ASEAN SEAFOOD INDUSTRY-2015: THE NEED FOR COMMON LEGISLATION AND CERTIFICATION STANDARDS IN AQUACULTURE AND CAPTURE FISHERIES

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Abstract

This research investigates the various international certification schemes to determine if a single certification standard by the ASEAN Seafood Federation (ASF) is a promising alternative to the sometimes impossible challenges presented to small-scale ASEAN seafood producers by the private international certification schemes.

This thesis suggests that a Common Legislation and Harmonization of Certification Standards for the aquaculture and capture fisheries in ASEAN member countries should be immediately brought around to help the Seafood Industry in ASEAN to overcome the ever increasing trade barriers and protectionism propounded by the prevailing private international certification standards which are gratuitously stipulated by the major importing countries.

In this study the various schemes in fishery and aquaculture standards and certification are probed and compared to understand the general benefits, costs to certification etc with prominence on what it could be the benefit for the ASEAN Seafood Industry by harmonization of these standards and certification into a single standard certification on an economic context. The international certification schemes for fisheries and aquaculture are compared and contrasted, followed by an examination of the prevailing Thai and Vietnamese certification schemes.

Keywords: Aquaculture, legislation, certification standards and seafood industry.

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CHAPTER 1
INTRODUCTION

This chapter provides an overview of the seafood and aquaculture industry both at a global and regional level.

1.1 The Global Seafood Industry

The worldwide seafood industry, which encompasses fresh, frozen, canned and dried seafood products, currently employs around 54,800,000 people, generating revenues around USD 220 billion plus a year and is projected to grow past USD 370 billion by 2015 (FAO, 2012). In terms of employment, the aquaculture and fisheries sector is growing faster than the general agriculture industry (FAO, 2012). Jobs in the aquaculture industry include primary production as well as processing and packaging, marketing and distribution, and manufacturing and sales of equipment and supplies (such as processing equipment, nets, ice, and boats), administration, and scientific research. The aquaculture and fisheries sector is estimated to support between 660 and 820 million people worldwide (as much as 12% of the global population) (FAO, 2012).

Capture fisheries (naturally bred fish caught from ocean and fresh water) and aquaculture's total sales value in 2010 was US$217.5 billion (FAO, 2012). As shown in Figure 0.1 below, this was equivalent to 148 million metric tons of fish, of which 128 million metric tons (86.5%) went directly to the human food supply. The United Nations Food and Agriculture Organization (FAO) estimated an increase in 2011 to 154 million metric tons production, with 131 million metric tons (85%) heading into the human food supply (FAO, 2012). Economic growth leading to higher income levels and better spending power in developing regions like ASEAN, India and China has turned the Asia-Pacific into a leading region on the global fish market. The overall market forecast for the global aquaculture and fisheries market is favorable, with a degree of recovery in trade, and therefore production, across several major markets.

Table 1.1 Production and Utilization of Aquaculture and Fisheries, Worldwide, 2006-2011

	2006	2007	2008	2009	2010	2011
			(Million tonnes)			
PRODUCTION						
Capture						
Inland	9.8	10.0	10.2	10.4	11.2	11.5
Marine	80.2	80.4	79.5	79.2	77.4	78.9
Total capture	**90.0**	**90.3**	**89.7**	**89.6**	**88.6**	**90.4**
Aquaculture						
Inland	31.3	33.4	36.0	38.1	41.7	44,3
Marine	16.0	16.6	16.9	17.6	18.1	19.3
Total Aquaculture	**47.3**	**49.9**	**52.9**	**55.7**	**59.9**	**63.6**
TOTAL WORLD FISHERIES	**137.3**	**140.2**	**142.6**	**145.3**	**148.5**	**154.0**
UTIUZATION						
Human consumption	114.3	117.3	119.7	123.6	128.3	130.8
Non-food uses	23.0	23.0	22.9	21.8	20.2	23.2
Population (billions)	6.6	6.7	6.7	6.8	6.9	7.0
Per capita food fish supply (kg)	17.4	17.6	17.8	18.1	18.6	18.8

Source: FAO (2012)

Asia is one of the centers of global aquaculture and fisheries production (FAO, 2012). As of 2012, almost half the top 100 seafood companies were located in Asia. Asia was also the largest production region for farmed shrimp, with an estimated one to one and a half million metric tons produced every year (FAO, 2012). The top five producing countries include China, India, Indonesia, Thailand, and Vietnam. Major shrimp import regions include the United States, European Union, and Japan.

1.2 The Seafood Sector in ASEAN

Before analyzing the seafood sector in ASEAN (the Association of South East Asian Nations), we need to briefly introduce ASEAN. Established in August 1967 as a five-nation regional arrangement, ASEAN has since grown to ten and moved from political to economic cooperation and is marching towards economic integration and some level of harmonization of the domestic laws of each member. ASEAN has also enjoyed a greater role in the region, especially through closer ties with its so-called dialogue partners, China and India in particular. As far as the fishing and seafood industry is concerned, there has been growing cooperation within ASEAN and with dialogue partners.

One area of critical economic importance to ASEAN is the shrimp industry in which three major operators emerge: Thailand, Indonesia and Vietnam. On aggregate, the three of them contribute almost 50% of the volume of the shrimps traded from the sector in Asia. Other ASEAN countries, such as Malaysia and Myanmar are also developing shrimp farming with the view to increasing revenue from foreign income. Philippines is also a key player among the ASEAN block while countries like Brunei, Cambodia, and Laos, have not yet developed their cultivating techniques and investments in this sector.

Seafood exporters in ASEAN are facing tough time as more protectionist trade barriers are raised in the EU and US import markets through a jungle of certification requirements and all kinds of trade barriers set by importers, from food safety regulations to antidumping measures and traceability requirements.

A single standard for Certification by ASEAN seafood producers will play a key role in coordinating its member and help in the efforts to overcome the increasing trade protectionism by certification and standards harmonization. An earlier assessment of the ASEAN aquaculture and seafood production industry by the FAO found that harmonizing product standards, certification systems, and inspection regimes was essential (FAO, 2004).

1.3 The ASEAN Seafood Association

As we just mentioned above, ASEAN has now reached a much higher level of economic cooperation among its members, a fact which the ever-increasing number of ASEAN associations being formed in relation to many economic activities reflect. The seafood sector now has its own trade association, the ASEAN Seafood Federation (ASF), which was established in 2009 with eight countries members and nine associations, including associations from Brunei Darussalam, Philippines, Indonesia, Malaysia, Myanmar, Thailand, and Viet Nam (Vietfish International, 2011). One of the organization's goals is: "*To facilitate higher standards in seafood sector, set-up and implement advanced ASEAN regional standards, assurances systems and recognition, [and] certification systems… to meet high requirements of the market and consumers* (Vietfish International, 2011)."

1.4 Western Certification Requirements: A Growing Concern among ASEAN Members

Typically the ASEAN shrimp farmers export most of their products to the EU, US and Japan which are the main importers and consumers in the world for seafood products. ASEAN producers are responsible for about 75% of the global seafood production, but buyer power dominates the market (Vietfish International, 2013). Countries including the US, EU, and Japan only accept products that meet the specified certification and standard requirements. This has driven the ASF toward stronger cooperation and harmonization of standards (Vietfish International, 2013). Further complicating the problem is the high cost of certification, especially with multiple control points. This has mainly frozen out smaller producers, and particularly is out of reach for small-scale aquaculture producers (Vietfish International, 2013). This is a serious problem for producers, particularly since their ability to reach a market is dependent on their ability to reach certification. The establishment of the ASF is intended to secure ASEAN countries a stronger position in the global seafood market, particularly for negotiations around standards and requirements (Vietfish International, 2011). This research addresses the certification incentives, the

harmonization activity around certification and standards, and the evidence for certification, in order to understand ASEAN's position in regard to this market.

1.5 The Need for Common Standards and Certification

This study aims to show that based on the current environment as explained above, there is a need for Common Certification Standards since private international certification programs have exploded in response to the growth of global aquaculture. This presents challenges to small-scale Southeast Asian producers who often lack the economic and technological capacity required for compliance with certification schemes (Anh, Bush, Mol, & Kroze, 2011). Certification has been found to promote social and environmental responsibility (Pelletier & Tyedmers, 2008). As Gulbradsen (2008) has argued, a certification from a reputable organization can help improve the environmental and social performance of producers. Producers of products certified by such an organization can expect increased access to international markets and higher prices. Certification is viewed as an inclusive form of governance, because it can provide farmers with access to new markets that offer an integrated value chain and long-term contractual supply relationship, and to niche markets that incorporate private labels and high value-added products. Some major buyers and retailers have committed to purchasing only specific certified sources (FAO, 2011). For example, in 2006, WalMart agreed to source all wild-caught fresh and frozen fish from Marine Stewardship Council certified fisheries for the North American market (Corsin, Funge-Smith, & Clausen, 2007), and is now committed to purchasing only farm-raised shrimp that is certified by the Aquaculture Certification Council (ACC) the Certification Body for the Global Aquaculture Alliance (FAO, 2011). These kinds of scenarios raise a number of issues to the ASEAN Seafood Industry. This study seeks to provide answers to all these questions. It argues that when the harmonization of Certification Standards occurs and when the ASEAN Seafood Federation (ASF) joins them into one standard for the ASEAN Seafood Industry, this will help to create an economic synergy, improve co-operation between exporters and producers, and generally improve member state cooperation and industry integration (Southeast Asian seafood exporters unite to form umbrella federation, 2014).

1.6 Statement of the Problem

Even though ASEAN dominates the seafood production worldwide, it is held to standards set by buyer countries that are rigorous and in the case of small producers currently unattainable. ASEAN seafood exporters face all kinds of trade barriers set by importers in the EU and US, ranging from food safety regulations to antidumping measures and traceability requirements. This research seeks to investigate these issues and the difficulties encountered by ASEAN Seafood Producers and explore what the adoption of a common ASEAN Fishery legislation and issuance of their own Certification standards by ASEAN seafood producers would mean for their clients.

1.7 Research Questions

This study seeks to suggest solutions to the problems affecting the ASEAN Seafood industry, which are caused by the proliferation of private standards and the confusion it creates among stakeholders. Given that the fisheries and aquaculture industry needs to maximize its returns (Washington & Ababouch, 2011), buyers need to understand the credibility of certifications, including their reputation and risks, and governments need to assess the fit of private standards and government policies regarding food safety and resource management (Washington & Ababouch, 2011), this study aims to address the following issues:

1. How have ASEAN seafood producers responded so far to the threats of protectionism placed on them by the increasingly protectionist EU and U.S. policies?
2. Should ASEAN seafood producers act in concert in addressing the EU and U.S. concerns and requirements and develop a single standard for quality certification and common fisheries legislation?
3. To the extent unity among ASEAN Seafood member producers (Asian Seafood Federation) is possible would a common ASEAN certification and fishery legislation within ASEAN meet the stringent requirements imposed by the EU and the US?

4. Would an ASEAN Seafood industry speaking with one voice have leverage over the EU and US so as to force them to adopt more consistent requirements in quality certification?

5. Should the trade barriers issue be taken to the World Trade Organization?

1.8 Scope and Significance of the Research

This research covers ASEAN member states. It can benefit many stakeholders in the seafood industry most notably the ASEAN Seafood Federation (ASF) to improve coordination and cooperation among its members, lower costs, increase intra-regional trade and investment, increase economic efficiency, create a larger market with greater opportunities and larger economies of scale for the members' businesses and enhance their attractiveness to capital and talent.

Regional arrangements promote cooperation (it is their *raison d'être*) but also competition. However, while the ASEAN fishery industry competes heavily, it can also, through the single certification standards initiative by ASEAN Seafood Federation (ASF), cooperate. One of the expected outputs of this study is thus an assessment of the ASEAN Seafood industry's harmonization and equivalence program (particularly as related to the WTO Sanitary and Phytosanitary Agreement and Technical Barriers to Trade Agreements) and its adoption of Codex standards.

1.9 Academic Importance

This research study will assess the ASEAN situation and certification programs. The fisheries industry has an increasing number of certifications and standards that can be applied to products. However, certification programs do not all have the same level of credibility, which means that they have less value overall in activities like risk assessment and risk reduction. Credible certification programs depend on transparency, strong standards, and support from stakeholder groups (Washington & Ababouch, 2011). It is these certifications that offer both consumers and producers the best value, since they allow consumers to readily identify credible products and allow producers to select the most meaningful certifications

(Washington & Ababouch, 2011). This study will provide a guide to assessing certification programs for fisheries, which can be used for future academic assessment of industry certification.

1.10 Implication in Practice

Standards and certification are increasingly important in the international fish industry from both production and marketing perspectives (Washington & Ababouch, 2011). They are particularly important in areas where public regulations are seen as inadequate, especially in areas like sustainability. Certification assesses areas like food safety and quality as well as environmental sustainability. Private standards are also increasingly common as a means to transmit product and process requirements from retailers through the supply chain (Washington & Ababouch, 2011). Environmental standards also provide risk assessment information and reputation insurance for producers, as well as increasing consumer demand (Washington & Ababouch, 2011). Certification provides evidence that sustainability, quality, and other requirements of the consumer are being met. This research will provide evidence for certification and standards that producers can use to assess their importance for consumers and regulators and how to determine which certifications should be considered for their products.

1.11 Organization of the Study

This research examines the standards and certification affecting the fish industry in ASEAN. The research is divided into five main chapters as:

- The first chapter provided an Introduction and background of this study, including definition of terms.
- The second chapter is literature review and Empirical study.
- The third chapter explains the methods of the research, including data collection and analysis
- The fourth chapter discusses the findings of the study

- The fifth chapter is the discussion, summary and recommendations for the future research.

1.12 Limitations of the Research

There are a few limitation of this study that the researcher would like to mention in order to clarify the validity of this study. This study covers only the Standards and Certification process in Seafood Industry that is required in US, EU and ASEAN which may not be generalized in industry scale or even in others across or related industries.

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1.13 Definition of Terms

- **Quality certification:** A quality certification is a term that is given to a process in which an individual or company has achieved the requirements necessary to become certified in a particular field. It shows that the individual or company has met all of the requirements that were given to them and that they did it in a quality fashion. It means that they have met or exceeded expectations in the way of business ethics, customer satisfaction, tax payment history, and adapting to changes as needed.
- **Standards:** Standards can be defined as "*a document established by consensus and approved by a recognized body, that provides for common and repeated use, rules, guidelines, or characteristics for activities and their results, aimed at the achievements of the optimum degree of order in a given context* (ISO, 2004, quoted by Washington and Ababouch, 2011, p. 7.)"
- **Harmonization:** Generally, harmonization can be defined as "*actions or processes that through matching and blending bring about agreement, reconciliation or standardization* (Astley, et al., n.d.)". Harmonization implies a high level of mutuality among the involved parties, regardless of different affiliations and viewpoints. In the natural sciences, harmonization is a prerequisite for achieving consistent methods and standards. In education harmonized curricula will enable global access to high quality education and training (Astley, et al., n.d.).

- **Common legislation:** Common legislation refers to the use of consistent legislation between ASEAN countries, particularly as associated with fisheries (such as inspection, quality control, and production and processes) (FAO, 2007).

- **Accreditation:** Accreditation refers to "*a procedure by which a competent authority gives formal recognition that a qualified body or person is competent to carry out specific tasks* (ISO/IEC, 2004)."

- **Accreditation body:** The accreditation body is "*the body that conducts and administers an accreditation system and grand accreditation* (ISO/IEC, 2004)." The accreditation body can recognize the competence of a certification body to provide certification services (GFSI, 2007).

CHAPTER 2
LITERATURE REVIEWS

This chapter examines the main concepts at the core of this research. It then considers two empirical studies exploring issues that this study seeks to address.

2.1 Operative Concepts

2.1.1 Certification

Certification has been found to promote social and environmental responsibility (Pelletier and Tyedmers 2008). As Gulbradsen (2008) has argued, a certification from a reputable organization can help hold producers accountable for their environmental and social performance or non-performance. Producers of products certified by such an organization can expect increased access to international markets and fetch higher premium prices than uncertified products.

Certification schemes target either food chain operators or consumers (FAO, 2007). Food chain operators, or those who interact within the supply chain, are targeted to make sure the process or product is following the established standards (FAO, 2007). These certifications do not have a high profile with consumers, but they are very important to other supply chain links (such as retail customers or wholesalers). Customers are targeted by some standards, which establish labels or other identifying marks that communicate about food quality characteristics (but not typically processes) (FAO, 2007). These marks enable consumers to avoid uncertified or undesirable products, but also may enforce a premium price for certification (FAO, 2007). Standards and certification for both producers and consumers are becoming part of the production and marketing process of the fish trade (Washington & Ababouch, 2011). However, this has not had a uniform effect across the industry, either geographically or in terms of species. While some species such as tuna have a highly successful eco-labeling program that targets consumers (Teisl & Hicks, 2002), others do not. There are higher demands for certification based on value added, product risk, and the ultimate destination for sale (especially sale to end consumers)

(Washington & Ababouch, 2011). Standards and certification programs can address either the process (especially the production process) or the outcome (the product) (Mancero, 2007). Process certification does not guarantee quality, but product certification does not guarantee conditions of production. Based on this gap, the International Standards Organization (ISO) recommends that process standards should not be included in product labels (Mancero, 2007). This is in order to avoid inappropriately giving the idea that the product itself has a guarantee of quality or other standards (Mancero, 2007).

Standard schemes and certification have evolved into a lucrative and competitive industry and it seems that private standards have become a tool for differentiating retailers and their products (FAO 2011). According to (Ann 2012), if this is indeed the case, then fisheries and aquaculture certification favors larger-scale producers who can afford the costs, and who possess the administrative capacity as well as the technology and scientific knowledge to comply with international private standards. A strong divergence is predicted to develop between large- and small-scale farms with the latter increasingly excluded from access to western markets (Belton et al. 2011). The disproportionate number of farms currently certified in Southeast Asia relative to the number certified in northern markets suggests that this divergence has already begun. With international private standards presenting numerous challenges to small-scale Southeast Asian producers, can national certification schemes provide a promising alternative? (Ann 2012). In this context this research aims to point out the concept of relevance of a Single Standard Certification Scheme for the ASEAN Seafood producers to be developed by the ASEAN Seafood Federation (ASF).

2.1.2 Quality Standards

There are three different approaches to food quality (Corsin, Funge-Smith, & Clausen, 2007).

Product-oriented quality is

"The quality assessed according to characteristics of the product, including the entire product's physical and organoleptic characteristics (for example texture, nutritional attributes (Corsin, et al., 2007, p. 5)."

Process-oriented quality can be defined as:

"*...quality aspects associated with the processe adopted for the production and transformation of the product. These aspects therefore include environmentally and/or socially sustainable processes and practices. Process-oriented quality attributes may or may not have an effect on the product-oriented quality."* (Corsin, et al., 2007, p. 5)

User-oriented quality refers:

"to the quality perceived by the user. As such this is a rather subjective measure of quality that may or may not be associated with objectively verifiable product- or process-oriented or quality control attributes (Corsin, et al., 2007, p. 6.)"

User-oriented quality is often the most important, since this determines willingness-to- pay (Corsin, et al., 2007). Quality may be assessed based on previous experience, intrinsic attributes, and extrinsic attributes (such as brand) (Corsin, et al., 2007).

2.1.3 Quality Control

Quality control "*indicates the quality standards which a specific product or process must comply with belong to a specific, well-defined, quality category* (Corsin, et al., 2007, p. 6)". Standards can be either process or product standards, although quality control differs from product- and process-oriented quality because it focuses on types of "reference" standards. However, not all product quality attributes are associated with quality control processes (Corsin, et al., 2007).

2.1.4 Harmonization of Standards and Certifications

One of the critical concerns in this study is standards harmonization. The international harmonization of laws, certifications, regulations, and other instruments refers to the adaptation of the instruments of one country in order to be more consistent with the instruments of other countries (Fazio, 2007). Harmonization is often undertaken on a regional basis, in order to make sure that firms and individuals

operating across markets or countries have a consistent set of rules and requirements for operation. For example, harmonization in the accounting context has standardized accounting rules toward the International Financial Reporting Standards (IFRS), replacing national and regional standards that previously made financial statements and accounting principles incommensurate between markets (Saudagaran, 2009). The adoption of IFRS in the accounting realm has allowed international businesses to minimize duplicated efforts related to financial accounting, increasing efficiency as well as reducing gaps and differences in reporting that offered opportunity for fraud and error (Saudagaran, 2009).

Unfortunately, certification in the food industry has not progressed as far. The need for standards certification in eco-labeling and process labeling for food products (including, but not limited to, seafood products) has been recognized for some time (Richards, 1994). The proliferation of private and public standards and certification programs and associated labeling regimes began in the 1980s. By the mid-1990s in the US it was already clear that there was substantial confusion and conflict between standards, as well as excessive cost and difficulty for producers (Richards, 1994). However, despite this early warning there has not been substantial progress in the harmonization of standards or certifications. For example, international organic food standards are still not harmonized even between major markets such as the US and EU, even though consumers in these countries would support this harmonization in order to reduce complexity and conflict (Sawyer, Kerr, & Hobbs, 2008). The lack of harmonization poses a technical barrier to trade for organic food and increases cost and complexity for producers (Sawyer, et al., 2008). Harmonization of EU public standards for imported seafood and other products has helped, but the continued lack of harmonization of private standards may still act as a trade barrier (Shepard & Wilson, 2013). Although Shepard and Wilson (2013) point to EU standards as potentially improving quality and helping developing countries (especially because of technical assistance), the question of how to improve private standards harmonization remains.

It has been a concern for some time that inspection and testing systems in place in ASEAN countries do not have sufficient capacity to respond to increasing international and regional demand (FAO, 2004). It is acknowledged that there is a

strong discrepancy between inspection and analytical capabilities of ASEAN fisheries regulators and requirements of importing countries. These systems need to be upgraded and improved in order to meet the requirements of importing countries (FAO, 2004). There has also been a long-term interest in harmonizing inspection and control systems throughout the region in order to improve local product quality, encourage regional trade, and help improve international market focus. This would also help improve cooperation among ASEAN countries, offering a better negotiation approach and stronger market position (FAO, 2004). This has already been agreed for shrimp exporting industries, but as mentioned earlier regulation and certification is highly fragmented between different fisheries and products (FAO, 2012). As a result, there is a need to expand these harmonization approaches. This is part of the goal of the ASF (Vietfish International, 2013). Being able to promote intra-regional trade, avoid duplication of import-export inspection and certification, assist the member countries in capacity building and create an ASEAN voice in dispute settlement with common importing parties or in international forum, would improve ASEAN fisheries power in the market.

2.1.5 Discrepancy of Certification Standard Faced by Asian Seafood Producers and Exporters

As discussed above, the lack of harmonization between standards results in conflict and discrepancy between the different standards which need to be met in order to fulfill obligations or requirements (Richards, 1994). This raises the question of what kinds of conflicts and discrepancies are faced by Asian seafood producers and exporters (especially in export to major markets in the US and EU).

One of the discrepancies that producers and exporters face is a conflict between standard HACCP requirements and food safety requirements imposed by EU regulations (Pace, 2011). As Pace (2011) explains, HACCP (Hazard Analysis and Critical Control Points) is a process-oriented food safety standard that establishes specific points of food safety control (including production standards, record keeping, and critical control points such as production temperatures, sanitation and biological contamination, and cold chain maintenance). The HACCP standard is defined by the Codex Alimentarium, a cooperative organization sponsored by the World Health

Organization (WHO) and Food and Agricultural Organization (FAO) (Pace, 2011). The seven key principles in the Codex standard include written documentation; identification and monitoring of critical control points (CCP), or points where hazards can be eliminated; identification of hazards; evaluation and prevention of hazards; definition of corrective actions; record-keeping and monitoring; and routine verification (Pace, 2011). However, in the EU, Directive 2006/88/EC (amended 2008) imposes stronger requirements, including outbreak notification. Directive 91/493/EEC, which addresses seafood production, imposes even more requirements for health inspection and certification. Additionally, the RASFF import notification and rejection system imposes even further safety controls, and can result in rejection of the shipment to other countries (Pace, 2011). This situation has actually somewhat improved from the past, since there are no longer country-level variations in HACCP requirements (Pace, 2011). However, discrepancy between standard HACCP procedures and enhanced procedures required for EU imports still impose additional costs.

Another example of conflicting regulations and standards comes from the Vietnamese shrimp industry, which faces strong technical barriers to trade related to its production processes (Tran, Bailey, Wilson, & Phillips, 2013). As reported by these authors, there are barriers imposed that are not assessed in agreements such as the WTO Sanitary and Phytosanitary Agreement: "*An absolute prohibition of antibiotic residues such as chloramphenicol or nitrofuran in imported shrimp is one such standard and is enforced by the EU, Japan, and the US. Increased sensitivity of analytical methods used to detect antibiotics or other contaminants has made government food safety analytical standards a moving target* (Tran, et al., 2013, p. 326.)" These regulations may directly conflict with HACCP requirements, particularly for farmed products that may require some antibiotic use in order to control stock health (Pace, 2011). There are also consumer standards that are often issued by NGOs or private industries, such as the Monterey Bay Aquarium (which issues a seafood guide targeted to consumers), Aquaculture Stewardship Council, and similar organizations, that address aspects of the product other than food safety, such as sustainability (Tran, et al., 2013). These are not *required* per se, but are demanded by consumers in target countries (Tran, et al., 2013). These certifications also impose

much stronger requirements for sustainability than fishing regulations in place in target countries or import regulations (Tran, et al., 2013). These increasingly strict regulations and certifications pose multiple barriers to participation in the import markets, particularly for high-value premium products (which demand consumer certifications). It also detracts significantly from the producer's share of the global value chain, because of the cost associated with meeting multiple sets of demands (Tran, et al., 2013).

Another potential conflict occurs in traceability and sustainability requirements, both of which are commonly imposed by private certification bodies for consumer labeling requirements (Parlee & Wiber, 2011). These authors discussed the example of live lobsters from the Canadian Maritimes, but pointed out that these issues globally affect the seafood production industries (including in developing countries). These requirements are not necessarily related to import requirements, but instead are imposed by retailers or other distribution channels or ultimately by end consumers as a means of ensuring sustainability processes. However, traceability and sustainability requirements, although they do sometimes overlap, are governed by different agencies and require different tracking and tracing, record keeping, and other evidence (Parlee & Wiber, 2011). The information required often outstrips the ability of the small fishers to provide it, requiring high technology tracking as well as scientific testing. This creates a situation where it is difficult for fishers to attain certification, due to duplicated requirements, technology demands, and costs (Parlee & Wiber, 2011). Thus, even in situations where producers are complying with government production regulations and food safety requirements, they may still not be able to reach the market with their products because of overlapping costs (Parlee & Wiber, 2011). This is a serious disadvantage for small seafood producers globally.

2.1.6 Limitations and Challenges for Asian Seafood Producers and Exporters in Certification Scheme Compliance

There have been some studies that address the limitations and challenges that Asian seafood producers and exporters face in certification scheme compliance, particularly certification and compliance costs and data management and technology barriers.

One of the biggest barriers is that currently, seafood producers bear the entire cost of certification, even in situations where trade partners require certification as a condition of the supply relationship (Micheli, et al., 2014). This problem is common throughout the seafood industry and happens in most source countries and throughout different fisheries sectors. This is especially a problem for smaller producers, who must both take on the additional burden of certification compliance (which can include additional operating costs, capital costs, and costs for outside experts, auditors, and so on) as well as the cost of the certification itself (Micheli, et al., 2014). However, even larger producers may have a problem, since these producers may be supplying multiple customers in different markets with conflicting requirements or duplicated requirements (Micheli, et al., 2014). In some cases, producers (especially small-scale producers) may seek out assistance from certification programs and retailers, who sometimes offer various assistance programs to improve data collection and other barriers and reduce costs of compliance and certification (Macfadyen & Huntington, 2009). For example, one approach commonly used by retailers is to use the Marine Stewardship Council (MSC) pre-checklist for certification as a means of targeting improvements for its smaller partners, even if MSC certification is not completed (Macfadyen & Huntington, 2009). Obviously, however, this is not likely to be of benefit if the producer is too small to have strategic partner relationships. Furthermore, the cost of these improvements can still be substantial (Macfadyen & Huntington, 2009). The cost of certification varies widely between programs; while a small fishery MSC certification could be as expensive as $3,500 per fisher, Friends of the Sea certification can be as cheap as $18 per fisher (Huntingdon, Cappell, & Macfadyen, 2008, cited in Macfadyen & Huntingdon, 2009). Unfortunately, fishers often do not control the certifications they adopt, but instead are forced to adopt the certifications preferred by their customers (Macfadyen & Huntington, 2009). Thus, even when less expensive options may be available, they may not be open for use. The cost is even more problematic when considering that cost-benefit analysis has shown that even highly recognized certifications like MSC certification do not have a positive return to the investment, especially for small fisheries (Macfadyen & Huntington, 2009).

Another problem for small fisheries is the technical implementation of certification requirements, which are both a significant cost and a technological barrier (Macfadyen & Huntington, 2009). Most MSC certification failures in small fisheries that are available for assessment are related to a lack of ability to track data sufficiently to meet requirements. For example, small fisheries may have fishing methods, species, and yield data, but may not be able to produce more comprehensive data such as environmental impact analysis, stock assessments and so on (Macfadyen & Huntington, 2009).

The way that certification programs handle data limitations vary. For example, Greenpeace certification does not restrict certification for small producers without this data (Macfadyen & Huntington, 2009). However, certifications including the Blue Ocean Guide, Incofish and the Blue Ocean Guide, do not make this adjustment. This can make it difficult for small and data-deficient fisheries to certify at all, regardless of the cost (Macfadyen & Huntington, 2009).

2.1.7 Stakeholder Roles in Certification Schemes

The stakeholders in certification and labeling schemes for seafood include all groups that play a significant role in the industry or are affected by it in some way (Ward & Phillips, 2009). Some of the major stakeholders in certification programs include producers and exporters, retailers, government, and the certification programs themselves (Ward & Phillips, 2009). (A more detailed analysis would also include employees in each of these industries and consumers, but in this case the industries themselves and the retailers, who ultimately select the choices consumers make, are used as general proxies). Each of these producers plays a different role in the establishment of certification programs and schemes and their implementation (Ward & Phillips, 2009). A model of certification and labeling standards (shown in Figure 2.1) shows that these standards are primarily market-driven and dependent on consumer demand (and their proxy of retail requirements) (Ward & Phillips, 2009). Thus, consumer demand, channeled through retailers, offers an incentive for producers to comply with various eco-labeling and certification requirements. One of the most important aspects of this system is that, although mandatory government requirements must be met (for example, the European Union's enhanced HACCP

requirement (Pace, 2011)), the private certifications such as eco-labels and other sustainability standards are voluntary in nature (Ward & Phillips, 2009). Private certification programs are also not driven by government intervention, and in many cases governments have little to do with the establishment of private standards (Ward & Phillips, 2009). Thus, the extent of stakeholder involvement in the certification scheme will depend on the specific nature of the scheme, and this may vary widely.

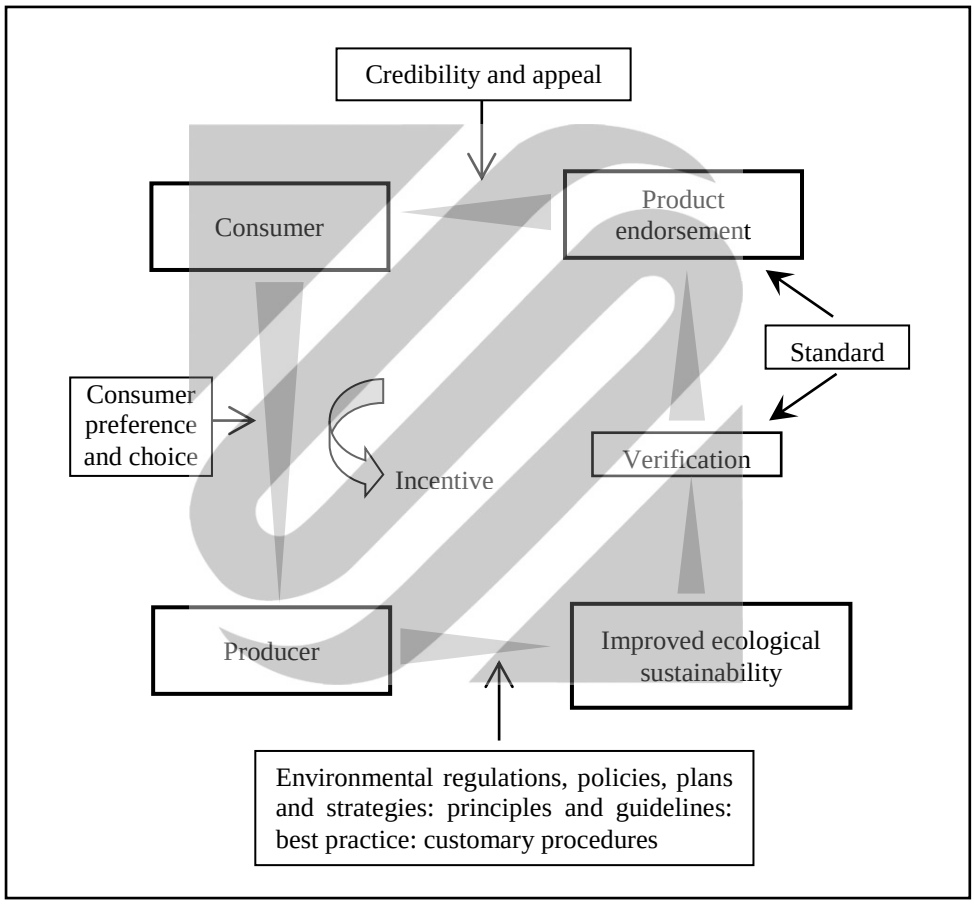

Figure 2.1 Model of Eco-labeling and Certification as a Market Mechanism

Source: Ward & Phillips (2009, p. 3)

There are some calls for an increase in government involvement in certification programs in order to improve their effectiveness (de Vos & Bush, 2011). This is because government involvement does tend to improve standardization and consistency of certifications. However, to date most certification programs are run by non-governmental organizations, and these certification schemes may or may not

reflect government priorities in the demand for particular certifications (Ward & Phillips, 2009). In contrast, end retailers are heavily involved in certification requirements establishment and certification demands for producers, largely as a means of ensuring their own supply chain's sustainability and transparency requirements are met (Iles, 2007). In the retailer's supply chain model, lack of transparency by producers and lack of knowledge about their production processes is problematic; in order to control this risk, retailers seek out relationships with producers that can show certification as a means of transparency and risk reduction (Iles, 2007). However, as previously discussed retailers rarely go so far as to pay for or provide technical support for most seafood producers in order to obtain certification (Macfadyen & Huntington, 2009). The producers and exporters (who may be the same or different groups) are another group. It is this group that faces pressures from the market for certification and from retailers as a means of assurance and risk reduction (Iles, 2007; Ward & Phillips, 2009). Producers are responsible for selecting and implementing private certification programs, as well as supporting the majority of the cost of these programs (Macfadyen & Huntington, 2009). Ultimately certification is *voluntary*, and producers do not have to undertake it; however, if they do not, they will not have access to the market, particularly not to high-value retailers (Iles, 2007; Ward & Phillips, 2009). Finally, certification program managers are responsible for setting certification standards, auditing, and controlling the certification process (Ward & Phillips, 2009).

2.1.8 Evidence for Certification Standard Harmonization

There has been very little work toward harmonization of certifications or standards in the food and agriculture industries, or in the seafood industry specifically (Richards, 1994; Shepard & Wilson, 2013). However, there have been harmonization programs in other industries that have been successful. One of the most extensive is the harmonization of varying accounting standards (often one from each country) toward the IFRS standard (Saudagaran, 2009). This has been an extensive process undertaken on a per-country level, and has been a continual process since the early 1990s (Saudagaran, 2009). As a result, this may not be the best choice for understanding best practices in standards harmonization. Luckily, there are other

examples of standards harmonization on a smaller scale that can be considered. One such process is the harmonization of product import standards across the EU, related to seafood as well as many other categories of agricultural and manufactured products (Czubala, Shepard, & Wilson, 2007; Pace, 2011). It should be noted that these harmonization processes are not complete; for example, EU food safety import requirements are not harmonized either with Codex Alimentarium HACCP or the safety standards of other major import markets like the US (Pace, 2011). However, the partial, regional harmonization has at least reduced the complexity associated with compliance for EU-oriented exports (although it has also increased other demands) (Pace, 2011). These harmonized standards were arrived at per EU standardization processes, as part of the general alignment of trade across the EU (Czubala, et al., 2007). In general, these harmonized product standards may increase market access for developing countries, since it provides a single standard for multiple major markets (Czubala, et al., 2007). However, as Pace (2011) noted, it can also erect non-tariff trade barriers, by introducing a stricter than required standard across a wide area. While this is technically against WTO rules, it has not been heard at the WTO and may not be met with great enthusiasm (Pace, 2011). The limited evidence available from the EU does suggest that even partial harmonization of standards can reduce the problems producers have in reaching the market, even though it may also raise other barriers (Czubala, et al., 2007; Pace, 2011). Evidence from IFRS standardization suggests that ultimately, it may be more efficient and less error-prone (Saudagaran, 2009). Thus, though there has been little effort made toward harmonization, it could result in significant efficiency gains.

2.2 Empirical Studies

This study considers two empirical studies on researches conducted in similar fields pertaining to the need for the Standard Certification Schemes and Issues related to the Aquaculture and Fisheries in the ASEA region.

2.2.1 Ann Wilkings (2012), "Fisheries and Aquaculture Certification: Implication for Southeast Asia." *Fisheries Transition in Southeast Asia, 2011-2014*

The first article assessed is an article on aquaculture certification in Southeast Asia, conducted by Wilkings (2012) and selected because it is a qualitative research in-keeping with the topic at hand; the ASEAN Seafood Industry. This study takes an analytical approach to how certification have programs affected Southeast Asian fisheries (Wilkings, 2012). It examines the current Certification Standard schemes in operation in Southeast Asia and their impact on Southeast Asian Shrimp farmers and producers. The specific programs inspected are MSC, Friends of the Sea, Aquaculture Stewardship Council, Global Aquaculture Alliance, and GlobalGAP (Wilkings, 2012). Thai Quality Shrimp and VietGAP (national-level certification programs) are also considered (Wilkings, 2012) as they the most predominant programs in the aquaculture industry in the area. This study probes into the economic effects created by the International Private Schemes that is being forced down on to Southeast Asian farmers and producers by the importing countries (the US, EU and other markets) and the inability of farmers and producers in the region to cope with the financial implications created by the International Private Certification Standards Schemes. The findings of the paper show that there is a high cost associated with certification, as well as technical barriers that many small fishers and producers cannot overcome (Wilkings, 2012). The analysis suggests that a National Certification scheme appears to present a promising alternative to International Certification Schemes. Wilkins' study is in line with the suggestion made by this researcher regarding the need for a Common Legislation and Certification Standards for the ASEAN Seafood Industry. It is also important because it is one of the few studies that address national

certifications in Southeast Asia, rather than focusing exclusively on consumer-oriented western programs.

2.2.2 Kelling, et al (2010), "Review of Trade, Regulatory and Certification Issues Related to Farmed Aquatic Animals." *World Fish Center.*

The aim of this research paper is to examine multiple levels of regulation and certification issues in the fisheries industry, particularly in aquaculture (Kelling, Kruissen, & Li, 2010). It is especially relevant to this study as it deals with current policy structures and operative mechanism at the local, national and international level that govern trade in aquatic food between the Asian Countries and Europe and also because it pertains to Bangladesh, China, Thailand, and Vietnam. This is a Qualitative Research on the status and trends in aquatic resource, trade regulatory issues, tariff structures and voluntary standards prevailing in public and private spheres. It uses an analytical approach in examining multi-level issues in the regulation of the fisheries industry. The study is based on the observation that the growth in certification programs only occurred within the last two decades, and much of this growth is private in nature and does not align with public regulations (Kelling, et al., 2010). It investigates the Certification Schemes applied in the global seafood industry and its compliance with trade regulations. It assesses how import regulations impact the industry and how they change the production processes, as well as the interaction between certification schemes and import regulations as well as international regulations such as the SPS and TBT (WTO regulations). Moreover, it discusses the concerns raised by developing countries regarding the difficulty in complying with the International Certification Schemes and the threat of International Certification Schemes as a barrier for economic growth to the developing countries. It also speaks about the need for harmonization of standards for future development and the role of regional governments in standard setting and support to meet the requirements.

To summarize, Kelling at al.'s study corroborates many of the suggestions put forward in this thesis and its emphasis on the need for the Common Legislation and Harmonization of Certification Standards for the ASEAN Seafood Industry. It also points out that there is a lot that is not known about the impact of certification

standards on the industry, and that some effects are difficult to disentangle from the general (and complex) international and national regulation program. Kelling at al.'s insight is helpful for this study because it points to the complexity of the problem.

CHAPTER 3
RESEARCH METHODOLOGY

Chapter 3 discusses the research methodology used in this study to investigate the research questions and collect the data needed. It first discusses the qualitative approach selected for this study and then explains the data collection procedure and analysis.

3.1 A Mixed Research Approach

The research methodology is the general research strategy that outlines the way in which a research project is to be undertaken and, among other things, identifies the methods to be used in it. It describes the style; define the ways of data collection and how a particular result is to be calculated.

This research uses a mixed method approach as it is both qualitative and quantitative. A qualitative research approach can provide additional depth and more familiarity with the topic. It differs from a quantitative approach in that it is smaller in terms of frameworks and scale and is less statistically oriented (Denscombe, 2010). One reason for choosing qualitative research is that the data is "grounded in reality". The flip-flop maybe is that the data might be less representative and in a few instances not capable of being generalized and that "the interpretation is bound with the self of the researcher" (Denscombe, 2010).

Although there is no single approach to the collection and analysis of qualitative data that covers all types of research, there are some general common characteristics:

1. The collection and analysis of date tends to be an evolving process as opposed to just a one-off event taking place at a single point in time.

2. As emphasized by Denscombe (2010), the analysis also tends to be inductive, i.e, "to work from the particular to the general" to lead to generalized statements about the topic.

3. Another important point is that this kind of approach tends to be more researcher-centered as the values and experiences of the researcher may influence the analysis.

4. A qualitative approach can also provide additional depth and denotation derived from individuals' familiarity with the topic (in this case investment and the stock market) and from their beliefs and feelings.

5. A qualitative approach differs from a quantitative approach in that it is smaller in scale and is less statistically oriented.

6. One significant advantage of a qualitative analysis is that it allows for 'spontaneity' and draws on the interpretive skills of the researcher. Another advantage of qualitative research is that the data is "grounded in reality" (Bryman & Bell, 2007).

Moreover, this research also employs a quantitative approach (a questionnaire survey). This approach is used because it can reach a large number of participants in a short amount of time, making it a better choice for research conducted under limited time conditions.

3.2 Data Collection Procedure

They are two types of qualitative data; words and images. Words can be spoken or written and images observed or produced (Darmer, 1995). Qualitative data can be produced by open-ended questions as part of a survey questionnaire or a discussion. Qualitative data can also be created by a diversity of research methods.

In this research, both primary and secondary data were collected. Semi-structured interviews, questionnaires, and observation were used for data collection. While secondary data is also used, a majority of the data was collected from publications (i.e. Magazines, Newspapers, Articles, and Books) and websites. The data thus gathered were analyzed. A number of research methods were used to collect qualitative data. They are summarized in Table 3.1

Table 3.1 Types of Qualitative Data Used in the Research Study

Data Source	**Research Method**	**Data Format**
Interview talk	Semi-structured Interviews (open-ended questions)	Recorded speech
Reports, minutes of meetings, speeches, scripts (for media programs)	Documents	Printed text
Interactions between people		Photographs
Events (seminars, workshops, official meetings, promotional events)	Observations	Recording Printed texts Notes
Artifacts (advertising,)		

Source: Created by the author for this research study based on Denscombe (2010)

As stated by Bryman and Bell (2007), primary data is information that the researcher collects on his/her own, for example via employing interviews, questionnaires, and observations, and secondary data is data that researcher collects through difference resources: literature documents, articles, internets, newspapers, and company reports. Proof of data can come from diverse sources such as documents, archival records, interviews, and so on (Yin, (2003).

One important issue regarding data is their validity (McBurney & White, 2009). As Silverman (2010) pointed out, the credibility of a research project, however, applies as much to qualitative research as it does to quantitative research. The main point here is that good research does not ignore data that may disconfirm the researcher's analysis (the so-called outliers). Good research strives to be impartial and neutral and relies on data collection and data-analysis processes that are fair and even-handed. Bearing all this in mind, the researcher was cautious not to disregard any data that may not have fitted with the generalization and approached the analysis with an open mindedness.

3.2.1 Semi Structured Interviews

According to Denscombe (2000), the potential of interviews as a data collection method is "better exploited" when they are used for the exploration of complex issues, the interviews are especially suitable to gain valuable insights and produce information which deals with the topic in detail and can be checked for validity and relevance. They are also likely to produce a very high response rate.

A qualitative interview can be structured or semi-structured. Unlike a structured interview, which has an extremely prearranged set list of questions to which the respondent is encouraged to provide restricted choice responses, a semi-structured interview is an interview in which the questions posed to the interviewee are not extremely prearranged, allowing for naturalness and for questions to build up during the progress of the interview. In semi-structured interviews, the researcher/interviewer arranges questions to be flexible and lets the interviewee build up his/her ideas and speak more freely than in structured interviews. The questions and answers are "open-ended" and there is more emphasis on the interviewee elaborating points of interest (Denscombe, 2010). In short, as Drever (1995) stated, semi-structured interviews are more elastic than structured interviews. The interviewer needs to adapt to the interviewee. The interviewer may also move from the agenda and use new questions. This may occur as a result of respondent´s answers (Bryman & Bell, 2007).

In another departure from structure interviews, where each respondent is basically asked the same questions, unstructured interviews often involve different sets of questions as part of the spontaneity which they allow (Denscombe, 2010). The interviewer may move from the agenda and use new questions as a result of the interviewee´s answers (Bryman and Bell, 2007). Thus, some of the questions and answers might not be part of the interview questions which the researcher prepared.

In this study, semi-structured interviews were conducted with 10 participants selected for the different perspectives they offered. They come from the food and hospitality sectors and are industry leaders in ASEAN. They all attended the *THAIFEX –World of Food* Asia in Thailand, an International Exhibition held at the IMPACT Exhibition and Convention Center, Bangkok, Thailand during 21-24 May 2014. In total, the show welcomed 1,463 exhibitors and 30,479 trade visitors, with

24,138 local visitors and 6,341 coming from overseas. The 2014 THAIFEX trade show hosted 1,500 large companies in the food and hospitality sector (ShowsBee, 2014), making it a perfect venue for selecting interviewees. The 10 people interviewed were randomly chosen by the researcher a month before the Exhibition. The researcher had obtained details of dignitaries participating in the exhibition from the event organizers and contacted them for pre-fixed appointments with those the researcher deemed suited for an interview. The researcher saw to it that the respondents chosen for the interview were from various ASEA member countries. Interviewees include leaders in food and hospitality industry from Singapore, Malaysia, Vietnam, Indonesia, Philippines, Thailand and Myanmar. All these countries are dominant in the seafood sector in ASEAN. The interview time with each interviewee was fixed separately and scheduled. The researcher had booked meeting rooms provided by the exhibition facilities as per time scheduled with the interviewees and the interviewees were duly informed of the meeting place and time accordingly. All of the interviewees turned up as per the scheduled time and date for the interview.

The researcher felt that the point of saturation would be reached with ten interviews. There is among academics a consensus that in the absence of a pre-set number, the point of saturation is the way to determine the number of interviews that should be conducted (Francis, et al., 2010; Glaser & Holton, 2007). The quorum for the interviewees was thus fulfilled.

All the questions asked were open-ended questions, broad enough to broach on a wide variety of Private Standard Certification related issues. A few of the questions were similar but the gist of each interview involved different sets of questions, some of them based on the responses provided on earlier questions. While the interviews did not move away from the agenda, the interviewees´ answers prompted the researcher to change the order of the questions prepared. Some of the questions related to facts, some were meant to probe the opinions of the interviewees on the Need for a common standard setting for the Certification schemes and harmonizing them (for a complete list of the questions, see Appendix A). The interviews also provided the researcher with an opportunity to make participant

observations. The researcher took notes during the interviewees and wrote summaries of them immediately after the interviews were completed.

3.3 Questionnaires

This research also used a questionnaire survey to collect a primary data. Questionnaires can be used to collect particulars regarding people's attitude, mind-set, and knowledge. Surveys and questionnaires are general ways of obtaining primary data, especially for collecting the data from a large population in a short time given.

The target population in this survey questionnaire was people who attended the THAIFEX 2014. Approximately 1,463 exhibitors attended the exhibition. This exhibition was chosen because it was an industry exhibition directed toward seafood processors as well as other food industry participants. In lieu of an organized list of industry participants, selection from a trade show was one of the best ways to reach industry producers, particularly from a wide range of producers from different areas of Thailand. The respondents were seafood processors and packers with exhibition booths at the exhibition venue.

Table 3.2 Table for calculating a sample size from a known population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Note: "N" is population size and "S" is sample size

Source: Krejcie and Morgan (1970)

A sample size of 340 respondents was randomly chosen from the population of interest. The initial sample size was based on standard calculations of sample sizes for known populations (Krejcie & Morgan, 1970).

Table 3.2 summarizes the sample sizes calculated by Krejcie and Morgan (1970). With an estimated population of 1,500 (the estimated size of THAIFEX), the sample size suggested was a minimum of 306 participants (Krejcie & Morgan, 1970). However, additional questionnaires were passed out in order to account for the possibility of incomplete or unreturned surveys (Bryman & Bell, 2007). The participants were selected based on convenience sampling. Convenience sampling is a procedure where the researcher selects participants based on their proximity and availability for the study (Gravetter & Forzano, 2011). In this case, the researcher distributed questionnaires to exhibitor booths. Convenience sampling is a non-random method, and this does compromise the extent of generalization to the population (Bryman & Bell, 2007). However, in the case of a population where the members and their characteristics are not known, and where there is no central registry of the population, convenience sampling can be a valid approach for the study (Gravetter & Forzano, 2011). Convenience sampling is also used in business and marketing research, which are situations where the cost and difficulty of random sampling can sometimes be unjustified for a slight improvement in statistical generalization (Bryman & Bell, 2007). In this research, with an unlisted population and a concentration of participants, convenience sampling was consistent with the needs and resources of the research.

The questionnaires were distributed over a period of four days. The survey questionnaires were handed out to participants at their booths to be filled and returned on the same day. The researcher had 5 assistants to help him to distribute the questionnaire to the respondents at their respective exhibition booths and the researcher and assistance all stood beside the respondents in case any of the respondents surveyed had questions. The respondents were first briefed about the objective of the study and were guaranteed of anonymity where necessary. 310 of them were returned and answered could be used.

The questionnaire consisted of 25 questions arranged in a Likert Scale (for a complete list of the questionnaire see Appendix B). 5 of the questions asked were the research questions. The others covered various other research issues.

3.3.1 Observations.

This category of observation signifies that the researcher observes and pays attentions to the world around him/her and tries to draw conclusions from what he/she observes (Thomas, 2003). Observations can be made in a variety of contexts and surroundings and can be planned or unplanned. For example, they can be made during interviews, while the interviewee endeavors to answer questions. The researcher can take advantage of the interview to observe the interviewee but also any other person in the vicinity and also the area in which the interviewee works. As Yin (2003) argued, visiting the areas where the interviewees work can be a great source of information as it offers opportunities for direct observation. This technique also empowers the observer to comprehend the situation and get a feel for the surrounding; how people act together, what newspapers are available (any international ones), etc (Patton (2002). Observation gives the observer the benefit of being able to obtain data from intrinsic situations without planning in advance. In short, it provides for spontaneity, which in turn may provide for valuable input.

Nevertheless, a thorough observation technique involves some restrictions (Thomas, 2003). One of the risks is the deformation of data. Another limitation is that people may adjust their behavior when they believe that they are actuality observed. Moreover, information is restricted to what is observed in the surroundings and the observation only emphasizes the outside performance as the observer cannot discover people's inner thoughts and viewpoints (Patton, 2002). In short, an observer cannot read somebody's mind. He/she, however, may infer some thoughts from the behavior of that person or from some surrounding facts.

3.3.1.1 Field observations.

For qualitative data collection to be more effective, field observation needs to be conducted. It is clear from the above definitions that observations can take place in many places. Moreover, they can happen in many situations, including on the spur of the moment. As mentioned above, they can be spontaneous. Many of the observations

made for this study belong to the latter category as they were made by dint of circumstances; a discussion with an aquaculture professional, an aquaculture farm owner, a colleague at an aquaculture facility. Some observations were planned and they took place at all the facilities where the researcher made field observations to study about the subject. The researcher toured several aquaculture farms, processing factories and several shopping malls where the end products ended up as shelved products for retail. A large part of these observations were meant to determine what was the attitude of the concerned investors and consumers regarding the Private Standards they encountered in their daily life and what they thought about the increase of such measures in and their impacts in the future.

3.3.1.2 Participant observations.

Participant observation also took place. A classic definition of participant observation is provided by Becker and Geer (1957, p. 28): "*By participant observation we mean the method in which the observer participates in the daily life of the people under study, either openly in the role of researcher or covertly in some disguised role, observing things that happen, listening to what is said, and questioning people, over some length of time*". Moreover, the nature of participant observation allows the researcher to place greater emphasis on depth rather than breadth of data. It also provides a solid platform for gaining insights into processes (Denscombe, 2010). Participant observations were made during the visits to the facilities and also during the exhibition. Many notes were taken each time and then compiled.

3.3.2 Documents.

Documents can be defined as material that provides knowledge. It comes as additional material that complements the data collected through the survey questionnaire, interview, and personal observations. As Yin (2003) stated, "the most important use of documents is to substantiate and supplement confirmation as of other sources." Although documents are usually created for particular objects other than those of the research they can be employed via the researcher for cognitive purposes (Corbetto, 2003). The benefit of a document can sometimes be larger than other research methodology as it is a non-reactive technique; the information given in a

document is not subject to a possible misrepresentation. Still, as Patton (2002) pointed out, documents might have some limitations in terms of exactness and comprehensiveness of the information. The documents used in this research to collect data include among others: reports from the various seafood associations, brochures, literature from websites, articles and publications from various government agencies, local dailies, international newspapers and magazines.

3.4 Data Analysis

Qualitative data analysis is "the process of bringing order, structure, and interpretation to the mass of collected data" (Marshall and Rossman, 1999). This process is creative. It does not proceed in a linear fashion (Marshall and Rossman, 1999). Unlike quantitative data, which are amenable to being presented in a concise fashion, qualitative data analysis involves a relatively large volume of data. Some of this data needs to be aggregated and edited. As Eriksson et al. (2006) argued, it is up to the researcher to decide how to compile the information, actors' subjective logic into a meaningful reasoning, which has been research aim to achieve.

In this research, some of the interviews were recorded with Video Camcorder by the researcher in order to avoid the loss of data. The researcher also took notes before and right after the interviews were completed. An exact recording of the interviews is helpful in that it leads the researcher closer to the information (Halcomb and Davidson, 2006). All the interviews were then transcribed into texts so as to get an integrate view of the material before revising it. During the attenuation procedure stage, the data, which has been noted down and recorded, was reduced, simplified and compiled (Miles and Huberman, 1994).

It should be noted that as part of Chapter 4, Data Reporting, some of the personal observations and findings drawn from specific documents may be reported together (as opposed to being reported in separate parts) as part of the compilation process. The reason for mingling information drawn from documents with personal observations is simple. Many personal observations which the researcher made are also supported by documents.

CHAPTER 4
DATA ANALYSIS AND RESULTS

This chapter discusses the data gathered for this study as discussed in Chapter 3 via a questionnaire, semi structured interview, personal observations and perusal of documents. The inference of the data analyzed is mentioned below in the subsequent sub-divisions consequently. Ten respondents were interviewed for this research paper, 310 survey questionnaires probed and the rest of the facts were accumulated through personal observations and through the perusal of documents i.e published materials and internet articles and the nature of the probe was mainly investigative only.

4.1 Findings

Private standards and certifications are relatively new, but have become increasingly common in the fishing industry sectors. They have emerged in areas where there is a perception that public regulatory frameworks are not achieving the desired outcomes, such as sustainability and responsible fisheries management. Their use is also becoming more common as part of an effort to ensure food safety, quality and environmental sustainability in the growing aquaculture industry. Private standards are now a key mechanism for large-scale retailers and commercial brand owners wishing to translate requirements for both product and process specifications to other parts of the supply chain. This is especially important as supply chains become more vertically integrated. Private standards and certifications can improve safety, quality, traceability, standardization, and production transparency for the firm.

The answers in the questionnaire emphasize the need to establish a private standard and certification for international fish trading industry (see table 4.1) and are in line with other qualitative data collected in the study as discussed in details in this chapter and the next one.

Table 4.1 Questionnaire Results

Question Items	Mean	S.D.	Interpretation
1. Private Standards and related certification schemes are significant features of international fish trading and marketing.	3.91	.58975	Agree
2. Private Standards had emerged in areas where there is a perception that public regulatory frameworks are not achieving the desired outcomes, such as sustainability and responsible fisheries management.	3.96	.53829	Agree
3. Private standards are now a key mechanism for large-scale retailers and commercial brand owners wishing to translate requirements – both product and process specifications– to other parts of the supply chain.	3.89	.48767	Agree
4. Private Standards can facilitate traceability, standardization of products from a range of international suppliers, and transparency of production processes.	4.01	.51818	Agree
5. The impact of private standards is likely to increase, including in developing countries, as supermarket chains consolidate their role as the primary distributors of fish and seafood products, and as their procurement policies move away from open markets towards contractual supply relationships.	3.85	.57221	Agree
6. The compliance costs associated with certification to a private standard represent that these costs are borne disproportionately by those upstream in the supply chain rather than those downstream where the demands for certification generate.	3.92	.44425	Agree
7. The multiplicity of drivers for the traceability aspects of private standards schemes, requires integration to meet the multiple requirements relating to food safety, catch certification, illegal, unreported and unregulated (IUU) fishing and the chain-of-custody aspects of private voluntary certification schemes, as well as public regulatory requirements.	3.84	.50645	Agree
8. The proliferation of private standards causes confusion for many stakeholders: fishers and fish farmers trying to decide which certification scheme will maximize market returns with buyers trying to decide which standards have most credence in the market and will offer returns to reputation and risk management; and governments trying to decide where private standards fit into their food safety and resource management strategies.	3.99	.37730	Agree

Table 4.1 Questionnaire Results (Cont.)

Question Items	Mean	S.D.	Interpretation
9. The pressure on producers (fish farmers) and processors (of both wild capture and farmed fish) to comply with private standards depends on the market, how that market is structured, and on the type of product being sold.	3.93	.43060	Agree
10. Large supermarket chains are the most demanding in terms of private standards. In an increasingly competitive market, large food companies search for ways to distinguish their products, brands or firm from competitors. As the link between the rest of the supply chain and consumers, they are under pressure to respond to consumer expectations for safe, quality food, to show due diligence in terms of food safety assurance, and increasingly to present their CSR credentials.	3.97	.34919	Agree
11. Private standards play an important role in all aspects and subsequently provide opportunities to both protect (risk management) and enhance reputation.	3.83	.60010	Agree
12. Supermarket chains impose relatively stricter standards on their private label products, whether they are fresh, frozen or canned. Private labels operate as a market differentiator helping to build up a retailer's reputation vis-à-vis other retailers, as well as allowing retailers to compete with large commercial "brands".	4.09	.53205	Agree
13. In terms of pressure to comply with private quality and/or safety standards, processors can be affected whether they are dealing with wild capture or farmed fish and seafood. In contrast, producers are affected relative to the sector, with fish farmers being under potential pressure to comply with an FSMS or specific aquaculture certification scheme, and wild capture fishers largely unaffected.	4.03	.50816	Agree
14. Developing countries represent about half of world exports of fish and fishery products by value and about 60 percent in terms of quantity.	4.10	.54889	Agree
15. Private standards could pose a barrier for Developing countries to their access to lucrative developed country markets.	3.94	.43589	Agree
16. The costs of compliance of Private Standard Certifications are disproportionately higher for small operators – the norm in many developing countries – where there are few economies of scale. The cost of acquiring information and introducing management systems is proportionately heavier for smaller operators.	3.88	.54511	Agree

Table 4.1 Questionnaire Results (Cont.)

Question Items	Mean	S.D.	Interpretation
17. Producers in developing countries already struggle to meet mandatory requirements. Certification might require the introduction of new management systems, record- keeping and even gear, the costs of which would be prohibitive for small operators.	4.03	.60149	Agree
18. With no support by the public infrastructure achieving certification come at a heavy cost for producer, conformity assessment frequently requires relatively large financial inputs to be paid by farmers.	3.79	.58556	Agree
19. Retailers, alongside commercial brand owners, stand to reap the main benefits of private standards.	4.18	.73410	Agree
20. The proliferation of private standards might be seen simply as the private sector responding to incentives set by government – by developing robust food safety systems based on mandatory regulation, with certified verification that standards have been met, and with guarantees of traceability.	3.90	.53577	Agree
21. The EU and U.S. requirements genuinely address the safety of end consumers.	3.82	.62121	Agree
22. The EU & US requirements are, guise of neutral measures enforced as safety measures, actuality essentially meant to restrict imports.	3.81	.68357	Agree
23 ASEAN Seafood industry can do without the EU and U.S. markets.	2.53	.67608	Disagree
24. A Common ASEAN Certification and harmonized Fishery Legislation within ASEAN can meet the stringent requirements imposed by the EU and US.	4.06	.56590	Agree
25 A unified ASEAN Seafood industry, speaking with one voice will have leverage over the EU and US so as to force them to adopt more consistent requirements in Quality Certification.	4.00	.54860	Agree

4.1.1 Costs Scenarios of Certification.

The examination of the documents used in this research, in particular earlier studies conducted by the FAO on certification in the Asia-Pacific region (FAO, 2007c), show that it is difficult to determine the actual certification cost since the actual fees set by certification bodies are subjected to market conditions. Certification costs are also difficult to segregate from compliance costs for mandatory regulatory

requirements which typically form the baseline of standards compliance. Moreover, costs are dependent on the size and type of business being certified. In addition, product specifications increase as the level of processing and value-added increases, which is also reflected in the costs of certification and audit more specifications against which to verify compliance.

The actual costs of fulfillment include, infrastructure upgrade costs, and practices including staff training and certification and audits. The cost of certification against one or other of the FSMSs ranges from several thousand to hundreds of thousands of US dollars, depending on the size of the company, the type of operation, and the gap between current systems and those required by private certification schemes. Some costs are direct (e.g. the actual certification fee) while others are indirect (e.g. management time spent in planning and implementing any improvements required, developing new systems, and the costs of actual upgrades and staff training).

Inferences from the data as shown in table 4.1 above and the interviews done for this research also suggest that it is often difficult to disaggregate the costs related to certification or the introduction of an FSMS because these are part of wider quality management systems. Companies that need more than one certification might try to have them established at the same time to maximize synergies. Similarly, many try to reduce the costs of multiple audits by finding a certification company accredited to more than one FSMS and able to audit against more than one set of standards at the same time. Audits are typically carried out annually.

Most of the financial cost of certification does not come from certification or audit respectively but from the changes required for practices and changes to be made in the infrastructures to comply with the standard criteria. This is particularly onerous for producers and processors in ASEAN countries where the pre-existing infrastructure (public and private) are poor, although those with well-entrenched HACCP systems (a prerequisite for any private certification) will have a head start. Moreover, small operators – the norm in ASEAN countries – where there are few economies of scale – face disproportionately high costs. Even the cost of acquiring information and introducing management systems is proportionately heavier for smaller operators.

The costs to producers of compliance with private standards vary depending on the pre-existing state of the operations. For bulk unprocessed fish and seafood, there are very few requirements demanded on top of the mandatory regulatory requirements associated with exporting to developed country markets. For producers already operating effective hygiene and management practices, and with an HACCP system in place, the costs of complying with any private standards would be marginal -some fixed costs associated with certification, and some ongoing costs related to audit and record-keeping (including for traceability purposes). This would be the case for many developed country fishers and fish farmers. However the costs of certification shoot up if a variety of certifications is required, which might mean multiple audits against a variety of standards (although, as noted above, there is often an attempt to be audited by one certifier that is accredited to audit against more than one standard). Private compliance pressures are added to obligation to meet public regulatory standards. ASEAN seafood producers exporting to Europe, have to comply with EU regulations, various national safety regulations, and any private standards. For those exporting to France or Germany and the United Kingdom, both IFS and BRC certification might be required. ASEAN seafood producers already struggle to meet mandatory requirements. As indicated in Table 4.1, Q17 (M=4.03, SD=.60149) it is found that the respondents agree to the fact that certification might require the introduction of new management systems, record- keeping and even gear, the costs of which would be prohibitive for small operators. Moreover, public infrastructure does not support them An FAO study concluded that, "*achieving certification appears to come at a heavy cost for producers…conformity assessment frequently requires relatively large financial inputs to be paid by farmers* (FAO, 2007, p. 38)" Overall, private standards compliance cost varies considerably from one operator to another, depending on the gap between the current status and that required by the private standard. However, the costs need to be compared to the benefits of being certified. These benefits might include access to new markets or consolidation of position in existing markets. This is particularly true where certification offers access to an integrated value chain and long-term contractual supply relationships.

An analysis of the data in Table 4.1, Q16 (M=3.88, SD=.54511) reveals that the respondents agree to the fact that ASEAN Fish and seafood processors are likely

to be pressured to comply with private standards for food safety and quality, depending on the level of added value and the types of products produced. For those producing brand products or private label products for large-scale retailers, certification would be essential. In developed countries where plants are subject to fair requirements, including as a result of robust national regulations, the costs of certification might be limited to the fixed costs of the initial certification process and the costs of ongoing audit. The costs increase if multiple certifications are required. Clearly, in the processing sector, economies of scale lower the relative cost of safety and quality systems.

Transcripts from some of the respondents interviewed for this research paper and the data analyzed as shown in Table 4.1, Q:11 (M=3.83, SD=.60010) indicate that the respondents also agree to the fact that even though, while the costs of certification to private standards were high, they amounted to a worthwhile investment, noting improvements in quality management and products, increased customer confidence, and access to more sophisticated market segments (private label, high value-added products), with potential for some price premium. Therefore Certification to private standards might provide new opportunities for ASEAN countries in the processing sector of the fish and seafood industry.

The data analyzed from the QN results as outlined in Table 4.1, Q:10 (M=3.97, SD=.34919) shows that the respondents agree to the fact that the Importers and agents in exporting countries play an important role in translating standards up and down the supply chain. They are particularly important where supply chains are less integrated. The costs to these actors would include those associated with more record-keeping and explaining clients' requirements to their suppliers. As can be seen from the transcripts of the respondents interviews, there are diverse views. A few described this as difficult but a growing fact of doing business while some noted the increasing pressure to provide information about production processes implemented at the production and processing level in order to meet buyers' standards. The data in Table 4.1, Q: 8 (M=3.99, SD=.37730) shows that the majority of the respondents agree to the fact that multiple requirements of Certification increased uncertainty in business transactions.

4.1.2 Painstaking Costs of Private Certification Schemes on the Seafood Industry in ASEAN Member Countries.

As noted before, ASEAN countries account for about 75% of the global seafood trade liberalization through the WTO and other organizations reduced tariff barriers, which should have increased ASEAN access to developed country markets. However, it became increasingly clear from the documents perusal for this research that private safety and quality standards now represent significant non-tariff barriers to market entry (FAO, 2012).

It is clear from the interviews, questionnaires, personal observations and perusal of various documents that there are a number of critical issues. One issue is the wide variance in public regulation between ASEAN countries (FAO, 2012). This imposes significant increased costs on regional exporters, particularly in the face of limited development capacity for safety and quality management infrastructure and systems (FAO, 2012). Harmonization has been progressing, but there is still more work that needs to be done. Barriers faced by the ASEAN seafood industry in relation to prevailing public regulation in customer countries are further echoed in barriers erected by private standards. . As indicated in Table 4.1, Q: 8 (M=3.99, SD=.377), the respondents agree to the fact that the absence of a national strategy in ASEAN member countries for food safety regulation to meet market requirements of developed countries import markets makes the seafood industry in ASEAN member countries vulnerable and creates the need to have a multiple number of Private Certification Schemes. As shown in Table 4.1, Q: 18 (M=3.79, SD=.58556), the respondents agree to the fact that the seafood Industry in ASEAN member countries has low institutional capacity, poorly performing authorities, weak institutions and processes (such as inspection, data collection, monitoring, testing, and technical and advisory processes), and little help for food safety management or market requirements (FAO, 2012). The transcripts from the interviews also point out to the fact that there is also poor physical infrastructure, including transportation networks, and a reliable electricity supply. The fish and seafood industry in many ASEAN countries is highly fragmented, characterized by small production units in both the farming and wild capture sectors. Certification costs are higher for small and medium operators, who cannot achieve economies of scale (Washington & Ababouch, 2011).

This is because smaller operators produce less, leading to a higher per-unit cost of certification. They may also not have strong supplier relationships with large-scale buyers, which could reduce the cost associated (Washington & Ababouch, 2011). ASEAN countries have sought assistance to build their food safety infrastructures, including legislative and regulatory frameworks, institutional capacities and physical infrastructures. Progress in all of these areas would provide the foundations for ASEAN countries to further exploit their trade potential as well as having the positive effect of reducing the health risks for local populations. Well-functioning public physical and institutional infrastructures are prerequisites to meeting both mandatory standards in importing countries, and an increase in the volume of voluntary private standards.

4.1.3 Compliance Costs to the ASEAN Seafood Industry by the Certification Schemes

As indicated in Table 4.1, Q:5 (M= 3.85 , SD.57221) and Q:18 (M=3.79, SD=.58556), the respondents agree to the issue that private standards tend to be dictatorial and extremely meticulous, rather than performance based, with little recognition of different ways of achieving the acceptable level of consumer protection. These costs accrue disproportionately at the front end of the supply chain i.e. the producers as well as processors instead of the downstream customers who demand the certifications (Washington & Ababouch, 2011). In developed countries, where producers and processors have robust food safety management arrangements in place, certification costs may be less of a burden. Under this scenario, private standards might be seen as of no particular concern to governments in developed countries as they form part of purely commercial relationships between private sector buyers and sellers, which governments at least, are reluctant to interfere with. Moreover, in the developed countries, in relation to imported fish and seafood, private standards might be seen as an additional food safety guarantee and a protection for consumers. Competing concerns about compliance costs and market barriers have been raised almost exclusively by ASEAN countries.

4.1.4 Retailers Role in the Ongoing Proliferation of the Certification Schemes

The data analysis as reported in Table 4.1, Q: 10 (M= 3.97 , SD.34919) , Q:12 (M=4.09, SD=.53205) and Q:19 (M= 4.18, SD.73410) shows that the respondents agree that retailers are the main drivers of the private food standards trend. Food safety is increasingly considered a pro-competitive issue, which drives to benchmark a range of FSMSs to assist their members. Retailer groups are encouraging their members to include private standards in their procurement strategies. The seafood industry media also offers advice to buyers related to certification, advising them to ask suppliers if seafood is certified and to check the acceptability by various means of certification standards. Retailers, alongside commercial brand owners, stand to reap the main benefits of private standards. More secure supply relationships: certifications act as a link between the supplier and the retailer (Echeverria, 1999). When the supplier has invested in certification there is likely to be more commitment to the ongoing business relationship. Certification acts as an integrating factor in supply chains, which in the light of globalization are characterized by increasing complexity (Echeverria, 1999). Private standards can be used as a marketing tool to improve customer confidence in quality, safety and sustainability, and to build brand loyalty. For retailers, any costs involved in developing private standards or managing membership in a Certification are seen as investment in reputation. As indicated in the interviews and questionnaires, if processors are not certified, retailers pressure the supplier's for certification. Pressure on suppliers for certification appears to be growing more and more.

4.1.5 Government Role in Certification Schemes.

From the interviews and documents probed it was found that the trend in food safety regulatory regimes in the last 20 years, especially in ASEAN countries exporting to the EU, US markets, has been to restructure away from command and control towards performance auditing of self-managed food safety systems that the food producers own. In food safety management, it is up to the producer to identify food safety hazards and appropriate controls to manage them. Under this scenario, the role of government is to impose performance-based regulation coupled with process standards based on the HACCP system. As table 4.1, Q: 20 (M= 3.90, SD.53577)

makes it clear, the respondents agree that the proliferation of private standards might be seen simply as the private sector responding to incentives set by governments to develop robust food safety systems based on mandatory regulations, with certified verification that standards have been met, and with guarantees of traceability. In essence, private standards represent the introduction by the private sector of parallel systems to counter shortfalls, either perceived or real, in governments' abilities to carry out their responsibilities to ensure food safety, including in relation to imported products.

4.1.6 Policies Evolving in the Fisheries and Aquaculture Sectors.

A close investigation of the documents used in this research, most notably a recent FAO report on the state of world fisheries, reveal that the opponents of private standards see them as a private-sector attempt to replace governmental fisheries policy (Washington & Ababouch, 2011). It is noticed that Private standards in the sustainability area are effectively questioning governments' abilities to manage their natural resources effectively. These concerns have been more acute in ASEAN countries where policy frameworks and administrative systems are feeble. Nevertheless, there is the question of whether private standards create misunderstanding among local producers and processors about their role or obligations or undermine governments' attempts to develop and execute more vigorous policies and administrative systems by diverting resources to private requirements instead of public needs.

4.1.7 Proliferation of Private Certification Schemes – Technical Barriers to Trade?

The data in Table 4.1, Q: 15 (M= 3.94, SD.43589) shows that the respondents agree that the Private Standards could pose a barrier for developing countries but however the documents probed for this research showed to the researcher that the WTO TBT Agreement is also applicable to a discussion of private standards. The TBT Agreement distinguishes "technical regulations", which are mandatory, and "standards", which are voluntary. In its Code of Good Practice for the Preparation, Adoption and Application of Standards, the TBT Agreement prohibits both technical

regulations and standards from discriminating between domestic and foreign products that are alike the national treatment principle and between "like products" from different WTO members. A technical regulation that is properly applied does not create a trade barrier, but the same may not be true of private standards (WTO, 1994b). The private standards schemes are often based on international Codex Alimentarius standards (including the HACCP system), they invariably go beyond them in terms of specificity if not in stringency rather than being applied "in accordance" with them. As noted above, no previous studies have compared international standards from the WTO with private standards. Therefore it can be concluded that the current scenario of proliferation of Private Standards are technically not a barrier to trade but the instigation of the importers in developed countries on the suppliers to comply or have various Private certification schemes at the same time instead of a common standard are indeed posing a trade barrier.

4.1.8 Private Certification Bodies are the Big Winners.

From the personal observations and perusal of documents, it is undeniable that the certification bodies have the highest gains in the industry. Certification is expensive and competitive, and there is a lot of confusion and variation in the industry (Washington & Ababouch, 2011). This leads to a significant amount of variation in application to the same scheme. This multitude of certifying process tend to be dictatorial and extremely meticulous and a financial burden for producers and processors in ASEAN countries where the pre-existing infrastructure (public and private) and disproportionate compliance costs for small operators have a significant effect.

4.1.9 The Need for Harmonization of Standards for the Certification Schemes in ASEAN Countries.

The data obtained from the interviews, questionnaire Q24 (M=4.06, SD=.56590), Q25 (M=4.00 , SD.54860), and documents emphasize the need for the Harmonization of standards of Certification Schemes for ASEAN countries which would be the best option in the form of assistance to improve the infrastructure (physical, regulatory and institutional) that is a qualification for compliance with both

International public and private food safety and quality standards. The transfer of information, technology and expertise from integrated supply-chain expertise to other parts of the industry might help fisheries stakeholders move beyond "*entry-level commodity trading relationships with international markets*" (OECD/FAO, 2007, p. 26) to improve value-added and subsequently improve access to more lucrative markets or market segments in importing countries.

The interviewees repeatedly stressed that a greater degree of harmonization of standards and certifications could reduce confusion and cost involved in multiple certification. There is also substantial overlap between public and private requirements, which could be reduced. The interviews also show that for a long time the ASEAN Seafood Exporters have been grieving over multiple, differing food safety and import quality requirements between different countries. Proliferating private certifications add to this problem. ASEAN Seafood exporters in particular have been struggling to meet the obligatory demands, to say nothing of private requirements. And as evidenced by documents and personal observations, there is some increased harmonization attempts in voluntary standards. These include collaboration between ISO and GFCI, Global G.A.P. and ACC (Washington & Ababouch, 2011). However, this is an area that needs to be further developed in order to reduce complexity and redundancy.

4.2 Conclusion

Private standards and related certification schemes have become significant features of international fish trade and marketing. They have emerged in areas where there is a perception that public regulatory frameworks are not achieving the desired outcomes, such as sustainability and responsible fisheries management. Their use is also becoming more common in efforts to ensure food safety, quality and environmental sustainability in the growing aquaculture industry. Private standards are now a key mechanism for large-scale retailers and commercial brand owners wishing to translate requirements, both product and process specifications to other parts of the supply chain. This is especially important as supply chains become more vertically integrated. Indeed, from the perspective of the firm, private standards and

the certification sitting behind them can serve as mechanisms for safety and quality assurance. They can also facilitate traceability, standardization of products from a range of international suppliers, and transparency of production processes.

Associating themselves with a private quality or environmental standard insulates retailers and brand owners from boycotts by environmental groups and from negative media coverage. It also enables them to tap into and increase consumer demand for ethical products. As a result, the fisheries procurement policies of most large retailers typically include a significant sustainability component for farmed fish and seafood to be certified to an aquaculture certification scheme. Suppliers working at the post-harvest level are increasingly required to be certified to a private food safety management scheme. Therefore, the onus is increasingly on suppliers to verify that their products meet certain standards. Certification provides this "burden of proof".

The impact of private standards is likely to increase in ASEAN countries, although it will continue to be non-uniform across markets and products. The increasing role of supermarket chains as the main distribution channels for product and increasing use of supply contract relationships will increase the intensity of private standards use. Transnational grocery chains and their buying strategies will gradually influence the suppliers of farmed and seafood products in the ASEAN member countries. This calls for resolution of private standards issues sooner, rather than later.

Compliance costs are a problem for the fisheries industry. These costs are disproportionately assigned to producers, rather than to the distributors or consumers who originate the demands for certification. Distribution of costs between standards that assess traceability, food safety, IUU fishing, and other aspects, as well as public regulation demands, cause confusion and duplicated effort between programs and stakeholders. This leaves fishers and fish farmers trying to decide which certification scheme will maximize market returns; buyers trying to decide which standards have most credibility in the market and will offer returns to reputation and risk management; governments trying to decide how programs align with public regulations regarding food safety and resource management. This is a substantial amount of confusion and cause for significant concern.

ASEAN countries account for 70-75 percent of the world's traded fish and seafood by volume (FAO, 2010). About 50 percent by value of the fisheries exports from ASEAN countries ends up in developed country markets of US, EU, Japan etc (FAO, 2010). Due to the lack of an economic imperative for certification ASEAN countries have a limited presence in the markets, species, types of products, and supply chains when the pressure to be certified is extreme. The high costs of certification are often unaffordable for small-scale or resource- poor operators. Developing countries might also be missing out on the potential benefits of certification, which might include more opportunities for value-added products, better supplier relationships, and pressure for improved fisheries management. Many ASEAN member countries lack effective fisheries management, which is essential for most private certification programs. Some operate under open-access arrangements, with poor governance, including weak institutions and controls on catch limits.

ASEAN countries lack control over existing stocks of information about them, which is essential for evidence-based stock assessments. There are also inadequate data on catches. Records are not always kept by small-scale fisheries, for reasons including lack of infrastructure, data collection tools, and even basic literacy. This makes any chain-of-custody certification problematic. The high cost of certification is problematic even for developed countries, but for producers in ASEAN countries certification is often unaffordable. The up-front cost of initial certification, as well as production facilities, retraining, management facilities, and equipment, can be out of reach for many ASEAN producers. Since many ASEAN producers have little or no help from other stakeholders such as government or customers, and no premium price guarantee, these costs may simply not be feasible. It is not unreasonable to see income reduction (particularly problematic for small producers) and unemployment resulting from enforced private certification.

When certification scheme becomes a requirement of entry into a market, and if ASEAN countries are unable to meet those certification requirements, then they could be perceived as a barrier to trade. On answering the question "Whether Private Certifications act as a barrier to trade for ASEAN countries" this research study suggests that it somewhat depends on the level of demand raised for those products in developed country markets. Considering the current volumes of Private certifications

in the market and their concentration in certain species, this is currently a critical issue. This research study probes into the concerns raised by the ASEAN countries on these grounds and this research study concludes that ASEAN seafood industry views " Private Certification & eco labeling as a regulation imposed by importing countries to discriminate ASEAN products" (Bjerner et al., 2006).

A common Standard certification scheme provides a good alternative to private standards for the ASEAN Seafood producers. With international private standards presenting numerous challenges to small-scale ASEAN seafood producers, this research paper having analyzed many issues that are affecting the ASEAN Seafood industry conclude that, the pressure for ASEAN seafood producers to comply with international private standards is painstaking and an enormous economic burden What needs to happen for private certification schemes are to be more comprehensive and justifiable? The contribution of other epistemologies in setting standards for certification schemes could actually change the face of certification, from a product differentiation, market-driven tool to what it actually claims to be an assurance of quality, environmental sustainability, and responsible fisheries management. If global markets are to accommodate for the rapid expansion of ASEAN, changes in, and alternatives to, international private certification schemes need to be investigated. This includes an understanding of how ASEAN seafood producers can comply with standards within their social economic and political situations (Bush et al. 2009). It also examines development issues, policy implications, and certification impact on cost, transparency, traceability, and other aspects of fisheries for the ASEAN seafood industry. It addresses what is needed to implement a Common Standard certification scheme.

Greater harmonization and mutual recognition of certification schemes (private and public) would both reduce the confusion inherent in the proliferation of private standards applying to fish and seafood and would help to reduce some of the costs associated with multiple certifications. Producers often cannot keep up with mandatory requirements, to say nothing of voluntary private programs, which reduces compliance and supply of certified products. Therefore as an attempts at increasing harmonization in voluntary standards a Common Standard for the Certification Scheme for the ASEAN Seafood industry is utmost important to find a common

ground in order to reduce duplication and cost multiplication and to reduce the "burden of proof" on to the small-scale ASEAN Seafood producers who often lack the economic and technological capacity to comply with these certification schemes and wherein the small-scale producers represent the majority of fishers, producers and aquaculturalists in this region.

CHAPTER 5
SUMMARY, DISCUSSION AND CONCLUSIONS

This chapter first summarizes the findings and then discusses the answers to the research questions as articulated in Chapter 1. Next it makes some recommendations for future scenarios in the seafood industry.

5.1 Summary

This research paper was conducted to investigate the possibilities of a unified standard setting for the certification Schemes prevalent in the industry and suggests that harmonizing the standards settings of the private standards draws the relevance of the practice a common standard setting for certifying the products from the ASEAN seafood industry. The quantitative data was collected using a questionnaire consisting of 25 questions. A total of 310 respondents returned the questionnaire set as a five-point Likert scale from strongly disagree to strongly agree.

The descriptive results show that the respondents agree with all the statements, except one; "ASEAN Seafood industry can do without the EU and U.S. markets". The question with the highest mean value is "Retailers, alongside commercial brand owners, stand to reap the main benefits of private standards" (M = 4.18, SD = .73410). The question with the lowest mean value is "ASEAN Seafood industry can do without the EU and U.S. markets" (M = 2.53, SD = .67608), which suggests that the industry needs these markets in order to survive. The results can be interpreted as indicating that respondents agree that private standards and with the fact that EU and US requirements are important to ASEAN fish exporting. Among others, the respondents agree that: "Private Standards and related certification schemes are significant features of international fish trading and marketing" (M = 3.91, SD = .5875); and that "The impact of private standards is likely to increase, including in developing countries, as supermarket chains consolidate their role as the primary distributors of fish and seafood products, and as their procurement policies move away from open markets" (M = 3.85, SD = .57221), The EU & US requirements are

import restrictive measures in the guise of neutral measures meant for consumer safety (M = 3.81, SD = .68357). The full results of the 25 items on the questionnaire appear in Table 4.1.

The perusal of documents and the data gathered from interviews and personal observations also clearly indicate that Private Certifications are too expensive for small farmers and other fishing industry participants in ASEAN member countries. These small-scale producers cannot engage in global supply chains because they cannot deliver economies of scale, volume, or establish large contracts. Additionally, certification approaches are poorly suited to the ASEAN seafood industry. Proliferation of a large number of private certifications and the difference in the settings of requirements that are needed for certification also have a big negative impact on ASEAN seafood producers and processors, thereby blocking their market-accessing opportunities. In this context, the large number of private standards prevalent in the industry poses a barrier to trade for small scale producers and processors in ASEAN countries.

5.2 Discussion of the Research Questions

1. How have ASEAN seafood producers responded so far to the threats of protectionism placed on them by the increasingly protectionist EU and U.S. policies?

The interviewees, leaders in the food sectors in ASEAN, were aware that there have been some independent movements by various organizations among the ASEAN seafood industry to raise its concern over the proliferation of private standards certification schemes and the ways they are audited. However, to this day, there has been no similar government-level initiative. Every interviewee was of the opinion that such a movement should be organized to bring forth the concern of the ASEAN seafood industry to the forefront against the ever growing protectionist policies.

In the questionnaire results in Table 4.1 (Q 22 , Q 24 & Q 25), it can be seen that the majority of the respondents emphasized that the ASEAN seafood association should respond to the growing EU and US trade protectionism, which often comes in the guise of neutral measures. Documents perusal shows that WTO has generated a regulatory framework to facilitate international trade. The WTO Sanitary and

Phytosanitary (SPS) Agreement and the Technical Barriers to Trade Agreement are the most important WTO agreements in the industry. This concern has been raised at the WTO. Some concerns raised include content and coverage of private standards, issues related to compliance with private standards, and general implications for international trade. It is possible that these concerns could influence public regulatory frameworks. The SPS Committee has also raised concerns about cost of private standards and certifications, especially for small-scale producers in ASEAN countries.

2. Should ASEAN seafood producers act in concert in addressing the EU and U.S. concerns and requirements and develop a single standard for quality certification and common fisheries legislation?

A paper presented in 2011 by Prof. Dr. Nguyen Huu Dung (Chairman of ASEAN Seafood Federation (ASF) Vice President of Vietnam Association of Seafood Exporters and Producers (VASEP)) reads in part as follows:

> "Members hope to manage production and exports in the region more effectively; to improve quality, safety and value of products; to increase technical, environmental and social standards and marketing. The new organization is also expected to reduce inter-country rivalry and conflicts in the region while ensuring better commonly- accepted standards. Closer cooperation in production and marketing by the ASEAN countries could greater impact and control over the global markets […] Under the ASF's framework, Viet Nam will be responsible for cooperation on production and technology, Thailand for food safety assurance and marketing, Myanmar for cooperation on securing production inputs, while Indonesia, the Philippines and Malaysia are to handle logistics. Other areas for cooperation include quality standardization, inspection and certification, labeling and packaging and investment in ASEAN. Under the new Federation framework, members would also share trade and market information, as well as the latest production technologies (Vietfish International, 2011)."

This excerpt shows that already steps have been undertaken and designated to the members for implementation. The interviews also confirm the necessity for a

common Standard certification scheme which would provide a promising alternative to the proliferation of International private standards for the ASEAN Seafood producers.

3. To the extent unity among ASEAN Seafood member producers (Asian Seafood Federation) is possible would a Common ASEAN Certification and Fishery Legislation within ASEAN meet the stringent requirements imposed by the EU and US?

The data in Table 4.1 Q24 (M=4.06, SD=.56590) shows that the respondents strongly agree that greater harmonization and mutual recognition of standards set for the certification schemes would both reduce the confusion inherent in the proliferation of private standards applying to fish and seafood and help to reduce some of the costs associated with multiple certifications. This applies to both public and private systems. Exporters often regret the multiplicity of government food safety import requirements that differ between jurisdictions. The range of private certification schemes adds to those concerns. ASEAN country operators, in particular, struggle to keep up with mandatory requirements let alone the range of private standards. Therefore as an attempts at increasing harmonization in voluntary standards a Common Standard for the Certification Scheme for the ASEAN Seafood industry is utmost important to find a common ground in order to reduce duplication and cost multiplication and to reduce the "burden of proof" on to the small-scale ASEAN Seafood producers who often lack the economic and technological capacity to comply with these certification schemes and wherein the small-scale producers represent the majority of fishers, producers and aquaculturalists in this region. In summary, a convergence of standards would go a long way in meeting the EU and US stringent requirements as it would avoid all the traps of multiple but uncoordinated certifications.

4. Would an ASEAN Seafood industry speaking with one voice have leverage over the EU and US so as to force them to adopt more consistent requirements in quality certification?

The analysis of the data reported in Table 4.1 Q25 (M=4.00, SD=.54860) shows that the respondents strongly agree that a unified ASEAN Seafood industry, speaking with one voice will have leverage over the EU and US so as to force them to adopt more consistent requirements in terms of Quality Certification. As mentioned earlier, the ASF is the Industry group to date in ASEAN. The ASF serves part of a larger objective, to integrate the ASEAN region's national economies and achieve higher levels of economic dynamism, as espoused in the ASEAN Economic Community Blueprint. Western countries are only accepting products from ASEAN countries that meet approved standards. The ASF should lead to closer cooperation within ASEAN countries to raise the standard of products from the region, share trade and market information, as well as the latest processing technologies. This would help members support each other. For example, Indonesia could provide raw materials, while Thailand, which is famous for food standards, would handle marketing and technology (The Free Library, 2014). All this makes it clear that a movement for a ASEAN Seafood Association has begun. Efforts to unify the ASEAN Seafood industry, speak with one voice and get leverage over the EU and US markets, most notably forcing them to adopt more consistency, are on their way.

5. Should the trade barriers issue be taken the World Trade Organization?

It is generally agreed that the WTO's framework to facilitate international trade acts as a de facto international framework. Most relevant to the fish industry are the SPS and TBT Agreements as they raise the impact of private standards on international trade. Ongoing concerns of member countries in relation to private standards include those related to content and consistency of private standards; cost and access issues for private certifications; lack of jurisdiction; and changing relationships between public regulation and private standards (Washington & Ababouch, 2011). The interviewees also suggested that while comparing private and public standards, such as Codex, the IPPC and the OIE, as envisaged in WTO discussions regarding the ASEAN role in this, would be useful since currently the

growing number of certifications and private standards is definitely not adding value to global food safety governance is the concern of. The interviewees also felt that this has led to confusion and could undermine confidence in standards overall.

5.2.1. Additional Issues

In addition to the above research questions, discussions some more points aroused during the research which are subsequently discussed as below.

- *Can "A single standard for quality certification and common fisheries legislation by ASEAN seafood producers" play a key role in coordinating its member and help in the efforts to overcome the increasingly trade protectionism?*

Inferences from the data gathered from the interviews show that all the respondents agree that the concept of a single standard for quality certification and common fisheries legislation will play a key role in coordinating the seafood industry members in ASEAN and that it will help in their efforts to overcome the ever-growing trade protectionism that they are facing now. The results of the questionnaire as presented in Table 4.1 Q24 (M=4.06, SD=.56590), Q25 (M= 4.00, SD=.54860) show that the respondents emphasize the need for a single standard for Quality Certification and Common Fisheries legislation. Personal observations by the researcher, however, indicate that there is still no definite accord on whether private standards are a bonus or pose a barrier to international trade. On the one hand, they can be trade-creating in that single standards and a common legislation will offer opportunities for the ASEAN seafood industry to access lucrative markets in developed countries, where large-scale buyers increasingly include private standards and requirements for certification in their fish and seafood procurement strategies. On the other, field observations made during the research study show that compliance with private standards schemes is highly problematic for some operators, especially small-scale producers and processors in ASEAN countries. A number of documents indicate that market liberalization and the reduction of trade barriers negotiated by national governments in the WTO will not facilitate market entry for ASEAN countries while private standards are on the surface with various standards. Private certification could

become *de facto* mandatory standards if compliance with them becomes necessary to access developed country markets.

- *Can ASEAN seafood industry do without the EU and U.S. markets?*

A majority of the respondents interviewed were of the opinion that the main market for the seafood products from ASEAN countries is the EU and US. The answers to the questionnaire results as shown in table 4.1 Q23 (M=2.53, SD=.67608) reveal that the respondents disagreed with the fact that the ASEAN seafood industry can do without the EU and US markets, fact corroborated by documents reporting that almost 60% of ASEAN products end up in European and American markets. Clearly, the ASEAN Seafood industry cannot do without the EU and US Markets.

- *Is unity among ASEAN Seafood member producers (Asian Seafood Federation) a tall order?*

The ASEAN Seafood Federation (ASF) was established on May 12, 2009 (Vietfish International, 2011). It includes the leading national seafood producers and exporters' associations of ASEAN countries, namely: Brunei Darussalam Aquaculture Producers Alliance Cooperative (BAPA), Fresh & Frozen Seafood Association of the Philippines (FFSAP), Indonesian Frozen Seafood Association (AP5I), Malaysian Frozen Food Processors Association (MFFPA), Myanmar Fishery Products Processors & Exporters Association (MPEA), the Thai Frozen Food Association (TFFA) and the Vietnam Association of Seafood Exporters and Producers (VASEP) (Vietfish International, 2011). Malaysia now has the chairmanship (Thailand and Vietnam had it before) (Vietfish International, 2011).

Although the ASF was essentially formed as a private entity, it is developed with the help of the ASEAN secretariat. The goal of the organization is to develop cooperation among the region's fisheries industry participants, provide a forum for discussion and cooperation, and to give members access to better technology, food safety assurance, environmental and social responsibilities, and production and marketing tools. The establishment of the ASF paves the way for further cooperation among regional countries in light of the upcoming 2015 ASEAN Community. The ASF aims to manage production and exports in the region more effectively; improve

quality, safety and the value of products and increase the technical, environmental and social standards and marketing (Vietfish International, 2011).

The ASF is also expected to reduce inter-country rivalry and conflicts in the region while ensuring better commonly-accepted standards. Closer cooperation in production and marketing by the ASEAN countries could thus greater impact and control over the global markets (Vietfish International, 2011).

It is evident from comments by academics that unity among ASEAN Seafood member producers is a tall order even though attempts have been made to bring in closer cooperation as exemplified by the ASF (Southeast Asian seafood exporters unite to form umbrella federation, 2014). Striving to reduce cross-country rivalry and conflicts in the region, the ASF may be the way to the future.

- *How vital is the single standards in quality certification and the harmonized fishery legislation for ASEAN seafood producers?*

Private standards, due to their basis in public regulations, probably will not demand more in terms of acceptable levels of contaminants, or more stringent "use by" dates, etc. Hence, they are unlikely to directly conflict with public regulations. However, duplication may be a problem especially in methods of compliance and verification (including multilevel documentation). Concerns about having to comply with multiple standards need to be addressed. Those concerns are likely to mirror concerns about the relative lack of harmonization of public regulation, including the lack of harmonization between the safety and quality requirements of public authorities in various export markets. Some harmonization and mutual recognition of public regulatory frameworks for food safety would go a long way towards reducing the current complexity in global food regulation governance and would facilitate international trade. It is perhaps hypocritical of public authorities censure the private sector when the private sector has arguably been as active as the public sector in terms of food safety standards harmonization (the activities of the GFSI is a case in point (GFSI, 2014). Improved public and private sector coordination the international level, aiming to reduce the complexity of food safety governance overall, could be considered. The discussion between the ISO and the GFSI might act as an example. Evidence does not support the idea that private standards will lead to public standards

– instead, the opposite relationship is suggested. Public standards offer a baseline level of production that private standards are commonly designed within and are usually highly consistent with. Multiple audits for compliance with both public and private standards are therefore time-wasting and expensive. Therefore it is vital that there should be Single Standards in Quality Certification and for a Harmonized Fishery Legislation for ASEAN Seafood producers which will limit the number of certification bodies which is currently an entry barrier for products for ASEAN seafood producers to various import markets.

5.3 Future Scenarios and Suggestions for Future Research

The increasing dominance the distribution of fish and seafood products by supermarkets is only likely to increase private standard use. As their procurement policies move away from open markets towards contractual supply relationships, private standards are increasingly important in this area. As large European retailers (the vast majority of leading retail transnational's, with the exception of Wal-Mart, are West European) become increasingly globalized, their buying strategies will other retail markets in developing areas, like Africa, Latin America, Eastern Europe and East Asia (Washington & Ababouch, 2011). This is a potentially serious problem.

While there are a myriad of opinions on private standards and global food governance, as well as international trade generally, there is little empirical. The gaps in evidence are even more pronounced in international marketing and trade of fish and fisheries products. Some key questions remain.

a. Are private standards adding value to food safety governance?

b. Whether or not private standards are adding value to food safety governance is arguably in the eye of the beholder.

Some research comparing private standards with mandatory public standards to test the relative value added by private schemes would be useful. Comparing private standards with international public standards, such as Codex, the IPPC and the OIE, as envisaged in WTO discussions would also be useful.

What is definitely not adding value to global food safety governance is the growing proliferation of private standards and certification schemes. It has led to

confusion and could undermine confidence in standards overall. Various stakeholders at different levels of the supply chain have expressed concerns about the number and varying quality of schemes. Producers and processors are unsure as to what scheme to seek certification with and even retailers and large brand owners have doubts about which FSMSs are most robust. Signing up to a rainbow of schemes – for example, an FSMS, a specific aquaculture certification, and some environmental standard, or some combination of these – creates inefficiencies and unnecessary costs. A plethora of labels on one product is likely to result in confusion rather than customer confidence.

One of the possible future scenarios is the relationship between private standards and public regulation and how it may change. Private standards pose a challenge for governments in establishing their role in sustainability, food safety, and other agricultural standards. This raises the question of what added value private standards offer and how they interact with public regulations. This is not a settled question and requires more work.

Another scenario is the problems of private standards for developing nations' aquaculture industries. The aquaculture and fishing industries are important sources of income today and in the future, and developing countries play a significant role in fish supplies. Some concerns in this area include: the cost of certification and the mismatch between certification methodologies and technology capabilities of developing country fish industries. While some private certifications have taken this into account, many others continue to demand unrealistic methodologies and assurances. It requires further research to determine whether private standards are negatively affecting market access for developing countries and, if so, what can be done about this.

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APPENDIX A
INTERVIEW QUESTIONS

1. Do you think that the Private Standards and related certification schemes are significant features of international fish trading and marketing?

2. Are the Seafood producers in ASEAN member countries struggling to meet the mandatory requirements?

3. Do the Private Certification schemes require the introduction of new management systems, record- keeping and even gear, the costs of which would be prohibitive for small operators?

4. What do you think that of the prospects if the Private Certifications Institutions had to implement a Harmonized standard for Certification for Fisheries in ASEAN?

5. Does ASEAN countries need to have a harmonized Fishery Legislation within ASEAN?

6. Will a Common Standard and a harmonized Fishery Legislation aide the ASEAN Member countries to meet the stringent requirements imposed by the EU and US?

7. Can "A single standard for Quality Certification & Common Fisheries Legislation by ASEAN seafood producers" play a key role in coordinating its member and help in the efforts to overcome the increasingly trade protectionism?

8. How have ASEAN seafood producers responded so far to the threats of protectionism placed on them by the increasingly protectionist EU and U.S. policies?

9. Can ASEAN Seafood industry do without the EU and U.S. markets?

10. Should ASEAN seafood producers act in concert in addressing the EU and U.S. concerns and requirements?

11. Is unity among ASEAN Seafood member producers (Asian Seafood Federation) a tall order?

12. How vital is the Single Standards in Quality Certification and the Harmonized Fishery Legislation for ASEAN Seafood producers?

13. Would a Common ASEAN Certification and harmonized Fishery Legislation within ASEAN meet the stringent requirements imposed by the EU and US?

14. Would a unified ASEAN Seafood industry, speaking with one voice, have leverage over the EU and US so as to force them to adopt more consistent requirements in Quality Certification?

15. Should this issue of the proliferation of private standards and certification schemes imposes significant compliance costs and constrains market access for ASEAN producers be taken to the WTO?

16. What measures has the ASEAN fisheries and aquaculture sector taken to face the current difficult situation that has aroused because of the global economic downturn.

17. What is the role of the ASEAN Seafood Federation (ASF) in confronting the stringent requirements of the buyers as well as the proliferation of private standards and certification schemes imposes significant compliance costs and constrains market access for ASEAN producers.

APPENDIX B

QUESTIONNAIRE

No	Questions	Strongly Agree	Agree	Undecided	Strongly disagree	Disagree
1	Private Standards and related certification schemes are significant features of international fish trading and marketing		Y			
2	Private Standards had emerged in areas where there is a perception that public regulatory frameworks are not achieving the desired outcomes, such as sustainability and responsible fisheries management		Y			
3	Private standards are now a key mechanism for large-scale retailers and commercial brand owners wishing to translate requirements – both product and process specifications– to other parts of the supply chain		Y			
4	Private Standards can facilitate traceability, standardization of products from a range of international suppliers, and transparency of production processes		Y			
5	The impact of private standards is likely to increase, including in developing countries, as supermarket chains consolidate their role as the primary distributors of fish and seafood products, and as their procurement policies move away from open markets towards contractual supply relationships		Y			
6	The compliance costs associated with certification to a private standard represent that these costs are borne disproportionately by those upstream in the supply chain rather than those downstream where the demands for certification generate.		Y			

No	Questions	Strongly Agree	Agree	Undecided	Strongly disagree	Disagree
7	The multiplicity of drivers for the traceability aspects of private standards schemes, requires integration to meet the multiple requirements relating to food safety, catch certification, illegal, unreported and unregulated (IUU) fishing and the chain-of-custody aspects of private voluntary certification schemes, as well as public regulatory requirements.		Y			
8	The proliferation of private standards causes confusion for many stakeholders: fishers and fish farmers trying to decide which certification scheme will maximize market returns with buyers trying to decide which standards have most credence in the market and will offer returns to reputation and risk management; and governments trying to decide where private standards fit into their food safety and resource management strategies.		Y			
9	The pressure on producers (fish farmers) and processors (of both wild capture and farmed fish) to comply with private standards depends on the market, how that market is structured, and on the type of product being sold.		Y			
10	Large supermarket chains are the most demanding in terms of private standards. In an increasingly competitive market, large food companies search for ways to distinguish their products, brands or firm from competitors. As the link between the rest of the supply chain and consumers, they are under pressure to respond to consumer expectations for safe, quality food, to show due diligence		Y			

No	Questions	Strongly Agree	Agree	Undecided	Strongly disagree	Disagree
	in terms of food safety assurance, and increasingly to present their CSR credentials					
11	Private standards play an important role in all aspects and subsequently provide opportunities to both protect (risk management) and enhance reputation.		Y			
12	Supermarket chains impose relatively stricter standards on their private label products, whether they are fresh, frozen or canned. Private labels operate as a market differentiator helping to build up a retailer's reputation vis-à-vis other retailers, as well as allowing retailers to compete with large commercial "brands"		Y			
13	In terms of pressure to comply with private quality and/or safety standards, processors can be affected whether they are dealing with wild capture or farmed fish and seafood. In contrast, producers are affected relative to the sector, with fish farmers being under potential pressure to comply with an FSMS or specific aquaculture certification scheme, and wild capture fishers largely unaffected.		Y			
14	Developing countries represent about half of world exports of fish and fishery products by value and about 60 percent in terms of quantity.		Y			
15	Private standards could pose a barrier for Developing countries to their access to lucrative developed country markets		Y			

No	Questions	Strongly Agree	Agree	Undecided	Strongly disagree	Disagree
16	The costs of compliance of Private Standard Certifications are disproportionately higher for small operators – the norm in many developing countries – where there are few economies of scale. The cost of acquiring information and introducing management systems is proportionately heavier for smaller operators.		Y			
17	Producers in developing countries already struggle to meet mandatory requirements. Certification might require the introduction of new management systems, record- keeping and even gear, the costs of which would be prohibitive for small operators		Y			
18	With no support by the public infrastructure achieving certification come at a heavy cost for producer, conformity assessment frequently requires relatively large financial inputs to be paid by farmers.		Y			
19	Retailers, alongside commercial brand owners, stand to reap the main benefits of private standards,		Y			
20	The proliferation of private standards might be seen simply as the private sector responding to incentives set by government – by developing robust food safety systems based on mandatory regulation, with certified verification that standards have been met, and with guarantees of traceability		Y			
21	The EU and U.S. requirements genuinely address the safety of end consumers		Y			

No	Questions	Strongly Agree	Agree	Undecided	Strongly disagree	Disagree
22	The EU & US requirements are, guise of neutral measures enforced as safety measures, actuality essentially meant to restrict imports		Y			
23	ASEAN Seafood industry can do without the EU and U.S. markets.				Y	
24	A Common ASEAN Certification and harmonized Fishery Legislation within ASEAN can meet the stringent requirements imposed by the EU and US		Y			
25	A unified ASEAN Seafood industry, speaking with one voice will have leverage over the EU and US so as to force them to adopt more consistent requirements in Quality Certification.		Y			

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