



Behind certification and regulatory processes: Contributions to a political history of the Chilean salmon farming



Beatriz Eugenia Cid Aguayo*, José Barriga

Departamento de Sociología, Facultad de Ciencias Sociales, Universidad de Concepción, Research Associate, Interdisciplinary Center for Aquaculture Research, Chile

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ABSTRACT

This text follows the public regulatory and the private certificatory paths undergone in the last decade by the widely criticized salmon industry in Chile, with the purpose of exploring the political process that underlies this path. The discussion focuses on the several instances in which both industrial actors and oppositional groups have stabilized those conflicts by sitting down at formally established dialogue tables, which, as we will see, have conducted public and private processes of regulation. In particular, we follow two paths: one promoted and overseen by the public sector and the other a process of self-organization and self-control of the industry at the national and global levels, which initially led to processes of self-certification and third-party certification. We argue that it cannot be reduced to an industrial learning due to the economic cost of disease outbreaks but rather that it is the outcome of a contested political process with interplay between global and local actors. This argument challenges the learning narratives espoused by the industry, contributing to a political ecology of certification processes. It analyzes the outcome of this process showing its contested political and social legitimacy, and the interplay between labor and environment within this regulatory path.

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1. Introduction

This text follows the public regulatory and the private certificatory paths undergone in the last decade by the widely criticized salmon industry in Chile, with the purpose of exploring the political process that underlies this path. We argue that it cannot be reduced to an industrial learning due to the economic cost of disease outbreaks but rather that it is the outcome of a contested political process with interplay between global and local actors. This argument challenges the learning narratives espoused by the industry, contributing to a political ecology of certification processes. It analyzes the outcome of this process showing its contested political and social legitimacy, and the interplay between labor and environment within this regulatory path.

The salmon farming industry has been one of the fastest growing agro-industries in Chile. It was introduced at the end of the 1980s and by 2006 had already reached a total exportation of USD\$2.500 that is 37.8% of global salmon production. The farming and processing facilities are located in the austral regions of Chile,

a traditionally isolated area with low levels of urbanization and oriented towards artisanal fishing and peasant agriculture. The farming operations have been spatially concentrated around the Chiloe Island and Reloncaví, in only 300 km of coast (compared with the 1700 km of the Norwegian industry). Only recently, farming areas have expanded further south. This concentration in a traditional isolated area has a major impact on the Regional GDP, that is very affected by aquaculture operations, and on employment creation: between 2006 and 2010 the industry has employed 35,000 people directly and 15,000 indirectly (Katz et al., 2011).

The development of the salmon industry raised expectations for its potential positive impact on the communities' livelihood. However, the overall evaluation of impacts has been mixed. The industry has been praised for its GDP contribution and employment generation. However, it has been questioned for its environmental and labor practices. In terms of the environment, the global salmon industry has been denounced for promoting overfishing, to produce fishmeal used to prepare salmon feeds, salmon escapes that threaten and compete with native fishes, and for polluting water sources due to salmon feces, uneaten salmon feed, and the use of antibiotics, fungicides, and algacides (Buschmann, 2001). Since Chile does not have native salmonids,

* Corresponding author.

E-mail address: beatrizcid@udec.cl (B.E. Cid Aguayo).

environmental issues are not focused on the impact on the wild salmon stock – as is common in the northern discussion – but on the overall degradation of water ecosystems, that affect fishing communities whose livelihood is threatened by the decline in fishable biomass and on the enclosure of traditional fishing and diving areas. Thus, the use and regulation of water resources has become grounds for contestation between the salmon industry and the coastal and lakeshore communities.

In terms of labor, the major concern is that, despite the creation of employment – especially for young women – the jobs are so precarious that they contribute to reproducing poverty while displacing peasant economies (Díaz, 2004; Pinto and Kremmerman, 2005). Occupational risks are also in the discussion, particularly the high recurrence of overuse muscular injuries among process workers and the morbidity and mortality rates of divers in salmon farms. Thus, the establishment of minimum labor standards, and especially the enforcement of labor legislation – which is critical given the inaccessibility of productive sites, preventing actual inspections – have also become grounds for contestation. Environmental and labor issues have been the main topics of conflict and regulation; sometimes the demands articulate, but they are often contradictory, especially due to the environmentalization and scientification of the regulatory narratives.

The first stages of the salmon industry development have been described as a *socio-ecological silence* under the *economic imperative* to promote the industrial growth. (Barton and Fløysand, 2010). Between 2007 and 2010, the salmon industry suffered a major health crisis marked first by a massive infestation of *Caligus* – also called the salmon louse – and then an epidemic of the virus ISA – Infectious Salmon Anemia. Both outbreaks were linked in the media to bad sanitary and environmental practices. Particularly notorious was the harsh article published in the *New York Times* on March 2008 that linked the massive use of antibiotics to control disease outbreaks – which concerned consumers – with poor environmental conditions that affected both workers and local communities (Barrionuevo, 2008). This translated into a sharp decline of salmon exports and the dismissal of thousands of workers. Thus, the environmental crisis turned social.

It is generally agreed that the ISA outbreak diminished the centrality of the economic imperative. The industry developed an important process of re-regulation that involved a territorial reorganization, important changes in the General Law of Fishing and Aquaculture (law 20.434,) and the expansion of private eco-certifications. Industrial actors describe these changes as the salmon industry 2.0, alluding to its renewed character (Vallejos et al., 2014). These changes have been understood as part of a normal modernization of the industry, reaching maturity and being capable of learning from the past mistakes. In the words of an industrial actor: *this true catastrophe forces the industry to rethink the business; they saw that the goose that laid the golden eggs was plucked everywhere (. . .). This industry, due to hard lessons, has learned the importance of innovation (Andrade, 2012)*. This paper reviews the regulatory process within the Chilean salmon industry to contextualize this current “greening” within a contested political ecology struggle in which global and local actors interplay, in micro-political processes. It analyzes the question of the social and political legitimacy reached by the certificatory process, and its contested environmental and labor outputs.

2. Political ecology, regulations, and certifications

This part reviews the political ecology literature on regulations and eco-certifications in aquaculture, focusing on its contested nature that undermines its pretensions on political and social legitimacy. Political ecology focuses its attention on the interrelation between ecological dynamics and socioeconomic power

relations concerning the intermediation between nature and society (Nightingale, 2002). In a Gramscian vein, the focus is on the actors that drive environmental changes; in particular, the emphasis is on how actors are able to shape their environments through discourse, use of science, coalitions, strategies, alliances, and interest groups; in sum, the mobilization of power (Veuthey and Gerber, 2011). As such, it recognizes the diversity in positions, perceptions, interests, and rationalities in relation to the environment, and how they interbreed with larger gender, class, caste, and ethnic struggles (Agarwal, 2003). Aquaculture has long been a concern of political ecology. There is extensive literature regarding the environmental impact of aquaculture in general and salmon culture in particular: (1) how local landscape, environment, and local society are transformed by aquaculture farming operations (Cruz-Torres, 2000; Mansfield, 2011); (2) the “tragedy of the enclosures” by which public coastal environments are enclosed by private capitalist operations and how local populations struggle to preserve their means of livelihood (Veuthey and Gerber, 2012); (3) industrial restructuring, particularly the relationship between the socioecological process of small-scale aquaculture production and the larger industrial operations (Vandergeest et al., 1999); (4) how pertinent current regulations and certification regimes are in addressing the environmental challenges of aquaculture (Belton et al., 2011); and (5) the discussion of how social and political processes interplay with the governance of aquaculture.

The classic work of Karl Polanyi highlights that self-regulated market operations encounter important civil society resistance, thus actual markets need to enter into several processes of institutional embedment to regulate market operations. Private eco-certifications have been in the processes of global embedment in which the aquaculture industry has engaged worldwide. Sustainability certifications are described as market-based systems oriented towards increasing consumer trust and providing legitimacy to producers. They attempt to coordinate two contradictory political economic trends: a sympathy with market mechanisms and economic liberalism as well as a consensus on the need to “democratize” global economic governance (Bernstein, 2007). Certifications involve (i) setting ecological and social standards, (ii) traceability and auditing, (iii) labeling the products that meet the standards, and (iv) institutions – usually private organizations – that perform these functions (Bush et al., 2013). Hatanaka (2014) adds to this list the use of scientific norms and practices as a source of legitimacy.

Certification systems are mainly promoted by global retail giants of consuming countries and by non-governmental organizations (Tran et al., 2013). They are often characterized as market driven (Cashore, 2002) or privatized governance (Gereffi et al., 2001), that move outside from the boundaries of the westphalian sovereignty (Cashore et al., 2007b). As a result, certification systems have been seen as an *increasingly pervasive forms 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).

Several factors underline the trend toward certification. First, a change in consumption patterns combines awareness around food scares – with the state seen as incapable of regulating food safety (Fulponi, 2006) – and a growing public concern about environmental impacts of seafood consumption, as part of a wider movement of ‘sustainable and ethical consumerism’ (Young et al., 1999). Second, there are the options taken by some traditional environmental groups, such as the WWF, that are abandoning the focus on the state and are turning instead to mobilizing large numbers of buyers to use environmental, social, or ethical criteria in their purchasing decisions (Vandergeest, 2007). Third, there has been increasing recourse to certification of seafood by global and regional buyers in response to NGO campaigns that have

threatened their brands by associating them with environmental and labor problems (Bush et al., 2013). This has resulted in a growing involvement of northern food retailers in the regulation of their suppliers that are setting regulatory practices extended across national borders, to ensure specific qualities (Friedmann, 2005; Ponte, 2002). These qualities can include both “experience” characteristics – such as freshness and taste – or non-material characteristics, including environmental and ethical conditions of production (Vandergest, 2007). This trend is powered by the oligopsony nature of supermarket chains and the shifts from price-based to quality-centered competition among them (Busch and Bain, 2004). And fourth, stakeholder pressure is central in this trend; Perez-Batres et al. (2012) analyzes its impact, showing that although not all pressures are relevant, firm, cumulative, and persistent scrutiny leads to substantive regulations.

The question of political legitimacy is central to the governance efficacy of certification systems, because their authority evolves outside from states’ sovereignty and thus relies on collective action. Legitimacy provides justifications and a shared understanding about a governance process, making subjects willing to adopt their regime’s decisions. Political legitimacy requires accepting an institution that sometimes does not operate in congruence with every particular stakeholder interest, that is, negotiate between norm-driven environmental protection versus un-embedded utilitarian logic of profit maximization. Legitimacy is embedded in the social sphere, that is, it rests on community building, which is difficult to achieve among stakeholders with multiple identities (producers, consumers, environmentalists), geographic locations, and interests (Bernstein, 2007). To achieve legitimacy, the procedures are designed to be objective, transparent, and replicable. This assumes that (i) there is independence between who does the audit and those being audited; (ii) the product or process that is being audited must be measurable to produce tangible evidence; and (iii) evidence must be independently verifiable. All of these are necessary to ensure consistency across standards, products, and spaces (Hatanaka 2014). However, this assumption does not question the issue of cultural specificity and the fact that science is neither culture-free nor fully objective, making contentious the application of standards in the Global South (Hatanaka, 2014). Furthermore, science itself may work as depoliticizing political technology (Béné, 2005).

Beyond the political legitimacy of the governance process, the literature underlines the main difficulties that certifications have in achieving sustained social legitimacy among stakeholders. First, critics are skeptical about the actual impact of certifications. Bush and Duijf (2011) argue that the focus on private production units does not address the cumulative impacts of multiple farms in a particular location. They also substantially underestimate the pre-farm linkage impacts, in other words, the effects from the production of inputs, such as seed and feed, as well as the environmental costs of distribution and transportation. Belton et al. (2011) adds that this focus on the farm invisibilizes labor because permanent on-farm employment rates tend to be lower than work in the provision of services. Moreover, due to the voluntary character and narrow focus of certification, they may produce enclaves with improved environmental and working conditions, but by themselves they cannot improve conditions in the broader aquaculture sector (Bush et al., 2013). Furthermore, Belton et al. (2011) conclude that certification is likely to result in greater differentiation between larger and smaller farm operators, excluding the latter from access to Western European and North American markets with minor environmental gains.

The second element of concern relates to the displacement and exclusionary trends that the political process of certifications produce among actors (Islam, 2008). Many stakeholders from the Global South are unable to participate in the certification process

for reasons of language, access, cost, time, or resources; and others disagree with the whole approach. When they participate, they are often unable to meaningfully influence outcomes (Bush et al., 2013).

A third element relates to the nature of the processes themselves, particularly the politics and relations of power that characterize it. Belton et al. (2011) state that *standards are normative rather than objective; reflecting power imbalances between Northern standard setters and Southern standard takers*. Havice and Iles (2015) inspect the rule making process behind those norms, showing their unstable and contested nature. The idea of sustainability embedded in the standard is not finished but is the result of a permanent political debate.

Finally, Vandergest and Unno (2012) analyze the colonial discourses and symbolism that transnational certification imply because they reinforce longstanding global relations of domination that ground with colonial-era extraterritorial empires. Some of these discursive features include a narrative of subjects who needed protection, the depiction of inadequate local states, and the creation of a global territory under imperial protection. For this reason, transnational certifications are often perceived as an encroachment on national sovereignty. These four elements have prevented that certifications achieve social legitimacy among non-industrial and southern stakeholders.

Within this account, it is necessary to raise two cautionary notes. First, in this narrative, southern actors are less visible than consumers, NGOs, and retailers in the developing of the standards’ institutional framework. This paper challenges this vision, showing that micro-political processes undergone within the south of Chile have a relevant impact on the regulatory paths. In this sense, it is highlighted that the development and legitimacy of standards in a third-party certified project are partially dependent on the extent to which the interests, epistemologies, and realities of all stakeholders are successfully enrolled. Thus, the standards are the outcome of strategic actions, political maneuvering, and uneven negotiations among southern and northern stakeholders. In this sense, instead of seeing local communities as powerless against global forces, a dialectical thinking acknowledging the unequal and unstable interconnections in which power is reframed is more productive (Konefal and Hatanaka, 2011).

Another relevant caution refers to the actual relevance of private standards and the role of the State. Although certifications are a major trend in aquaculture, their importance should not be overestimated. According to Bush et al. (2013), only a small proportion – approximately 5% in 2013 – of world aquaculture production is certified, and given the current species standards, 58.4% of world aquaculture production is not “non-certifiable”. Moreover, Cashore et al. (2007a) highlight that private certifications have more impact when they are conceived as working in conjunction with domestic public policy requirements. Thus, despite its smaller role in the literature, public regulation should have a primary focus as a central part of regulatory regimes.

For the purpose of this paper, and with some influence of actor-network theory (Latour, 2006), a certification and a regulatory regime is to be understood as a *performative network* that stabilizes a relationship among different state institutions, environmental groups, development agencies, trade agreements, consumers, retailer organizations, farmers, and policy and research centers (Vandergest, 2007). Under this Latourian view, this network is not an immutable mobile but an unstable result of the negotiations among multiple and heterogeneous actors (Havice and Iles, 2015). Such heterogeneity means that non-human actants such as viruses, bacteria, and salmon also should be included. The networks articulate and negotiate multiple motives: concern on environmental impacts, economic growth, facilitation of trade, food safety, and others (Vandergest, 2007). This view also

challenges the separation between state and market that underlines the idea that regulation is solely private and market driven. Environmental governance points to blurring boundaries among actors in the private and public sectors.

2.1. Methodological notes

The data of this paper come from two series of data collections. The first one is an extensive data collection, performed between the years 2008 and 2010, as part of a larger study about the political economy of the salmon industry, carried out during the peak of the ISA crisis. The second one, with a smaller scale, was performed during the summer of 2015 to update the case, in the context of a seemingly renewed salmon industry that had undergone important regulatory changes. This permits comparing – longitudinally – the development of governance during the crisis and after it. The first data collection attempted to map the network of stakeholders, thus it involved 15 focus groups with workers in farming and processing plants of the salmon industry; and semi-structured interviews with key actors: 6 International NGOs on salmon-related campaigns; 6 Chilean NGOs; 6 representatives of state Regulatory Bodies; 2 Industrial Actors: SalmonChile (Federation of Chilean Salmon Producers); leaders of 5 labor union federations and 3 fisher unions and local communities. The second round of data collection, re-contacted and re-interviewed some of the key actors, mainly union leaders and NGO professionals, to have their opinion about the regulatory changes. We also reviewed secondary data, particularly changes in the law, media coverage, and public documents from certification organisms and dialogues.

2.2. The political waters of the salmon industry

2008 is considered the end of the so-called salmon “environmental silence” for the Chilean aquaculture history. The Infectious Salmon Anemia virus (ISA) outbreak forced the closure of many farms, leading to unemployment, placing some industries in financial unrest and triggering the discussion of aquaculture regulations. However many voices had anticipated it long before the crisis. As early as 1991, salmon farming was associated with several undesirable environmental impacts (López and Buschmann, 1991; Buschmann et al., 1995; Caro, 1995). By 1999, labor conditions on salmon farms and plants and the displacement of fishing communities came into the discussion (Claude et al., 1999). From 2002, the relationship between salmon farming, Chilean and international NGOs, unions, and fishing organizations underwent conflicting periods, and during the ISA crisis, these conflicts reached a peak, which was manifested in demonstrations, public declarations, media releases, judiciary suits, campaigning, etc. The following discussion will focus on the formally established negotiation and dialogue tables that attempted to stabilize the conflict and conducted a public and private processes of governance that pretended wide legitimacy. In particular, we follow two paths: one promoted and overseen by the public sector that led to important changes in the public regulation. The second path relates to a process of private certification that have contributed to building an *industrial-NGO cluster of governance* that parallels the state one.

2.3. The state: from a mediation role to changes in the public regulation

By 2002, both the industry and the government were concerned by social unrest that surrounded the salmon industry. Two initiatives were led by the government that year: a *Social Dialogue* between the industry and civil society and the *Clean Production Agreement* (APL). Eight years later, the ISA outbreak and the

associated “salmon crisis” proved that these initiatives were insufficient, opening a parliamentary investigation of the salmon industry that set the *Stakeholder Salmon Tables* (year 2007–2008), which in turn led to major changes in public regulations.

In 2002, the Labor Minister promoted the installation of the *Program of Social Dialogue* to address the labor and social agenda with the salmon industry. This was inspired by the methodology promoted by the ILO since the *Program for Decent Labor* (87th meeting, 1998). The regional departments of the *Labor Ministry* (*Labor SEREMI*) entrusted the implementation of the *dialogue* to local NGOs. In the first period, the selected NGO was *ICAL* (tied to the Communist Party), which had a declared focus on empowering union leaders to engage in negotiations.

We put our own seal on the concept of social dialogue, assuming that it was an element, a definition, under a political and ideological struggle (...) previous conditions for a real dialogue were strong union subjects (Interview ICAL).

ICAL was only entrusted with the fund for two years; afterwards, it was awarded to *El Canelo de Nos*, a more centrist NGO that currently still plays a protagonist role in the relation with the industry. *El Canelo*'s emphasis was on generating *spaces of trust* between stakeholders. This redirection clearly reflected a political option on containing social conflicts. Unions and other civil society organizations actively participated in these dialogues. Nonetheless, they maintained a critical distance and accused companies of having double standards: participating in the dialogues but, at the same time, violating the agreed-on compromises. In fact, some actors felt that the dialogue only served to wash the industrial image. In the words of one union leader, “*It was just to show that companies were meeting with workers and the government (FETRACAL)*”. Two elements hinder trust among stakeholders and undermine the political legitimacy of the governance process:

- (1) The non-binding character – a problem found in all further instances – that meant decisions taken in the dialogue did not bind companies. In the words of one union leader, “*if a company is not present, then they say: I was not in that table then don't put me there (FETRACAL)*”.
- (2) A contract culture with NGOs that subordinates NGOs to the State agenda. In particular, the banning of *ICAL* and the granting to *El Canelo de Nos* shows the active role of government in promoting or discouraging different organized actors.

In the same year of 2002, the industry association *SalmonChile* and the government subscribed the *Salmon APL* (Clean Production Agreement of Salmon) as a first exercise of environmental certification grounded in public-private partnership. The APL was promoted in all sectors of the economy, and the salmon industry – under challenge from civil society – was the first to engage actively in the project. The agreement was organized around three periods. In the first period, the set of norms required by the different public organisms was systematized to generate a single regulatory body, including also some other elements not considered in the legislation (i.e., the use of special nets to protect marine mammals). A second period consisted of two years of adjustment, during which the subscribers had to make investments to implement the regulation requirements. In this period, the firms facilitated the inspections – providing transport for the inspectors – and the regulatory agency performed educational visits, during which legal sanctions were not applied and technical support was provided to meet the standard. Finally, in the third period, external inspections certified the clean firms. The APL implied a transformation of the regulatory agencies' roles from one of external supervision to one of partnership with the industry.

We have worked in a public-private partnership (. . .) when we do visits as APL, we show them why they receive the fines and, if at this moment they are committing an infraction, why this is an infraction, but we are not going to give them the fine (later we may come back to fine them, not as the APL but as a control entity . . . but they were warned) (Interview APL).

It is possible to argue that this partnership distracts the public organism from its main task, reinforcing the current norm and sanctioning its violation. Furthermore, it constitutes a sort of subsidy to the industry's certification process. In fact, public organisms organize their regular activities and use their own resources to help the industry start a seal system that is, in the first place, useful to the industry.

43 companies subscribed to the APL (80% of production); by 2006, 12 of them had fully achieved the standards; mainly the biggest companies (n/a, 2006 Estrella de Chiloe). According to the industry, the process involved important investments, but these were not sufficiently diffused in the consumer markets.

The Chilean Government did not work to present, to market what a Clean Production Certificate really means (. . .) there is a lot of work behind it; we invested 90 million dollars and that is not a little money, 90 million dollars . . . *you can argue that these were things we had to do anyway, maybe . . . (. . .)* I mean, if you invest in a seal, it is because it gives your product value, and because, it stands against the accusations of all these other sectors (Interview with Rodrigo Infante, Manager of Salmon-Chile).

The *Clean Production Agreements* was a state-industrial instrument to demonstrate environmental credential, even if only to comply with the law. This would help neutralize the threat of oppositional groups, enroll some actors from the non-profit sector, and appeal to the politically informed consumer. When those expectations were not met, they resulted in frustration on the part of the industry.

The NGOs challenged the legitimacy of the APL for several reasons. First, although it ensures the application of the Chilean regulation, this regulation was considered to be insufficient. In particular, the focus on the plant did not consider the aggregated effect of many plants over the carrying capacity. Second, they noted that some of the companies that subscribed to the agreement violated the environmental regulations, a fact that resulted in them failing the certification in the long run, although in the short run they appeared to publicly subscribe to the agreement. Third, they criticized the absence of labor in the agreement. Finally, they complained about the bilateral character of the agreement, excluding other stakeholders.

The 2007 ISA crisis demonstrated that the described initiatives were limited. The APL – and thus the current legislation – was not enough to prevent a major sanitary problem, and the program of social dialogue was incapable of containing social protest. In this contest, some local stakeholders encouraged politicians to create a political agenda. As a consequence, two socialist MPs raised a discussion about the impact of the salmon industry in Parliament. The result of this discussion was the constitution of 'Stakeholder Salmon Tables' that had 120 days to discuss the main problems affecting the industry and to generate a diagnosis and a proposal to be discussed in Congress. In particular, two salmon tables were constituted: a labor table, headed by the SEREMI of Labor, composed of representatives of the industry and unions, and having the methodological support of the NGO *El Canelo de Nos*; and an environmental table, headed by the SEREMI of Economy and that included fishing organizations and industry representatives.

These new tables interrupted the *process of social dialogue*: they had a greater scale, a more political character, high expectations

and heavy media coverage. These expectations were quickly dashed for the most militant sectors due to three reasons. First, within the labor table, there were problems related to the representation of participant union leaders. In particular, the SEREMI of Labor invited three industrial representatives and three union leaders. However, this resulted in the exclusion of one of the most militant union leaders, who was precisely among those who started the conversations with the MPs. This was seen as an intervention from the government. Second, the tables did not have any decision-making power because their task was to provide a diagnosis to inform Parliament. Thus, the table was perceived by some union and fishing leaders as only "*an empty talking instance*". However, despite the harsh evaluation, there was consensus that the tables generated a minimum space of trust. In the words of a union leader:

We talked with Infante (the manager of SalmonChile): look, Mr Infante, this is happening and we are going to have to accuse the industry again . . . *we have that shit Don Rodrigo*. He looks at it, he makes meetings with the company manager, and sometimes we resolve it (. . .) *in the dialogue Don Rodrigo told me, look Ricardo, any problem that you have, you just call me*" (Interview FETRAINPES).

After this process, in April 2010, a major change in the General Law of Fishing and Aquaculture (law 20.434) took place. The law created the Aquaculture Subdirection (*Subdirección de Acuicultura*) within the Fishing Department (*Servicio Nacional de Pesca*). It also introduced several reforms that revolved around two topics: territorial organization and control of diseases. In terms of territorial organization, some relevant measures were taken. First, territorial units were established to organize aquaculture exploitation – called Aquaculture Appropriated Areas. Specific areas were defined as appropriated by aquaculture, that is, available to concession. This was a specific attempt to harmonize and segregate aquaculture and other activities such fishing, tourism and conservation. Second, "Concession Groups" were defined, referred to in the media as "salmon neighborhoods". This measure had major relevance because it acknowledged salmon farming as an activity with territorial impact, assuming that regulations cannot be applied to single centers but rather to all centers that occupy an eco-territorial unit. This included coordinating maximum densities, prophylactic and resting measures within a topographic unit. The law also ruled on several measures to prevent and control disease outbreaks and spreading, such as resting periods in the concessions; restriction of transit of non-disinfected vessels and others among concessions; segregation, following, and contention plans around disease outbreaks; as well as control of exotic species escape. It also forbade the preventive use of antimicrobials and regulated the use of vaccines, chemicals and waste treatment.

Despite the fact that workers had a major role in promoting the stakeholder dialogues, most of the regulatory changes focused on environmental issues, maintaining the existing law with respect to labor issues. Even worse, the spatial spreading of fish farms and turns systems required by the new environmental norm may jeopardize labor stability, showing a fracture between an environmental and a labor-based concern: "*the system of 'neighborhoods' and their respective health breaks, it is not a good prognosis for the stability of workers who have been the hardest hit in this industry*" (Barra, 2011).

The only specific labor measure was to link the concessions rights with the respect of labor law; in particular, repeated sanctions on anti-union practices would lead to a cancellation of the concession. In this respect, union leaders complained about the difficulty of actually inspecting anti-union practices in isolated places. Particularly compelling is a historical union leader's denouncement:

If a “bloodsucker” committed anti-union practices, he will lose his aquaculture concession. How many unions remain alive in the salmon industry? How many trade unions can constitute with fixed-term contracts? (. . .) How to investigate an anti-union practice in the sector of Las Guaitecas, in Melchor Island, Cuptana, Concoto? (Casas, 2010)

This oversight of labor led to a new call for a labor dialogue in 2014, with the El Canelo again as technical support. The process is still ongoing, but it seems that the expected results will not go through public regulation and inspecting capability but instead through bipartite agreement between companies and unions through a sort of “labor standard” managed by union confederations. In the words of a consultant:

To have a good practices manual, built from workers, it is basically the workers say that it is a good company in labor terms . . . (. . .) Create your own manual, demanding, difficult to fill, with reasonable measures, enforceable, not involving political issues such as salaries for example . . . appropriate labor standards and to certify those standards (. . .) the guy will have a distinctive tool. What better than being certified by the workers in labor issues? (Consultant- El Canelo).

Other elements of controversy around the law are: (1) although aquaculture concessions do not constitute property, they could be used as a guarantee for bank credits (as specifically authorized in the Article 91 Bis of the Law); (2) the low cost of aquaculture concessions, as the new law establishes a gradual increase in the annual fee starting from 12 UTM per hectare in 2014 (approx. US \$1030) and reaching 20 UTM per hectare in 2017 (approx. US \$1720). This amount was considered insufficient because it did not reflect the actual impact of the activity and the actual benefits received by the industry. And (3) the process of allocating concessions on the proximity of national parks and environmentally clean areas.

A final concern relates to the impact that the increasing regulation will have on the industrial production cost. From the industrial voices, although there is a general agreement about the need for these regulations, it is also stated that they will affect its productive potential. El Mercurio, a traditional media voice, stated in its editorial: *“In order to regain competitiveness of Chilean salmon farming, it is vital to improve sanitary conditions, but it is equally important to do so at the minimum possible cost. This involves eliminating rules that cause more costs than benefits – some of them introduced in the urgency post-virus ISA” (El Mercurio, 2013)*. From other political corner, TERRAM – a traditional NGO – raises the link between the increasing cost of environmental regulation and the concentration of the industry: *The fear of small and medium-sized players is that current regulation will generate a wave of mergers and sales (. . .) We don’t want this industry to reduce and concentrate on three or four companies (. . .) at the worst of the crisis by ISA, were mainly small and medium-sized producers of Coho salmon and Steelhead trout who held the industry and its worker (Terram, 2013)*.

In sum, from 2000 to the present, the stakeholder-sustained pressure and the same interest of the industry have forced the State to substantially address the salmon industry as an issue of concern. The first approach was an effort of mediation among the different parts in conflict in two ways: dialogue tables to manage the social and labor conflict, and partnership with the industry – through the APL – through which the State, rather than auditing the industry, participates in public-private certificatory alliance. The ISA socio-ecological crisis exposes the failure, and challenged the legitimacy, of this network, leading to a second relationship approach. This involves a politization of the discussion as well as major changes in the legislation, addressing both old demands from environmental groups as well as a new demand of the industry for stricter

environmental regulations. However, these regulatory changes were not always accompanied with a significant increase in inspecting capability. An important feature of this new law is an environmentalization of the regulation, maintaining untouched the labor legislation. Furthermore, there are reasons to believe that special and temporal changes in the productive process may jeopardize labor conditions.

3. Industrial self-regulation: the search for widening the stakeholder base

Starting as early as 2003, the industry developed its own path of regulations, a process that began with a closed-door character, but evolved into a process opened to third-party inspections as well as to include some stakeholders of the environmentalist world, in order to increase its legitimacy base.

The *Integrated Management System (SIGES)*, implemented since 2003, constituted the first exercise of self-regulation, traceability and certification organized by the industry. It was a voluntary system that traced compliance with the national environmental regulations and the ISO standards. Three areas were certified: (1) product quality, (2) respect for environmental legislation, and (3) occupational health and safety (not addressing issues of salary, contractual conditions, and maternity protection). The whole process was designed and administered by INTESAL, but the certification itself was entrusted to an external agency.

Before the existence of SIGES, the salmon industry lacked a unified certification regime (Alvial and Bravo, 2006). Four reasons made it necessary to implement it. First, there was a need to take some control over the certification process that was affecting the industry worldwide. While participating in some form of certification became unavoidable, the industry perceived the diversity of certificates as chaotic, very expensive, and complicated. In the words of the former manager of SalmonChile: *When you are in the same industrial sector, which also belong to all, it makes no sense to have different standards, it is better to have a common floor, which already is the law, then what is the next step?, and then we designed SIGES.*

Second, it was necessary to respond to demands from a retail increasingly concerned about food scares and environmental challenges. In the words of a professional in INTESAL: *“International markets make demands that are not only the accomplishment of the norms (. . .) want to know how a product is made (. . .); these are elements that eventually define the opinion of a consumer”.*

A third reason was to develop an instrument capable of confronting the increasing pressure from organized environmental groups. In fact, industrial documents explicitly identify the pressure as one of the main reasons to certify the industry, describing SIGES as a *“protective shield (. . .) capable of globally defending the industry against external critiques and attacks” (Alvial and Bravo, 2006: 34)*.

Finally, the certification process is also a strategy to reorganize the relationship with public regulatory agencies from one of external supervision to one of leverage. This was made explicit by SalmonChile president Cesar Barros who called on the government to privatize the regulatory process, using the market’s needs for a private standard.

“Since the State is not prepared to take on this responsibility and it is in the greater interest of the industry to regulate, the most efficient thing to do is to promote self-regulation (. . .) either we ask SERNAPESCA to increase its regulations beyond its possibilities or we regulate ourselves and we report the ‘wrongdoers’ to the government (Field Notes, SalmonChile Seminar, July, 2006).

SIGES developed in the double context of a highly disorganized production system and increasing stakeholder challenges, which

permitted the industry to regain control over the certification process as well as gain consumers, neutralize critiques, and negotiate with the government and its public regulatory organism. The seal was designed, without any participation of stakeholders in the discussion. This is particularly paradoxical given that the stakeholder demand was one of the main reasons indicated behind the implementation of SIGES. This has become its main weakness: most of the Chilean oppositional groups considered SIGES to have little legitimacy. This is expressed in the fact that at a certain point in time, the industry proposed to develop a Labor-SIGES, and this was refused by trade unions. This fact is quite consistent with other experiences of self-regulatory codes: without stakeholder participation, there is more focus on symbolic measures to improve public image than in substantive ones that would empower stakeholders (Perez-Batres et al., 2012).

The ISA crisis demonstrated that the self-certification offered by SIGES was insufficient and started SalmonChile on an active search for third-party certifications. This search led to two ways: (1) alliance with other actors in the industry and the retail sector with proven experience on certification, leading to the development of the SalmonGAP and the BAP standard; and (2) the active engagement on the WWF salmon dialogues to develop a standard that is more open to civil society inspection.

In 2010, SalmonChile delegates visited the GlobalGAP Conference, subscribing to an agreement to establish voluntary codes – open to international third-party inspection – to certify aquaculture products. Global GAP is an organization that was born in 1997 out of an initiative of European retailers aware of consumers' growing concerns regarding product safety, environmental impact, the health and safety of workers and animal welfare. Their purpose was to harmonize their own standards and develop an independent certification system for Good Agricultural Practice (G.A.P.). As a result, in 2010, SalmonChile harmonized the SIGES standard with the Global GAP standard and created "SalmonGap", which was based specifically on the needs of the Chilean salmon industry and answered the specific requirements of a seal already known by the European retailers. SalmonChile itself assumed the task of coordinating the training of both the producers interested in obtaining the certification and the certifiers interested in auditing the seal. This task of operationalizing the standard may be seen, according to Havice and Iles (2015), as a rule-making venue in its own right.

The second path followed by the industry was to engage with a certification developed not by the retailers but instead by the aquaculture sector itself: the Best Aquaculture Practice Certification (BAP) of the Global Aquaculture Alliance (GAA). This organization, founded in 1997, facilitates cooperation among industrial actors to maintain public confidence in farmed seafood. It defines some principles of responsible aquaculture practice and funds aquaculture research, and since 2001, it has maintained a *liaison status* with FAO. BAP is a third-party certification system for aquaculture facilities, including environmental and social responsibility, food safety, animal welfare, and tracking throughout the production chain.

Both the GAP and the BAP processes were developed within corporate actors; the retailers and the aquaculture industry; although these actors may take social responsibility seriously, they do not include non-industrial stakeholder in their constituency. It answers the consumers' and retailers' concerns regarding food safety, environmental issues and social responsibility (which may be informed about local social demands) but not as direct answers to southern social stakeholders.

This is different from the case of the Aquaculture Stewardship Council, which came out of the WWF Dialogue; and due to political processes eventually included variables and actors that were not originally considered. The World Wildlife Fund (WWF) has

promoted since 2004 the worldwide development of dialogue tables on aquaculture, congregating people from civil society, industry, and communities to find a space for minimum agreement concerning environmental issues with a scientific basis. In 2005, while the public-led Social Dialogue program was still in execution, and the APL and the SIGES were beginning their operations, this global initiative came onto the scene, setting up in the south of Chile the first actual meeting between the industry and stakeholders to set the foundations for private governance.

This development was cautiously received by some Chilean stakeholders. They wrote a public letter to the WWF inquiring about several aspects of the dialogue legitimacy: their international context, objectives, and strategies as well as demanding more transparency, inclusion of the government in the dialogue, generation of strategies for monitoring the results, and the inclusion of other unions, fishing communities, indigenous communities, and tourism organizations that were previously not invited. Despite these concerns, civil society as a whole participated in the first meeting. However, during the assembly, some of the participating NGOs (Ecoceanos, Oceana, OLCA) and two worker federations decided to leave the table. In the meeting summary, the following is written:

Nine participants from five organizations (NGOs and labor unions) collectively stated that they felt the meeting did not meet with the basic conditions for all the actors to have equal participation and that the process did not consider the social, economic, and environmental specifics of Chilean reality. They asked for Dialogue participants to support a moratorium on the expansion of salmon farms and then withdrew from the meeting (WWF, 2005: p 12).

During the dialogue, workers from the FETRAINPES interrupted the sections, denouncing the industry and demanding an open dialogue with the presence of government officials. They obtained, with the support of international observers, such as the WWF itself, NET, and the Suzuki Foundation, a series of additional meetings between the industry, unions, and the labor department to discuss labor issues that were left out of the dialogue process. The following is also written in the meeting summary:

The presentation back by the socio-economic group was interrupted mid-way by some workers, who were primarily from AquaChile. The workers demanded response by the industry to a number of claims regarding worker rights, working conditions, salaries, etc. SalmonChile agreed to meet with the workers upon the close of the Salmon Dialogue meeting that afternoon. Demonstrators were invited to attend the rest of the Dialogue meeting (WWF, 2005: p 16).

The departure and entrance of union and NGOs from the WWF dialogues shows the uneasy relationship between local organizations and these global processes, as Islam (2008) states: they are trespassed by exclusionary and self-exclusion trends. In this case the apparently neutral science based emphasis – that displaced a grounded political discussion (Béné, 2005) – seems to have played a role in the self-exclusion of the most militant actor.

The political configuration of the Chilean chapter of the WWF salmon dialogues had a very important result in the long run, leading to the inclusion of labor issues in the ASC Aquacultural Standard for the case of salmon and made a difference with respect to other ASC standards. In fact the meeting summary states: "It was noted that labor issues have clearly been missing from the Dialogue and need to be included in a proactive and constructive way" (WWF, 2005: p12).

From the industry, the participation in the dialogue was a new chance in their long search of legitimacy.

Our interest in the WWF dialogues is, with all the available science on the market (. . .) to be able to demonstrate that the industry is . . . Well, I don't want to say that it is perfect, there

are always things to correct (...) to demonstrate that the salmon activity, I think, is absolutely sustainable from the environmental point of view... (SalmonChile).

Among the oppositional groups, the WWF dialogue triggered a fracture. In particular, some groups (e.g., the NGOs *TERRAM* and *El Canelo* and some unions) were willing to engage in dialogues to reach a common ground, whereas others groups (e.g., the NGOs *Ecoceanos*, *Oceana*, and other unions) were not willing to negotiate with the industry. They participated in the first meeting of the *WWF dialogue* but left it quickly, denouncing a “green washing” strategy, exclusion of important stakeholders, a maneuver to distract the socially and environmentally minded consumer, and an attempt to divide the civil society.

We want to create an image among consumers, commercial chains, and the public opinion of the U.S. and the European Union that the contested salmon industry is dialoguing with its stakeholders in Chile (...) while it sets a strategy of bilateral negotiations in an attempt to divide environmental organizations, fishermen, and salmon worker unions, to prevent the establishment of national and international alliances in defence of the marine environment, the citizens, and labor rights. (Ecoceanos).

According to the interviewees, some elements prevented it from gaining wider political legitimacy, particularly (1) the absence of key actors such as the press, the government and relevant unions; (2) emphasis on technical rather than political discussions; as well as (3) the emphasis on self-regulating standards as opposed to public ones. Again, legitimacy is hindered by distrust among stakeholders and about the governance process.

Globally, the Global Aquaculture dialogue involved, more than 500 participants, including salmon farmers, conservationists, scientists, seafood buyers, feed companies, coastal communities and workers. A Steering Committee – including 4 NGOs and 4 industrial actors, as well as the WWF – was formed to manage the salmon dialogue, including two key Chilean players: the NGO *Terram* and *SalmonChile*. In 2010, the dialogues led to the constitution of the Aquaculture Stewardship Council with the commitment of producing a global standard for responsible aquaculture. The final standard and the certification program were finally released in 2012. The ASC has the farm as a unit of certification, allowing companies to certify particular sites. The standard included the following aspects: (1) compliance with all applicable national laws; (2) conservation of local biodiversity and ecosystem functions; (3) protection of health and genetics of wild population; (4) environmentally efficient use of resources; (5) management of diseases and parasites; (6) socially responsible farming operations, including labor issues; and (7) good neighbor and citizen behavior.

The standard has been considered by some civil society key players as “stronger than any of the other certification systems currently being touted by the industry”; however, it is added that “Unfortunately, there are too many uncertainties to say it is strong enough to protect wild salmon or marine ecosystems”, basically on the ground that the standards do not isolate the net-pen from the wild environment, compared with closed containment systems (David Suzuki Foundation, 2012). According to the WWF web page, 15 companies representing 70% of global farmed production are committed to ensuring that 100% of their production will be certified by the Aquaculture Stewardship Council by 2020.

In sum, the industry has been active in the search for self-regulation, traceability and certification, to respond to both market demands and civil society critiques. The first initiative – SIGES – failed to prevent the ISA outbreak and to gain legitimacy. To be environmentally effective, it needed stricter rules; to gain

legitimacy, it needed a wider network of stakeholder actively involved. Both these have been addressed through the WWF dialogue and the ASC standard. This initiative fits the salmon industry’s needs, as well as the interests of mainstream environmental organizations. On the other hand, it fractures civil society, and downplays labor issues.

3.1. Discussion and conclusions

After the analysis, there are reasons to see that in the Chilean case, the pressure from non-industrial stakeholders is one of the driving forces behind the processes of regulation and certifications. This is in articulation with the other driving forces described in the literature. While the literature focuses on the retail demands, the responsible consumer concerns, and global NGOs campaigns, this paper shows that long-lasting local stakeholder activism, campaigning, and pressure are capable of articulating with Global NGO, impacting the international media, mobilizing the informed consumer, persuading the retail and thus the industry to accept voluntary regulation. This is consistent with Perez-Batres et al. (2012) view that demonstrates that cumulative, persistent stakeholder pressure do have a substantive impact on regulatory codes. On the other hand, it challenges the Belton et al. (2011) and Hatanaka (2010) view that northern actors are standard setters while southern actors are standard takers; and shows the relevance of inspecting the making processes behind the rules (Havice and Iles, 2015).

The process of change also did not result solely from the outcome of the learning process of the industry but also from sustained civil society pressure. In another political scenario – without that important challenge posed by organized groups – the ISA crisis could have led to a major self-regulation and technological restructuring to increase sanitary conditions. However, given the social unrest that characterized the actual political scenario, major efforts were made in the law to regulate the relationship between the industry and other actors in the territory. Even more clearly, the certification trends had to move from intra-corporate certifications to processes that are actually more open to stakeholder inspections.

The type of regulation and governance put in place cannot be solely described as intra-industrial regulation and governance but rather as an actual network between the industry, the state, and the civil society. Central in this network is the increasingly relevant alliance between some traditional environmental NGOs, such as the WWF and *TERRAM*, and industrial actors in what Gereffi et al. (2001) called the NGO-Industrial Complex. However, the role of the State should not be diminished because the first self-regulation attempt in the Chilean context was the APL, a state-industry partnership whose aim was to certify the accomplishment of the environmental law. In the same vein, the attempt to stabilize conflict and social unrest was an alliance between the state and local NGOs through the processes of social dialogues. Thus, alliances between industrial and non-industrial actors underline the certification trends.

These trends are controversial for oppositional groups. They effectively have forced the industry to recognize some of their demands and transform certain practices, as shown by the inclusion of originally unconsidered issues in certifications answering local demands, such as labor issues in the ASC standard. On the other hand although the industry changed some of its practices, it also maintained and reproduced others, but now with renewed legitimacy.

The described case permits some reflections about the political legitimacy of dialogue processes and standards. For Bernstein (2007), political legitimacy is embedded in the social sphere and grounded on community building – based on trust – and capability

of compromise variety on interests. The described processes showed many deficiencies in this sense. First, regarding the actual participants' willingness to participate in the dialogues, in some of the documented cases, the positions between the participants were so far apart that no dialogue was possible; the industry was unwilling to change the challenged practices and oppositional groups would not consider solutions other than a total moratorium. In other words, the participants did not accept that institutional agreements do not operate in congruence with every particular stakeholder interest. Second, regarding meeting in equal conditions for negotiation, such a fact was not always the case, mainly for the government role in privileging some actors. Third, no major stakeholder should be excluded, such as a major union leader, as was the case in stakeholder dialogue, or governmental actors, as in the WWF dialogues. Finally, dialogues should have some type of binding character that ensures that the agreements of the dialogues have a real meaning for their participants. Therefore, trust among actors and confidence in the dialogue process was missing in this case.

In relation to the certification regimen the literature has pointed out several critical elements that relate to social legitimacy. [Bush and Duijf \(2011\)](#) focused in the incapability of certification to address cumulative impacts. For the Chilean case, while private certifications still have these problems, the public regulations have moved toward an aggregated view of the territory through the salmon neighborhoods.

The representation of small and local stakeholders is also problematized ([Islam, 2008](#) and [Bush et al., 2013](#)) and the case clearly shows that some of the most radical local actors exclude themselves from private certificatory dialogues (due to a disagreement with the process), or are not invited to the governmentally lead table. Moreover, cost and distance seems to play a role in preventing the small stakeholders participation, as it is shown by the fact that only a large environmentalist NGO such as TERRAM, and SalmonChile, were capable of attending the full round of the global WWF dialogues.

Certifications have been associated in the literature with the formation of enclaves ([Bush et al., 2013](#)), by which productive standards are applied to a portion of the industry, leaving the rest untouched. This trend is unavoidable considering the small part of the production that is actually certified. Such a fact implies that the role of regulator in establishing a common ground between certified and non-certified belongs to the State. In the Chilean case, while the State has made important regulatory changes, a critical point that remains is the documented difficulty that the State has performing inspections and enforcing sanctions in a highly isolated topography.

Certifications and public regulations have made science a particularly authoritative voice in environmental terms. Science is used to as base to find a common ground on the WWF dialogues and it is appealed in the legislative process. With *Béné*, we are afraid that science may become a depoliticizing political technology, but in which environmental distributional issues, environmental justice, and the question around the use of the common, is reduced to a scientific discussion about carrying capacity and acceptability of pollution. In this case, environmental issues are reduced to acceptable emissions and impacts on water ecosystems, displacing the political ecology question of who is actually using coastal and water resources and who has the right to it. This may result in an actual exclusion of some stakeholders (as stated by [Islam, 2008](#)), that either do not feel comfortable with the language of science, or prefer to focus on an actual political discussion as is the case of fisher organizations. Science itself may be perceived as a colonial narrative ([Vandergeest and Unno, 2012](#)), in which only some actors feel comfortable.

How positive is the establishment and maintenance of this private-public network of governance from the point of view of the environment, workers, and local communities? The mutual reinforcement between private certification and public regulatory changes (noted by [Cashore et al., 2007b](#)) is interesting regarding environmental issues. Thus the actual difficulties for the state in inspecting isolated areas may be somehow compensated by private inspection on certificatory processes. On the other hand, the individual focus of certification is compensated by the territorial focus of the state. This has promoted the stabilization, maintenance, and legitimacy of a public-private regulatory regime, and there are positive environmental outputs of such regimes. However, the relationship seems to have been "*too close for comfort*"; each member of the network has not performed correctly the task that it was supposed to perform. The State may end up being an ally and a consultant rather than an actual inspector of environmental and labor practices, as was the case in the APL agreement; and the NGOs, which are involved in the certification steering committees or in a contractual relation with the State, risk losing their independence to act and speak on behalf and all together with voiceless and weaker actors. In sum, these alliances risk undermining the independence of each actor and, in turn, the transparency of the whole process.

This stabilization had the cost of fracturing local civil society, by which the most militant and local stakeholders have been excluded, or have excluded themselves. Pollution and acceptable emissions have displaced political ecology issues such as the use of commons and property rights of water resources. Furthermore, the environmentalization of the discourse downplays labor issues that have been widely raised by unions. Both certifications and governmental regulatory changes have focused on environmental indicators around farm activities, and some of the adopted measures – such as the rotation and resting times for net-pens – affect labor stability. This is consistent with [Belton et al.'s \(2011\)](#) analysis around the invisibilization of labor due to the focus in fish farming. Thus, while certifications have been positive from the environmental point of view, it is not possible to say the same in relation to social and labor issues.

Finally in relation to the local political legitimacy of privatized types of governance, three points should also be made. First, governance should be open to the participation of local stakeholders in the design of the standards. This is something that was learned by the industry, incompletely and with great difficulty, during the experience of the WWF certification. But we certainly need to move beyond this, to implement a permanent and self-reflecting monitoring of the accomplishments, and a governance structure capable of adjusting to emerging issues. Second, the process of setting the standard should go beyond a technical discussion to include a political one: rather than defining acceptable standards, there should be a real discussion about what the different actors want in a territory. In sum, political legitimacy rests in the wide, symmetric and respectful inclusion of stakeholders and their diverse epistemologies. Third, governance through certification should articulate and empower the State.

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