ASC</b>	<b>Organic</b>
<b>Labour Rights</b>	Freedom of association	--	--	+	++	++
	Forced labour	+	+	++	++	++
	Minimum age	+	+	++	++	++
	Non-discrimination	--	+	+	+	++
	Child labour	+	+	++	++	++
	Collective bargaining	--	--	--	++	+
	Equal remuneration	--	+	+	++	++
	Women's labour rights	--	--	--	+	++
<b>Employment Conditions and Benefits</b>	Treatment of seasonal and part-time workers	--	--	--	+	++
	Written contracts for employees	+	+	+	+	++
	Timely payment of wages	+	+	+	+	++
	Maximum amount of working hours	+	--	+	+	++
	Paid maternity, paternity, and sick leave	--	+	+	--	++
	Pension and security benefits	--	--	--	--	++
<b>Workers' Health and Safety</b>	Safety at work	++	++	++	++	++
	Healthy work conditions	++	++	+	++	++
	Access to safe drinking water at work	++	+	++	++	++
	Access to sanitary facilities at work	+	+	+	+	+
	Access to medical assistance at work	++	+	++	++	+
	Access to medical insurance at work	+	--	+	+	+

Key: -- legal compliance only or no specific mention, + some emphasis, ++ heavy emphasis

## **Criticisms of certification as regulation in the global South**

Certification is promoted by NGOs as a regulatory measure to improve governance in aquaculture and other resource commodities, but the scholarly literature contests the extent to which certification is appropriate or effective for producers in the global South. The rigor of social criteria in aquaculture certification determines to what extent schemes may be able to improve social aspects of farming. But beyond the capabilities of standards to promote social improvement, lies the much more complex question of the legitimacy of certification for the governance of the sector, particularly in cases where the certified are located in the global South and the certifiers are from the global North. For Bernstein (2007), political legitimacy is embedded in the social sphere and is ultimately based on trust, which enables community building and compromise of interests, and thus, results in effectiveness. The power imbalances implicit in aquaculture sustainability certifications can undermine the legitimacy of certification as a governance measure. This is especially true for non-industrial and Southern stakeholders (Cid Aguayo & Barriga, 2016). Belton et al. (2011) describe certification schemes as “an increasingly pervasive form of market governance through which retailers and NGOs are able to exert control over producers of primary products in order to secure their commercial and institutional interests” (Belton et al., 2011, pp. 289). The authors are skeptical of the actual impact certifications may have, and a concern for the unequal distribution of power in these North-South partnerships.

A first critique of certification is its focus on the individual farm as opposed to the cumulative impacts of multiple farms (Cid Aguayo & Barriga, 2016). In focusing on the particular practices of specific farms, Bush & Duijif (2011) argue that the important structural changes required to make improvements in the broader aquaculture sector are overlooked based

on too narrow a definition of what constitutes success. Further, depending on who holds the certificate, it is likely that it is not the entire supply chain that is certified, but rather, only a section of it. Hence, while parts of production may adhere to the ethical guidelines buyers expect, the certification has failed to actually address the sustainability of other links in the supply chain such as inputs to the farm, like seed or feed (Bush & Duijif, 2011).

Another important critique concerns scale, and the way in which certification can often lead to greater polarization between small and large farms (Belton et al., 2011). It is the larger farms already operating under conditions more closely aligned with the expectations of Northern consumers and retailers that possess the resources required to comply with most certification standards. This proliferates the prevention of small farms from accessing international, and specifically, Northern markets. Though small farms may not necessarily have access to these sophisticated markets in the first place, certification does not, in any case, *create* markets for them in the way that it can for larger farms that are able to comply with the standards. The size of smallholder farms is often the flipside to a reality of limited financial, temporal, or language resources, which generally limits the extent to which they are able to meet certification requirements (Islam, 2008). This is particularly problematic for any certification scheme that employs the narrative of the small-but-mighty farmer who, since obtaining certification, now earns a better wage, for example—a narrative that is central to the fair trade certifications of other commodities such as coffee and bananas. The reality is that small farms simply do not often have the resources to pay workers high wages or install safety features that all rigorous standards require, thus problematizing what is perhaps a common illusion of the promise certification purports to offer (Fridell, 2010).

A final and most central criticism of certification in aquaculture is founded in the overwhelming imbalance of power between North and South. Standard setting is situated in a convoluted space of many stakeholders with ranging interests, and there is significant contestation around who gets to determine what the process and final program look like. Local actors such as farm workers and community members must have the ability to engage in the development of standards to influence outcomes, but too often, they are excluded (Islam, 2008). The power imbalances at play between Northern standard setters and Southern standard takers are indicative of their basis on normative ideals, as opposed to objective realities, which Havisce and Iles (2015) argue is needed create relevant and impactful certification standards that will meaningfully influence aquaculture producing communities. This highlights the ways in which certification may exacerbate neo-colonial inequities, through the reinforcement of longstanding global relations of domination (Vandergeest & Unno, 2012). Vandergeest & Unno's study of shrimp aquaculture in Thailand examines the portrayal of Southern actors in aquaculture certification standards as being in need of protection. Northern certifiers take on the role of providing that protection while dismissing or ignoring national and local actors. The promotion of certification leans on claims of failed Southern governments and points to state inadequacy as the justification for the Northern invasion of what should be state-controlled governance spaces, and with this invasion, the imposition of outside beliefs, effectively replicating imperialist patterns (Vandergeest & Unno, 2012). It is in this way that certification can be understood as an encroachment on national sovereignty.

### **3. CASE STUDY: SALMON FARMING IN CHILOÉ, CHILE**

Chiloé is an archipelago that comprises over 30 small islands. The population of Chiloé is 155,000, of which nearly half resides in rural areas (FAO, 2014). In the rural populations, about one quarter live in poverty, reflecting the marginalized and isolated nature of the region (Oseland, Haarstad, & Fløysand, 2012). Over the past 25 years, Chiloé has experienced a major boom in the aquaculture of Atlantic salmon, owing largely to a political context that created conditions for exploitation, and thus, facilitates the industry's use of unregulated, cheap labour that further marginalizes an already vulnerable workforce (Ramirez & Ruben, 2015; Oceana, 2009; Oseland, Haarstad, & Fløysand, 2012; Barrett, Caniggia, & Read, 2002). Between 1985 and 2001, total salmon production in Chiloé grew from 1,119 tons to 357,000 tons (Bjorndal, 2001). The lack of regulation concerning social aspects of the sector threatens the well being of the community on which it depends. In Chile, a bibliographical search shows that over 90% of research on aquaculture is biological or technical, with only 9% devoted to socio-economics, indicating the relevance of an examination of the social aspects of Chiloé's salmon aquaculture sector (Yanez, Gonzalez and Trujillo, 2009).

#### **Framing the success of aquaculture in Chile**

##### *The rise: political context*

From the 1930's to the 1970's, Chile was one of the most stable democracies in South America. Marxist Salvador Allende was elected president during the Cold War in 1970. Concerned with the high rates of poverty in the country, especially amongst the rural poor, Allende expanded social services with an emphasis on empowering the working class. However, Allende was overthrown in a coup in 1973 ushering in a new fascist military government lead by

General Augusto Pinochet (Angell & Pollack, 1990). His military-run government was responsible for the systematic deaths of thousands of people who were thought to be left-leaning or a threat to the new regime, and over the following 13 years, 3000 people were killed or went missing, thousands more tortured, and over 200,000 people exiled (Angell & Pollack, 1990).

During the Pinochet regime, which spanned 1973-1990, the Chilean economy, which had been suffering under Allende, began to recover, benefitting from U.S. policies that created favourable conditions for production and international trade. Neoliberal reforms were also introduced to Latin America during this time; forced upon labour leaders, community organizers and socialist politicians and activists through violent means (Harvey, 2005). The term neoliberalism is used to describe the process by which wealth is redistributed among the elite class at the expense of the working class. One of the ways this happens is through the exploitation of working class labour that is made possible by the establishment of class divisions. Under neoliberalism, workers often engage in precarious work that fails to provide adequate workplace health and safety, fair wages, equal opportunities across demographics, and worker rights to organization (Harvey, 2005). After the return of democracy in 1990, neoliberal economic policies focused on the accumulation of wealth have largely continued, and Chile now has one of the highest gross domestic product (GDP) per capita in Latin America (Oseland, Haarstad, & Fløysand, 2012). This has, however, come at a cost to workers.

Neoliberalism has set the context of the breaking down of what was once a strong, democratic, and empowered working class in Chile (Ramirez & Ruben, 2015). Pinochet's military dictatorship repressed workers' associations and made labor organization illegal. The historical undermining of organized labour by the Pinochet regime imprinted on national institutions and organizational traditions, such that, from the early 1980s onwards, the

aquaculture sector was able to develop in southern Chile without a significant union movement to escalate workers' claims, and the industry benefited from exploitative practices and low wages (Oseland, Haarstad, & Fløysand, 2012). The deregulatory climate of Pinochet's regime stimulated an overexploitation of natural resources that began to threaten economic growth, extending to include fisheries, hence prompting the influx of foreign investment in aquaculture, as fisheries began to decline (Barrett, Caniggia, & Read, 2002). As the Chilean economy began to weaken in the 1980's, the repressive state and dehumanizing labour market policies combined to create circumstances out of which workers became significantly vulnerable to exploitation by factory owners. They earned low wages and "toiled under conditions reminiscent of the industrial revolution (Shurman, R. in Winn, 2004 pp. 300). The repression of labour organization in Chile must be understood within the context of the Pinochet dictatorship which prohibited unionism in a country that had once been highly organized prior to the coup (Oseland, Haarstad, & Fløysand, 2012)<sup>1</sup>. Union leaders and activists became prime targets of the dictatorship from 1973 to 1978. Pinochet's policies overturned gains in wages, benefits, and working conditions that workers had won since Chile's establishment as a stable democracy in the 1930's (Winn, 2004). In the post-Pinochet context, labour traditions and institutional protections of worker rights remained weak, allowing the aquaculture industry in Chiloé a foothold from which to thrive by activating exploitative and anti-union practices (Barrett, Caniggia, & Read, 2002).

### *The prominence of the Chilean aquaculture sector*

In 2007 the Chilean sector represented US\$2.4 million in exports and the production of 600,000 tons (Oceana, 2009). Part of the reason for this huge production is because Chile's

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<sup>1</sup> In fact, the headquarters of the CUT (Central Única de Trabajadores; Workers' Central Union) was one of the first buildings seized by the armed forces on the day of the coup (Oseland, Haarstad, & Fløysand, 2012).

aquaculture governance model is market driven, as is reflected in its policy statement: “Chile aims to promote the maximum possible economic growth over time from aquaculture, but in an ambience of environmental sustainability and equitable access to the activity” (Alvarez, 2009). In general, Chile has some of the highest rates of economic growth of any Latin American country in recent years (Oseland, Haarstad, & Fløysand, 2012). In 2014, the World Bank put Chile’s GDP at US\$258.1 billion. Its internationalized natural resource industries are a pillar of the economy, representing 38% of Chile’s GDP in the last 35 years (World Bank, 2015). Salmon aquaculture, a contributor to this significant revenue stream, was introduced in Chile in the 1970’s as a measure meant to diversify the Chilean economy. Chiloé is the primary producer of farmed salmon in the country, with production only recently expanding south (Barrett, Caniggia, & Read, 2002). From the 1990’s to the 2000’s the sector grew tremendously, producing at a rate second only to the world’s largest farmed salmon producer, Norway—impressive, given the concentration of the Chiloé industry over a mere 300km of coastline compared to Norway’s 1700km. Together, Chile and Norway accounted for 80% of the global farmed salmon supply in 2015 (Holland, 2016).

From a socio-economic standpoint, salmon farming in Chile has provided an important livelihood activity for rural residents, especially as what was once a thriving fishing sector has begun to decline due to low stocks compared with the high cost of fuel (Pitchon, 2015). Many traditional fishing families are thus making the transition from the independent, entrepreneurial spirit of fishing to participation in the more structured regimes associated with aquaculture production. Between the industry’s inception and the mid-1990’s the number of salmon processing plants grew from 75 to over 400, and in the early 2000’s, the sector was estimated to provide 200,000 direct jobs (Oseland, Haarstad, & Fløysand, 2012). Salmon aquaculture has

provided a modern, cash-based employment opportunity for those who might otherwise struggle to secure a place in Chile's modernizing workforce (Barrett, Caniggia, & Read, 2002).

## **The cost of success in Chiloé**

### *Poor labour practices in salmon aquaculture*

An FAO (2014) report on employment in aquaculture surveyed nearly all salmon producing farms in Chiloé and highlighted the need for improved regulation in the sector. Inadequate establishment of environmental and social best practices on farms, and insufficient monitoring and enforcement of existing standards have created substantial gaps in governance of the sector. Specifically, in the absence of dedicated regulation, exploitative labour practices have gone unnoticed and threaten the well being of workers. Despite the creation of employment, the report found that most aquaculture jobs are so precarious that they reproduce poverty through company reliance on casual, contractual labour, which enables the exploitation of workers (Cid Aguayo & Barriga, 2016; FAO. 2014). There is substantial evidence that surplus labour, low wage levels, and poorly enforced or nonexistent health and safety standards have facilitated the success of the Chilean industry (Barrett, Caniggia, & Read, 2002; Cid Aguayo & Barriga, 2016; Oseland, Haarstad, & Fløysand, 2012; Winn, 2004). Between 2003 and 2005, a total of 572 inspections of aquaculture operations in Chiloé were carried out with 404 resulting in fines—a violation rate of 70%. Among the violations were: employment of casual workers (lack of contracts), violation of health and safety rules at the workplace, unsafe underwater working conditions, violation of maternity rules and anti-trade-union practices. The rights most at risk are non-discrimination, acceptable conditions of work and freedom of labour (FAO, 2014). Enforcement of better labour legislation however, remains a critical issue of great concern as the inaccessibility of sites makes inspections a challenge (Cid Aguayo & Barriga, 2016). Chilean regulations already meet ILO standards, but market governance and the desire to maintain cost competitiveness can encourage companies and jurisdictions to minimize the importance of

labour standards. There is limited capacity to monitor regulations. The Directorate of Work has capacity to inspect only 12 percent of salmon installations.

The following section collates data on labour practices and policies in Chiloéan salmon aquaculture from the aforementioned FAO (2014) study, as well as the work of Barrett, Caniggia, & Read (2002). The FAO (2014) report is mostly consistent with the findings of Barrett, Caniggia, & Read from 2002, indicating that there has been little improvement in labour practices over time, despite various initiatives designed to improve regulation in the sector, as will be discussed in the next chapter. The findings of these two studies represent a comprehensive picture of the Chiloéan reality and illuminate the inadequacies found in salmon aquaculture labour practices concerning wages, conditions of work, income, and the specific challenges faced by women. All the data that follows in this section is sourced from the FAO (2014) report, unless otherwise stated.

### *Wages*

Wages for salmon aquaculture workers are not representative of the value of their input to farming operations. Atlantic salmon is internationally traded, and Chile competes in the same market as, for example, the Canadian sector. The retail price of Atlantic salmon is about the same for both Chile and Canada, suggesting that wages for salmon producers should be equal, and would only vary with differences in productivity. However, Chilean wages lag significantly behind what workers are paid in Canada—this, despite the largest operation in Canada, Norwegian-owned, Marine Harvest, also being the largest operator in Chile. That real wages in Chile are considerably lower than those in Canada reflects the existence of surplus labour in Chile, and a distribution towards profits and away from wage income—both symptoms of an economy rooted in neoliberal ideals. It suggests that salmon workers are not receiving salaries

that compensate their productivity. Unskilled workers specifically are not receiving salaries that compensate their productivity. For example, Pinto (2007) found that the average monthly salary in processing—which requires less skill than general production—was about CLP218,000<sup>2</sup>.

While this number is actually still higher than the minimum wage at the time<sup>3</sup>, it is considerably less than production workers were earning, and if this salary were the only source of income for a household, then the family would be considered close to the poverty line<sup>4</sup> (Pinto, 2007). Wages also vary considerably across farms, with some workers earning up to 30% less than the average for the same job. Further, in Chiloé experience is not associated with skill level. The concept of seniority or promotions for workers who have been with a company for many years does not appear in Chiloé's farmed salmon industry, indicating that workers are considered to be replaceable and are not given an incentive to expand their abilities or experience (Barrett, Caniggia, & Read, 2002).

In addition to working for years in the same position without hope of transitioning into a fairer wage or higher ranking, a major portion of aquaculture workers' incomes is not an actual wage, but a bonus. Base wages account for less than half the average salary received in 2007, with production bonuses that incentivize increased output serving as the principal source of income. Chilean law determines the minimum wage that all workers must be paid, and under the bonus system, aquaculture workers are in fact paid this amount (Barrett, Caniggia, & Read, 2002). Aquaculture companies often pay employees less than the legal minimum and use an incentive system to encourage workers to earn their way up to it, meaning that workers are coerced into increasing their productivity. To earn the average salary and therefore achieve the

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<sup>2</sup> At time of writing, the equivalent of US\$320.

<sup>3</sup> The minimum monthly wage in Chile in 2007 was CLP145,000, or, US\$215 (OECD, 2016).

<sup>4</sup> The poverty line in Chile in 2007 was considered to be anything below a monthly salary of CLP47,100, or, US\$70.

legal minimum wage, workers in processing plants in 2007 had to double their basic pay by meeting performance targets (Pinto, 2007). In this way, high production levels are ensured for the farms. If incentivized quotas are not met, salaries will be consequently bumped up to the minimum in order to adhere to remuneration laws, but if this type of exception needs to happen more than once for a worker, firings are commonplace (Barrett, Caniggia, & Read, 2002). The incentive structure also instils competition among workers. The creation of competition in salmon farms is problematic because workers labour together in groups, and creating a sense of competition among them impedes any potential for cooperation that is necessary for the formation of unions (Phyne & Mansilla, 2003).

#### *Conditions of work*

Worker efforts to increase production also contribute to industrial accidents and jeopardize workplace safety. The conditions of employment in Chiloéan salmon aquaculture are inconsistent throughout the sector and often do not respect worker rights mandated by the Chilean government as per ILO conventions. A 2006 Oxfam investigation of Marine Harvest for example, the largest salmon aquaculture operation in Chile, found that farms were on average, only compliant on half of state-required non-discrimination criteria, and more than half noncompliant on freedom of association requirements. Key considerations in terms of employment conditions are job security, workplace health and safety, and the right to organize.

Many labourers interviewed in Barrett, Caniggia, & Read's 2002 study spoke of the replacement of permanent workers with temporary, contract employees. Large companies often consider contract or casual workers preferable to their permanent counterparts. The concept of the casual employee is an important loophole in capitalist economies (Hatton, 2011). Casual workers provide a flow of flexible labour that is usually not subject to the same labour laws

required for permanent employees. “Extras”, such as medical benefits, paid sick days, and job security are often not included in the contracts of casual workers. However, due to the vulnerable position of casual labourers, many of whom are often migrant workers, women, or the unskilled, a lack of alternative livelihood opportunities often means that a contract, however unfair, may appear attractive (Hatton, 2011). Such loose arrangements take advantage of workers who are already living in precarity, and can result in unsubstantiated dismissals and even abuse (Barrett, Caniggia, & Read, 2002). More than half of workers in the Chilean salmon aquaculture sector are contract workers. Again, to compare the Chilean sector with Canada, where labour conditions in aquaculture are better regulated and enforced, 97% of salmon aquaculture employees in Canada are permanent, compared to Chile’s 25%.

Additionally, concerns for the quality of actual working conditions are important factors for worker well being. In terms of workplace health and safety, though required working hours fluctuate throughout the year, during peak production months—November to March—10- and 12-hour days are expected. Casual workers are brought in to accommodate the 300-500% increase required to keep up with production. Despite the increased expectation of outputs, there is no change in salaries during this time, and workers are not entitled to sick or personal days without their pay being docked. Due to the physical nature of the work as well as what are typically long hours, both in processing and at cage sites, salmon aquaculture workers often claim injuries, and these risks are intensified by poor maintenance of facilities and the necessary safety features. A processing plant worker interviewed in Barrett, Caniggia, & Read (2002) captures the overwhelming dismissal of safety concerns on farms, explaining: “the person in charge of safety in the plant was called because of an accident inside, and did not know where the entrance to the plant was” (Barrett, Caniggia, & Read, 2002, pp. 1958). In the absence of

protections for workers that establish safe working conditions, aquaculture workers remain vulnerable to various hazards associated with their work.

Finally, due to the repression of organized labour during the Pinochet dictatorship and the newness of the aquaculture industry in Chile, there is a weak history of unionization in the sector that might otherwise be able to improve protection of aquaculture workers (Cid Aguayo & Barriga, 2016). Efforts to unionize are often unsuccessful and met with great opposition by employers. The FAO (2014) report cites a case where, as workers began to organize, the foreign company initiated a publicity campaign to dissuade workers from joining the union, suggesting that membership would actually decrease workers' earnings. This speaks to the lack of worker understanding of their rights and highlights corruption and injustice in the management of aquaculture operations that threatens worker rights. Experiences of firings or the loss of benefits and incentive bonuses for those who attempt to unionize were commonly cited by workers, further highlighting the lack of job security faced by aquaculture employees (Barrett, Caniggia, & Read, 2002). The right to organize is a crucial aspect of worker rights that helps to establish equity between employees and their employers. In the absence of such provisions, the safety and well being of workers is threatened.

### *Gender*

The concerns of women in aquaculture should not be understated, as women comprise over a third of the workforce at cage sites and anywhere between 80-100% of labourers at processing sites. The experience of women in aquaculture is distinct from that of men. For example, discrimination is a concern. In terms of hiring practices, all employees in management positions as well as two-thirds of supervisors are male, while over 90% of processing plant workers, a position requiring less skill, are female. Discrimination matters because 73% of

accidents in aquaculture occur in processing plants, meaning that women are overwhelmingly more vulnerable to workplace injuries than men. Further, for some women, the hazards of their work permeate into long-term health struggles. Failure to secure a safe work environment for aquaculture workers with adequate restroom facilities, for example, has led many women specifically to speak of cystitis, which is linked to lack of access to restroom facilities, and many women report instances of fainting for this same reason (Barrett, Caniggia, & Read, 2002).

The interests of women in the sector are of significant importance, as the community benefits of aquaculture are received through the empowerment of women (Ramirez & Ruben, 2015). During the critical stages of their social and moral development, women can be instrumental in instilling the desired values that support community sustainability and the protection of the marine environment. Women's multiple roles within households place them in key positions to influence their children's attitudes and value systems (Ram-Bidesi, 2015). In this sense, women can, in addition to their many other roles, simultaneously be the primary educators on marine awareness because they also have a significant influence on the social development of their children (Ram-Bidesi, 2015).

#### *Crisis: ISA virus outbreak*

The Chilean salmon industry was hit with a major health crisis when an outbreak of Infectious Salmon Anemia (ISA) struck Chiloé in July of 2007. While not harmful to humans, the disease is lethal for salmon, and caused severe losses throughout Chiloé as the disease spread. Presence of the disease in aquaculture farms is linked to poor environmental and sanitary practices on farms. A study by Vike, Nylund, & Nylund (2008) suggests that the particular strain of the virus that infected Chiloé originated in Norway and was transmitted by a Norwegian company through cross contamination between sites by divers (Vike, Nylund, & Nylund, 2008).

The outbreak led to 20 confirmed and 44 suspected outbreaks on farms throughout Chile within two years, and resulted in an abrupt and substantial decline in salmon exports from Chile. The New York Times published a particularly biting article in March of 2008 that cited the Chilean industry's liberal use of antibiotics to control the outbreak and delineated the negative environmental impacts of the Chilean sector (Barrionuevo, 2008). At the time of outbreak, the sector employed about 80,000 workers, and the ensuing layoffs of thousands of workers triggered an uprising. In 2009 the Atlantic salmon harvest declined by 44%, and by May of 2010, 20,000 workers had lost their jobs (Oseland, Haarstad, & Fløysand, 2012). It is in this way that the environmental crisis turned social.

The unrest that followed demanded that action be taken to avoid another crisis of this calibre in the Chilean aquaculture industry. Government, industry, and coastal communities dependent on aquaculture for their livelihoods all suffered the financial impact of the sector's collapse (Oseland, Haarstad, & Fløysand, 2012). The significance of the industry not just for Chiloé, but also for the entire country stimulated a national effort to ensure no such catastrophe would shake the sector again. The crisis underscored the lack of regulation in the sector that aquaculture workers had long been aware of. NGOs, workers, government, and industry alike mobilized under the acknowledgement that the ISA outbreak might have been avoided had sufficient regulations been in place and actively enforced (Cid Aguayo & Barriga, 2016). The crisis effectively created an opening for the proposal of new regulation regimes while opening up a space for a dialogue around worker rights and opportunities to amplify worker voices. The following chapter explores the ensuing initiatives that sought to introduce better regulation to the sector, and the implications of these events for workers specifically.

#### **4. TOWARD BETTER REGULATION IN CHILOÉAN SALMON AQUACULTURE**

Concerns for the environmental impacts of the salmon aquaculture industry in Chile had been voiced beginning in the early 1990's, and by the end of the decade, social issues such as working conditions and employment practices had come into the discussion (Claude et al., 1999). The conflicts that unfolded in these early years between workers, industry, NGOs, and the state set the foundation for the eruption that occurred in the aftermath of the ISA crisis. But even before the outbreak in 2007, several initiatives led by stakeholder groups were established that aimed to improve governance of the sector. The dialogues that followed the crisis began to consider stronger regulation for what previously was a largely unregulated industry, and worker voices especially, sought to challenge the economic bottom line that had dominated the discussion for decades (Oseland, Haarstad, & Fløysand, 2012). Workers unions and NGOs opposed industry actors that resisted the implementation of changes that could no longer be denied were essential, and demanded that government enacted new legislation to protect workers. The collapse initiated by the ISA crisis created the circumstances out of which workers were finally invited to take a seat at the table to renegotiate the terms of production and address the absence of social justice that prevailed throughout the Chiloéan sector. However, as is outlined in Chapter Two, the literature finds that state involvement is essential for the success of regulatory initiatives (Bush et al., 2013; Vandergeest & Unno, 2012), and thus, despite the presence of workers in the ensuing discussions, the absence of state support meant that worker voices continued to be silenced by stronger, louder industrial groups. (Table 4) provides a timeline of events that unfolded as Chile sought to improve governance of the sector, in both the years leading up to the ISA outbreak and those that followed. The following analysis of these events outlines the evolution of the efforts of

worker unions, the state, NGOs, and industry in these struggles and explores the role of certification in relation to other governance measures.

**Table 4 – Timeline of Events Concerning Regulatory Initiatives**

<b>Year</b>	<b>Event</b>	<b>Lead Body</b>	<b>Collaboration With</b>
2002	Social Dialogue est.	State	Industry; Workers Unions; NGOs
	SalmonAPL est.	State	Industry
2003	SIGES est.	Industry	--
2005	SIGES harmonized with BAP standards	Industry	--
	WWF Aquaculture Dialogues est.	NGO	Industry
2006	Contrasal est.	Workers Unions	State; Industry
	Contrasal cross departmental roundtable	Workers Unions	--
2007	ISA Outbreak	--	--
	Contrasal & Olach Dialogues	Workers Unions	State
2008	Stakeholder Salmon Tables est.	State	Industry; NGOs
2010	Changes to Fisheries & Aquaculture legislation	--	--

## **Workers and the labour movement**

One of the most important catalysts of the conversation around sustainability in aquaculture that arose from the ISA crisis was the worker assertion of the right to unionize. Union movements in Chiloé have a relatively short history and few labour traditions to build policies upon since the fracturing of such devices during the Pinochet regime, which prohibited organized unions. Prior to the arrival of aquaculture in Chiloé, labour was predominantly rural and agrarian, but an influx of foreign investment stimulated a shift in economy toward a large-scale industrial focus that repositioned labour to maximize production (Cid Aguayo & Barriga, 2016). Commonly, aquaculture companies in Chiloé have used anti-union measures such as the withholding of benefits for those who chose to unionize, as well as suppressing information about worker rights to organize and restricting freedom of speech amongst union leaders (Barrett, Caniggia, & Read, 2002). Notably, though Norway—the home country of the majority of foreign farms in the region—has strong traditions of formalized unionism and labour rights for firms operating within its own nation. Despite this, Norwegian companies in Chiloé firmly repressed unionization from the industry’s inception (Oseland, Haarstad, & Fløysand, 2012).

Coercion by farm managers and a general lack of knowledge on the part of workers regarding efficient union action and their rights to organize caused unionization to develop slowly in Chiloé. In 2006, the national confederation of unions, Contrasal (the National Confederation of Workers in the Salmon and Shellfish Industry in Chile) was established by joining seven of the nine union federations in the regional industry to create a national organization. The union organization emerged in response to what was described by one union worker in Oseland, Haarstad, & Fløysand (2012) as “constant ruthlessness concerning workers’ rights and the precarious conditions of hygiene and environmental health in the working

areas...producing a malaise and total discomfort of the entire working mass...which finally culminated in the formation of our union” (Oseland, Haarstad, & Fløysand, 2012, pp. 99). The main claims of Contrasal have been for better wages, working conditions, women’s rights, and rights to organize. In August of 2006 a roundtable consisting of representatives from government, industry, and the workforce was gathered to work on addressing issues of labour and environmental practices in the sector. Many unionists however believed that these dialogues did not facilitate the meaningful advancement workers were seeking (Oseland, Haarstad, & Fløysand, 2012). Ultimately, it was the ISA crisis the following year that created the conditions out of which government and industry leaders were prepared to listen to the concerns that had been voiced by the aquaculture workforce in the region for decades. Later in 2007, Contrasal, joined forces with another organization, Olach (the Labor and Environmental Observatory of Chile), which consists of local environmental organizations and is backed by Oxfam. Working in concert, independent studies were conducted in the wake of the ISA outbreak, and together, they represented the interests of workers nationally. With support from Oxfam and Olach, Contrasal began the process of meeting with Chilean politicians. Making the link between Norwegian and Chilean labour conditions was an essential part of what determined success for workers in these dialogues (Cid Aguayo & Barriga, 2016).

The result of the dialogues eventually achieved a change in policy national policy in 2010 that made anti-union behaviour illegal for all aquaculture companies, and threatened non-compliance with fines, and more importantly, a refusal of subsequent permit requests (Oseland, Haarstad, & Fløysand, 2012). Enforcement however, remains an issue, as is exemplified by the high rates of non-compliance of one of Chile’s largest aquaculture operations, Mainstream. Mainstream has been fined at least 13 times for infringement of the labour code (FAO, 2014). It

has been guilty of: not providing protective equipment to employees, failure to give employment contracts, requiring seven-day work weeks and illegally suspending Mainstream's first elected union leader. In spite of this, Mainstream continues to be a prominent producer in the region. Though the creation of legislation denouncing anti-union behaviour indicates that state involvement in the roundtable initiated by Contrasal and Olach helped to advance the position of workers, the persistence of non-compliance among large aquaculture operations shows that without state-enforced sanctions against companies that fail to comply with mandated labour requirements, the workers' labour movement has and will continue to struggle.

### **State regulation**

#### *The Social Dialogues and the Salmon APL*

In 2002, government concern for the social unrest engulfing the salmon farming industry led to the establishment of two state-led initiatives that year: the Social Dialogue which collaborated with industry and NGOs and aimed to address social issues in salmon aquaculture, and the Salmon Clean Production Agreements (Salmon APL), which also partnered with industry and focused on targeting environmental concerns. The Social Dialogue was promoted by the Labour Minister, and was inspired by the ILO Program for Decent Labour (1998), with the intention of addressing the social and labour aspects of the Chilean industry. The implementation of the Dialogue was carried out by local NGOs—initially, an organization called ICAL which was tied to the communist party, whose focus was on empowering unions and strengthening worker voices in the negotiations that followed (Cid Aguayo & Barriga, 2016). However, two years into the program, the government reappointed the lead role in the Dialogues to a different NGO, El Canelo de Nos, which was politically, more centrist, and is currently still

actively involved in the industry (Oseland, Haarstad, & Fløysand, 2012). This change in leadership illustrates the strong control the national government had over the process and their ability to control the outcomes, and specifically, their interest in containing social conflicts, since El Canelo's emphasis was on generating spaces of trust amongst stakeholders (Cid Aguayo & Barriga, 2016). Because of the initial focus on workers, unions were active participants in the Social Dialogues, but throughout the process many union groups determined that companies were not genuinely willing to meet at the table, and that industrial participation merely served to give companies an image of meeting with government and workers (Cid Aguayo & Barriga, 2016). This illustrates that this state-led initiative did not seek to empower workers.

In the same year, industry association, SalmonChile, joined with the Chilean government in a second initiative that aimed to introduce better governance in the sector. A public-private partnership, the Salmon APL aimed to ease environmental impacts of industry through certification. The project collated the different standards required by public bodies, including Chilean legislation and trade requirements of import countries like the United States that monitored mainly food safety concerns such as the use of antibiotics. The Salmon APL synthesized these requirements into a single regulatory body to manage implementation of these state-required standards. Implementation planning took place over two years, and included educational training sessions to help farms meet regulation requirements, after which, the Salmon APL was responsible for inspecting and certifying farms (Cid Aguayo & Barriga, 2016). The partnership between industry and government that the Salmon APL represents was a positive step forward, in that it implies a transition in the role of the state regulatory body from one of supervision to one of partnership, which served to distract the state from its role in enforcement, offloading this responsibility instead into the hands of industry.

Ultimately, the Salmon APL went no further in the establishment of environmental standards than that which was already required by law. Its intention was to neutralize threats of oppositional groups such as NGOs that took issue with Chilean practices, involve non-profit actors, and appeal to the politically informed consumer. When these expectations were not met, NGOs challenged the legitimacy of the Salmon APL, believing it to be insufficient as a regulatory measure (Oseland, Haarstad, & Fløysand, 2012). For example, a point of criticism for the Salmon APL was its focus on the certification of individual farms, which meant that larger-scale impacts of the industry were ignored. Additionally, the number of farms that enjoyed positive media for their participation despite their ultimate failure to obtain certification was contested by NGOs. Further the absence of social aspects of aquaculture production, and especially labour, in the Salmon APL certification meant that whatever gains for labour maybe have been achieved through its complementary initiative, the Social Dialogues, would not be regulated or enforced. In the wake of the ISA outbreak, both state-led initiatives failed.

### *Stakeholder Salmon Tables*

The failing of the Social Dialogue and the Salmon APL initiated the Stakeholder Salmon tables in 2008, and resulted in local stakeholder pressure on government to address the concerns of aquaculture workers that had been ignored. The Stakeholder Salmon Tables, a 120-day dialogue led by government with the inclusion of industry and NGOs, was divided into an environmental table led by the Chilean Ministry of the Economy and included industry and fishing organizations, and a social table led by the Ministry of Labour (Cid Aguayo & Barriga, 2016). The Salmon Tables was more political in nature, and anticipated substantial media coverage that would help mobilize the cause. However, worker expectations went unfulfilled

once again, after prominent union leaders were excluded from the Tables. Further, the results of the Stakeholder Salmon Tables served only to provide recommendations to Parliament, with no tangible opportunity to create change in the sector (Cid Aguayo & Barriga, 2016). The failure of the state to prioritize worker concerns once again indicates further that state interest in maintaining favourable conditions for industry contributed to the plight of workers.

## **Industrial regulation**

### *SIGES and the role of industrial self-regulation*

The ISA outbreak initiated a surge in the prevalence of private sustainability certifications to improve governance in the sector in order to avoid the occurrence of a similar disaster in the future. In 2003, the Integrated Management System (SIGES) was implemented by industry and represented the first self-regulation in certification without state support. SIGES certified product quality, environmental aspects, and occupational health and safety but did not address forced labour, contractual conditions, or maternity protection (Cid Aguayo & Barriga, 2016). It sought to make sense of the sea of certification schemes that were emerging for aquaculture at that time in response to demands from retail, under NGO pressure, for food safety and traceability, as discussed in Chapter One. An industry association, SalmonChile, urged the government to shift away from the Salmon APL partnership to private regulation of the industry instead.

Despite the important role of stakeholder pressure in instigating the establishment of a certification system to replace the Salmon APL, SIGES was developed without the participation of stakeholders. Because of this, local stakeholders like workers unions considered SIGES to have little legitimacy. In response to this criticism, the industry motioned to enact a special

Labour-SIGES, which would respond to social concerns of local stakeholders. This too was rejected by untrusting unions (Cid Aguayo & Barriga, 2016). Without stakeholder participation, SIGES' focus relied on symbolic measures to improve the public image of the industry rather than on substantive changes that would empower stakeholders and bring about real change for them (Perez-Batres et al., 2012).

### *Third party certification and NGOs*

After the disappointing performance of the SIGES project, SIGES standards were harmonized with BAP certification standards for aquaculture, creating SalmonGAP. SalmonGAP thus came to include environmental and social responsibility, food safety, animal welfare, and traceability in the supply chain. BAP standards are industry-led and were developed by corporate actors without the participation of non-industrial stakeholders, especially Southern ones (Cid Aguayo & Barriga, 2016). This critical exclusion resulted in further pressure from local stakeholders that eventually led to Chile's involvement in the WWF Aquaculture Dialogues. The WWF Aquaculture Dialogues began in 2005. A joint venture, led by the NGO in partnership with industry, it set out to create an aquaculture certification scheme that would address stakeholder concerns more effectively, with species-specific standards that could be applied universally. Unlike BAP and other certification schemes, the ASC certification that the WWF Dialogues set out to establish set forth the intention of inclusion of all voices in the development of the standards.

The first meeting took place in the salmon producing region of Southern Chile, speaking to the significance of the Chilean sector and the attention it was receiving internationally. This meeting set the foundations for private governance in aquaculture that ASC certification initiated

(Cid Aguayo & Barriga, 2016). Chilean workers were cautious of the Dialogues, given lessons learned from past experiences with regulation of the industry with Salmon APL and SIGES. At the first meeting, nine participants from five organizations stated that they felt the meeting did not allow all actors to have equal participation in the process, nor did it consider the social, economic, and environmental specificities of Chile (WWF, 2015). Workers interrupted the talks and demanded that government be present. Other NGOs denounced the Dialogues for its apparent “green washing” strategy, citing the absence of key actors in standard development, the emphasis on technical and scientific rather than important political discussions, and the emphasis on self-regulation over public (WWF, 2015).

Currently, 15 companies representing 70% of global farmed production of salmon are committed to 100% ASC certification by 2020 (WWF, 2015). 13 % of ASC’s certified product in 2015 was produced in Chile (SSI, 2016). The politicized position of labourers in Chile eventually influenced the Dialogues to recognize the lack of sections of the standards that addressed the hugely prevalent labour concerns of the local people and included labour issues in the standard. However, The analysis of ASC in Chapter Two reveals that ASC is only compliant with about half of the established principles for fair labour. This indicates that the provisions for labour included in the ASC standard is still not adequate for improving the experience of aquaculture workers to the point of fulfillment of the ILO indicators of fair labour.

## **5. A PLACE FOR CERTIFICATION IN CHILOÉ?**

Is certification a regulatory intervention capable of improving governance of labour practices in aquaculture? The analysis reveals that there are two ways in which certification fails to adequately govern labour practices in the Chiloé example. First, in terms of the concerns cited amongst salmon farm workers, the environmental focus of the five most prominent transnational aquaculture certification standards has meant that social criteria required to improve labour conditions is overwhelmingly absent. Second, though the literature points to the importance of collaboration amongst both public and private actors in order for certification to be effective as a regulatory measure, the Chiloé example shows that even when cooperation between these bodies occurs, the concerns of workers are still marginalized while the interests of industry are prioritized. The continued marginalization of workers' interests even when the state is involved in regulatory initiatives, or even leading them, suggests that state priorities must shift in order to improve protections for worker rights. Thus, by holding companies responsible for the fair treatment of workers in the absence of state mandates and enforcement for the same, certification is not targeting the actual causes of inadequate regulation, and is therefore not able to target worker concerns that relate to poor regulation of labour.

### **Lack of social criteria in current standards**

The absence of social criteria in existing aquaculture certification regimes is disappointing. The labour injustices and social needs highlighted by the Chilean case are not well reflected in the top five certifiers' standards, due to a focus on environmental criteria. Based on coverage throughout the standards, current regimes are much better positioned to target environmental issues in supply chains than human ones. This can likely be correlated to the

seriousness of the environmental issues that have plagued aquaculture since its inception, and have thus captured much of NGO focus. NGOs are a key driver for the mobilization that initiates change in the industry, and many large, powerful environmental NGOs such as WWF and Greenpeace have targeted aquaculture for its unsustainable practices. The substantial followings of such organizations have clung to these environmental considerations as well (Vandergeest, 2007). For example, an early critique of fish farming has been its over-use of antibiotics in production and the consequences of this action for both ecosystems in farming areas and for human health. Antibiotics have been a major point of contention in Chilean salmon production specifically, with Chile being notorious for its use of antibiotics in its salmon aquaculture. The public uproar surrounding the report was fierce and caused the Chilean market to suffer greatly (Barrionuevo, 2008). This type of scandal is particularly effective in mobilizing a public response, as the concept of antibiotics threatening the human health of consumers in the North overshadows the livelihoods of Chilean workers, seeping out of the consciousness of the Northern elite. Another possible reason for the overwhelming focus on environmental issues over social is reflected in the scholarly literature. This is evidenced by Yanez, Gonzalez and Trujillo's 2009 study that found over 90% of all research on Chilean aquaculture to be focused on environmental issues. This means that at least for now, certification alone will not ease the woes of aquaculture workers in the global South.

Schemes in other commodities, like coffee, bananas, and even clothing that focus much more heavily on social considerations have been establishing themselves for decades. This is at least in part due to market demand. As environmentalism has become the trend for wealthy Northern consumers, a market for eco-conscious products that have a softer environmental footprint has emerged (Doherty et al., 2015). The market for goods that are produced without the

human suffering propagated by unjust labour practices, on the other hand, is more niche simply because saving dolphins is an easier sell than saving people. As such, socially ethical seafood markets have only been extended to include seafood in recent years, likely related to ground breaking reports of forced labour in fisheries (Chantavanich et al., 2016). Fair trade for example is targeted at social points of production specifically, but often has less rigorous environmental criteria. However, even for commodities that are certified under fair trade regimes, the literature questions the extent to which such schemes are able to achieve what they set out to accomplish either (Fridell, 2010). A study of coffee farmers in Peru determined that at best, fair trade provided modest income and production benefits (Ruben & Fort, 2012). The inconsistent and unremarkable success programs like fair trade have demonstrated points to structural inadequacies that render certification in the global South as ultimately, ineffective. Inconclusive or negative examples such as coffee in Peru underline the problems that arise from shifting the burden of responsibility to the consumer. Perhaps the responsibility to ensure no human rights violations occur in the production of goods is something that should rest with the state (Doherty et al., 2015). And certainly, without state involvement, the potential benefits fair trade purports to offer cannot be fully experienced (Fridell, 2010).

### **The effectiveness of certification as a governance mechanism**

Beyond the ways in which the absence of social coverage limits the capacity of certification to incentivize equitable labour practices, lies the question of certification's ability to actually govern social systems. The Chiloé case supports claims in the literature that state involvement is essential for the success of regulatory interventions (Vandergeest & Unno, 2012). Of the regulatory initiatives outlined here, the more effective efforts were those that emphasized

coordination amongst bodies. However, Chiloé also illustrates that even with the inclusion of state actors in the development and execution of initiatives, such as the Salmon APL or the Stakeholder Salmon Tables, the rights of workers are still not elevated in a way that promotes regulatory reform, and this includes non-certificatory governance regimes. These results suggest that state motivation to improve the experience of aquaculture labourers is lacking. Further research is required concerning these dimensions of governance in aquaculture, but this could perhaps be explained in part by a state interest in remaining competitive in international markets.

Industry partnerships with state and NGO bodies limit the extent to which initiatives will prioritize worker voices, highlighting an imbalance of power between actors. Even when cooperation between bodies occurs, the concerns of workers are still marginalized while the interests of industry are elevated. The literature maintains that collaboration with state is essential to the successful implementation of certification schemes. In the Chilean case, the network between industry, state, and workers unions relied heavily on the alliance between environmental NGOs like WWF, and industrial actors such as SalmonChile. Despite the emphasis placed on this alliance, the role of the state should not be diminished. The case also demonstrates that there are opportunities for regulation to increase when spaces of collaboration are created between public and private. The increased coverage, for example, when the state's national territorial focus paired with certification coverage of individual farms made enforcement possible even for the most remote farms. Given the challenge enforcement has been for the Chilean case specifically, increased coverage is a valuable benefit of collaboration. However, collaborative efforts in Chile may risk undermining the independence of each individual entity and transparency of the process (Cid Aguayo & Barriga, 2016). NGOs, for example, should

perhaps remain separate from other actors in order to maintain the unbiased position that is essential for their ability to do meaningful work that promotes justice and positive change.

A further contributing factor to the lack of regulatory success was the lack of trust within collaborations. The exclusion of workers in the development of initiatives was detrimental to their success. The WWF Aquaculture Dialogues failed to engage worker interests in a meaningful way throughout the development of the ASC standards, leaving workers dissatisfied with the resultant requirements and is further exemplified by the analysis which revealed low compliance with the indicators of fair labour outlined in this paper in Chapter Two. Bernstein (2007) considers political legitimacy, and concludes that legitimacy is embedded in the social sphere and is ultimately based on the trust that enables community building and compromise of interests. The WWF Dialogues did not create a space of trust, despite the involvement of both state, industry, and NGOs in the discourse—what was overwhelmingly absent was the voices of workers who were first and foremost impacted by the standards that would be agreed upon in the process that unfolded. This is suggested by the way in which the government privileged some actors in the dialogues over others, tipping the balance of equal conditions for negotiations essential for legitimate discourse in favour of Northern actors (Cid Aguayo & Barriga, 2016). Further, the exclusion of major stakeholders such as important union leaders and the lack of binding character to the dialogues meant that the dialogues failed to produce meaningful value for participants. This illustrates how trust among actors and confidence in the dialogue process was missing. Ultimately, two elements that hinder trust among stakeholders and undermine the political legitimacy of the governance process in this case are the non-binding character that meant decisions taken in the dialogue did not bind companies, and the nature of partnerships

with NGOs that reduced NGOs to the state agenda, the banning of ICAL and the granting to El Canelo de Nos as an example of this.

Finally, the imbalanced power relations between workers organizations, state, and industry actors additionally threaten regulatory promise. Havice & Iles (2015) raise concerns around rulemaking in the development of certification standards, calling into question what actually constitutes “sustainability” and who gets to qualify this definition. The rules underlying certification are generally seen as rigid, having gained their authority through their basis in scientific and technical knowledge. However, the WWF Aquaculture Dialogues that served to inform the development of the ASC certification standards demonstrate that rules are subject to ongoing negotiation and reflect the harmonization of influences within and between rule-making processes (Havice & Iles, 2015). Throughout the Dialogues, there was an emphasis put on stakeholder participation in the development of the needs assessment, goal setting, and performance indicators for proposed standards, but ultimately, the dominant participants were those powerful actors that could commit resources and time to the multi-year process (Havice & Iles, 2015, Vandergeest & Unno, 2012). In this case, this meant that despite the inclusion of local stakeholders in planning, it was Northern actors who had the final word in standard setting, thus limiting the relevance of standards for the concerns of workers.

Without state-enacted changes to legislation that would disincentivize large aquaculture companies from exploiting Chilean labour, it is unlikely that certification alone can improve the governance of labour practices in the broader aquaculture sector. Unequal power relations between labourers and industry actors determine the precarious position of workers. Further, the absence of worker and union voices in the development of existing certification standards means that the actual legitimacy of certification as a regulatory measure is inadequate. As the

aquaculture sector expands and becomes increasingly important for global food systems and coastal livelihoods, strong international regulation for the social aspects of aquaculture is needed to ensure that workers are treated fairly. Such regulation however will not be successful without the support of government to ensure sufficient enforcement of policies, and will require that the human rights of workers be upheld.

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