

The significance and adoption of Private Food Standards in developing countries – A case study of the GlobalGAP standard in the Peruvian agricultural context.
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Executive Summary

GlobalGAP is a private sector body that sets voluntary standards for the certification of production processes for agriculture products around the globe. The standard is primarily designed to reassure consumers about how food is produced on the farm by minimizing detrimental environmental impacts of farming operations, reducing the use of chemical inputs and ensuring a responsible approach to worker health and safety as well as animal welfare. In the previous years, GlobalGAP standard has increasingly gained worldwide recognition and acceptance and nowadays more European retailers are expecting their suppliers to meet the requirements of this standard. Since this trend is on the rise, GlobalGAP standard implications in global agriculture chains deserve more attention. In an attempt to provide a better overview about the implications this private food standard has in developing countries, in this thesis we explore how GlobalGAP standard has emerged and how it is being incorporated in the Peruvian agricultural sector.

The first two sub-questions of this thesis explore the impacts of the GlobalGAP standard in the international trade of agricultural products. How and why private food standards have emerged, what is the legal foundation in which private food standards are based on and which are their implications in developing countries. The research method for this part is mainly Desk Research and documents and literature review were chosen as the most important sources of information. Articles, papers, journals and electronic books were accessed through the WUR-library, Digital library and Google scholar. The second part of this analysis focuses on the implications of private food standards within the context of the World Trade Organization, as an organization that rule and govern global trade. Since GlobalGAP is our private food standard of interest, the concerns of most WTO members, whether private food standards go beyond legal requirements for food safety and quality has being tested thought a descriptive comparison between GlobalGAP control points and EU requirements for fresh fruits and vegetables.

The last two sub-questions of this thesis provide an overview regarding the regulatory environment for Peruvian agricultural products, the country's agricultural context and the factors that determine the adoption of the GlobalGAP standard by Peruvian growers. For this part of the thesis, empirical research was conducted and data was obtained mainly through surveys conducted to growers (GlobalGAP standard adopters and non-adopters)

and open interviews to certification body representatives, independent consultants, and producer's organizations representatives.

The results provide us with interesting findings. Private food standards have emerged mainly as a result of an existing regulatory gap between the increasing consumer's concerns in food safety and the blurred aspect still present in food legislation. One of the main concerns about private food standards is that despite being of voluntary character, they are "the facto" mandatory and make use of different sources of the public and private law such as administrative law and contractual law to serves their own goals. Is the combination of these elements, the power to create obligations by means of contracts and the power of certain players to dictate the terms of contract that forms the legal basis of a development where the private sector finds their position within the global food regulation. Despite implications in developing countries are mixed, Peru is a clear example of a country where private food standards such as GlobalGAP is bringing positive results through increased agricultural development.

However concerns about private food standards within the context of the World Trade Organization are still on the air. The applicability of the SPS Agreement in relation to private sector regulations and the fact that most private food standards go beyond legal requirement are topics that demand clarification by most WTO members. Our comparison between the GlobalGAP standard and the EU regulations support the concerns of most WTO members that private food standards go beyond legal requirements.

However, despite the GlobalGAP standard has been frequently criticized for its implications in developing countries, our results show us that it has bring benefits to the country's agricultural development. Indeed, the current agricultural boom is a result of many factors that have been taken place in the previous years. Our comparison between GlobalGAP adopters and non-adopters has allowed us to come out with some interesting findings. For example, GlobalGAP adopters in the Peruvian context differ from non-adopters in size, types of crops, organizational structure and compliance with standards. Are the larger farms which normally certify GlobalGAP, however it is becoming obvious that increasingly more small and midsized farms are certifying the standard. In addition, adopters are influenced by external consumers demands which made them to specialize in crops such as asparagus, citrus fruits and avocados highly demanded by European markets; non-adopters on the other hand cover the local demand with folk products such

as sweet potatoes, maize, corn, tomatoes among other. The organizational structure of non-adopters is similar to non-adopters since most of the farms in this geographical area are family owned business however some adopters are evolving into an industrial type. Another important characteristic is that adopters, in contrast to non- adopters, are more aware of the international requirements and therefore involved into a dynamic regulation environment for international trade and therefore comply with stricter standards, however both groups declared to comply with the national requirements regarding microbiology criteria, food hygiene and maximum residue levels for pesticides.

Finally, aspects that determine the adoption of the GlobalGAP standard by Peruvian growers are market access, affording certifications costs and technical support. Market access seems to be the main driver behind the implementation of the standard, even most important that food safety issues, despite it is well known that the latter is consider the main reason of the emergence of private standards. The cost of compliance is another important factor that deserves further attention. From our results we conclude that certifications costs despite not restrictive are an important burden to overcome for most growers. Technical support makes a difference in the implementation of the standard since the establishment of private standards such as GlobalGAP has come up with a parallel emergence of private associations of producers and exporters, a trading clusters, that play a important role in the articulation of mechanisms that allow their associates successfully compete in global markets.

Abstract

Key words: Private standards; agricultural products; WTO; developing countries; GlobalGAP; Codex Alimentarius; Peru.

Objective: Gain insight into the importance of private food standards in international trade and their implications in developing countries. Analyze the regulatory environment for Peruvian agricultural products aimed to exports and discuss the significance and adoption of the private food standard GlobalGAP in the Peruvian context.

Methods: The methods utilized for this thesis can be divided in three groups. Desk research mainly based on articles, papers, journals and electronic books accessed through the WUR-library, Digital library and Google scholar; empirical data gathered through questionnaires delivered to farmers and open interviews conducted to certification body representatives and agribusiness consultants in Peru.

Results: The implications of private food standards are of concern for developing countries due to their increasing role in international trade of agricultural products. However, positive outcomes of private food standards in developing countries have also been registered. The adoption of the GlobalGAP standard in the Peruvian context is an example of a country in which agricultural development has led to an agricultural boom for its agricultural exports. The main factors that have driven adopters to certify this standard is market access, and the most difficult challenge to overcome is certification costs, however the establishment of GlobalGAP standard in the country has also brought more access to technical assistance through private and public organizations, all together has pushed the agricultural development of the country.

Conclusion: Despite the current debate about private food standards within the context of the WTO and its implications in developing countries, the truth is that private food standards, in contrast to what many critics have argued, has demonstrated to bring positive economic effects in many less developed economies. The Peruvian agricultural boom that started in the previous years and is still undergoing, has demonstrated this effect.

Enhanced work done by Peruvian organizations dealing with food safety and quality regulations and the appearance of agricultural support services prompted by the emergence of private standards have finally resulted in the leverage of the agricultural sector bringing economic development to the country.

List of Abbreviations

ADEX	Peru's Association of Exporters
AGAP	Peruvian Association of producers and agro-exporters
APEM	Peruvian Association of Mango Growers and Exporters
BRC	British Retail Consortium
BSE	Bovine Spongiform Encephalopathy
CAC	Codex Alimentarius Commission
CPF	Fruit Producers Cluster
DIGESA	Directorate General of Environmental Health
FAO	Food and Agriculture Organization of the United Nations
GAP	Good Agricultural Practices
GlobalGAP	Global Good Agricultural Practices
GMP	Good Manufacturing Practices
HACCP	Hazard Analysis and Critical Control Points
IFS	International Food Standard
INDECOPI	Inst. Protection of Intellectual Property
IPEH	Peruvian Asparagus & Vegetables Institute
ISO 22000	Standard developed by the ISO dealing with food safety
MRLs	Maximum Residue Levels
NGOs	Non-governmental organization
NIE	New institutional economics
PROCITRUSS	Peruvian Citrus Growers Association
PROHASS	Hass Avocado Growers Association
PROVID	Association of Table Grape Growers from Peru
SENASA	National Agrarian Health Service
SPS Agreement	Agreement of Sanitary and Phytosanitary Measures
SQF	Safe Quality Food
TBT Agreement	Agreement on Technical Barriers to Trade
WTO	World Trade Organization

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1. Introduction

1.1 Research background

Food safety standards are measures of compliance regulations enacted by governments to protect the health and safety of their citizens and the environment in which they live (Athukorala and Jayasuriya, 2003).

However, food safety regulations and standards evolve differently around the world as countries respond to food safety crises and prepare for perceived exposure to emerging food safety risks. These differences in regulations and standards among countries can lead to international trade conflicts or disputes and can ultimately affect global patterns of food demand and reduce trade (Buzby, 2003).

Nowadays we are witnesses of how the international trade of agricultural products is being affected by a vast range of food safety standards and regulations that might represent challenges to developing countries especially in Latin America, Africa and Asia.

Specifically, private food standards have opened an ongoing debate about whether they work as a trade barrier for agricultural smallholders impeding poverty reduction in developing countries or whether they have positive impacts such as improved farm practices leading to agricultural development in these countries.

In this respect, international organizations that set standards for food safety and quality have seen their work potentially affected. The World Trade Organization, as a trade facilitator has been questioned by developing countries about the role of private food standards in international trade.

Peru's large agricultural sector has been growing very quickly the last few years and as a consequence, Peru has had to adapt itself to the changing environment of new public and private food safety regulations. As the worldwide leading exporter of asparagus and as an important supplier of horticultural products to European markets, Peru has been increasingly touched by food private standards and its implications are of main importance in the country's agricultural context.

In order to estimate their implications in developing countries, their increasingly importance and their leading role in international trade, private food standards need to be studied in further detail.

1.2 Problem definition

Over the last few years private food standards have been actively discussed at the WTO Committee on Sanitary and Phytosanitary Measures (SPS Committee) since its implications in international trade are of a main concern for developing countries.

Critics emphasize that private voluntary standards may exclude small producers in developing countries from markets and strong opponents stress that such standards are stricter than public-sector standards, and without scientific justification. In other words, private food standards may not be based on science or risk analysis, and their adoption is neither democratic nor transparent (Mbengue, 2011).

Although literature review supports different points of view, one of the main arguments for private food standards having a negative impact in developing countries focuses around the compliance costs as one of the main obstacles when implementing and adopting private food safety and quality standards. However, qualitative research regarding other important factors that might be determining the implementation and adoption of private food standards is still scarce. If these factors are significant, private standards might be considered trade barriers pushing exporters in developing countries out of international markets while making them face competitive disadvantage in relation to exporters in developed countries with stricter food safety public and private standards.

An opposite view, however, is that compliance with these food safety and quality standards of importing countries has a positive effect for smallholders and growers, acting as a catalyst of agricultural development therefore improving living standards in less developed agricultural regions.

There is still plenty of room for research. The current Peruvian agricultural context might help to understand how private food standards are incorporated in developing countries of the Latin America region and the impacts these standards have in international agricultural trade. A very interesting example of a private food standard is GlobalGAP, a farm certification scheme that was launched in 2001 by a handful of leading UK and European food retailers and has been implemented in many countries worldwide. Currently the number of firms certifying GlobalGAP around the globe is on the rise.

As Peruvian agricultural exports are experiencing a growing demand, the requirements imposed by private food standards have become of a major importance in the agricultural context. The increasing trend for healthier products such as fresh fruits and vegetables has come parallel to an increasing concern about food safety and quality. In this scenario GlobalGAP standard has emerged to become an important certification required by several international buyers in order to assure safety and quality of the agricultural products purchased.

In order to meet the requirements established by the GlobalGAP standard, Peruvian growers have had to adapt themselves to this changing regulatory environment and the implications of this standards's adoption might have posed challenges and constrains to small and midsized growers. Since this topic deserves further analysis, this thesis deeps into the implications of the GlobalGAP standard in the Peruvian context and the factors that determine its adoption by Peruvian growers.

1.3 Research goal

The goal of this research is to investigate the factors that influence the adoption of GlobalGap within the context of the national Peruvian, international and European legal environment. We propose that Globalgap can and will only be adopted for as far as it is:

- not in conflict with public law.
- contributes to the wealth of farmers.

To reach the goal, it is necessary to describe and compare these regulatory environments and assess the perceived costs and benefits of Peruvian farmers connected to better opportunities in international trade, notably through exports to the European Union.

1.4 Research questions

The main question of this thesis is as follows:

Which are the impacts of the GlobalGAP standard in the Peruvian context and which factors determine its adoption?

In order to answer this main question properly, and for a better understanding, four sub-questions will be first answered separately as follows:

Sub-question 1: Why Private food standards are important in international trade?

Being GlobalGAP standard a private food standard, first it is important to understand why private food standards are important in international trade.

To start with, the discussion will go around how and why private food standards have emerged in global trade and second, in order to set their legal frame, how private food standards are located within the context of the Food Law will be presented and discussed.

Finally the implications of private food standards in developing countries will be addressed in order to provide a background for the discussion of the next chapter regarding the implications of private food standards within the context of the World Trade Organization. Sub-conclusions will be presented at the end of the chapter.

Sub-question 2: Why are Private food standards of concern within the context of the World Trade Organization (WTO)?

This question intends to provide a better understanding about how international organizations that regulate global trade such as the World Trade Organization, deal with private food standards.

In order to set the background for the discussion, a brief explanation of the WTO's origins, principals and agreements of interest will be presented in the first part of the chapter. Then the discussion will be opened while addressing the main question why private food standards are of concern within the context of the WTO.

In an attempt to provide a better overview in the topic, the GlobalGAP, standard will be presented and described with main emphasis in its certifications requirements for the fresh fruits and vegetables sector.

Finally, the comparison of these GlobalGAP requirements with the EU requirements for fresh fruits and vegetables will be presented in order to draw main conclusions at the end of the chapter.

Sub-question 3: How is the structure of the regulatory environment for Peruvian agricultural products?

This question describes the structure of the Peruvian agricultural export sector with special focus on the key institutions and organizations involved in the setting of food safety and quality regulations for agricultural trade. For this purpose, the New Institutional Economics

(NIE) approach will be used and through its four levels of social analysis will allow us to understand the current Peruvian agricultural context.

Through this social approach I will describe the structure of the Peruvian regulatory environment for horticultural products addressing domestic regulations and relevant European requirements that rule the export of Peruvian agricultural products.

Sub-question 4: case study: Which characteristics define and determine the adoption of the GlobalGAP in the Peruvian context?

This question intends to complement previous studies in this topic. This study case aims to provide further insight into the ways GlobalGAP standard is incorporated into the activities of Peruvian growers. Through a qualitative and quantitative approach mainly based on empirical data gathering, main characteristics that define the establishment of this standard in the Peruvian context will be presented and factors that might be conditioning their implementation and adoption will be discussed.

1.5 Research Framework

Research Question: Which are the impacts of the GlobalGAP standard in the Peruvian context and which factors determine its adoption?			
Chapter 2	<p>Sub-question 1 : Why Private food standards are important in international trade?</p> <p>Approaches: how and why private food standards have emerged, legal frame of private food standards, impacts in developing countries. Data : Texts, websites.</p>	Implications of Private food standards - GlobalGAP- in international trade	
	Sub-conclusions		
Chapter 3	<p>Sub-question 2 : Why are Private food standards of concern within the context of the World Trade Organization (WTO)?</p> <p>Approaches: WTO origins, principles and agreements of interest; GlobalGAP requirements; comparison between EU legal requirements and GlobalGAP requirements. Data : Constitutions, texts, websites.</p>		
	Sub-conclusions		
Chapter 4	<p>Sub-question 3 : How is the structure of the regulatory environment for Peruvian agricultural products?</p> <p>Approaches: social analysis of the Peruvian agricultural context (NIE); institutional environment and legal requirements for Peruvian agricultural products. Data : Constitutions, texts, websites.</p>		Peruvian context and factors that determine the adoption of the GlobalGAP standard.
	Sub-conclusions		
Chapter 5	<p>Sub-question 4 : Which characteristics define and determine the adoption of the GlobalGAP in the Peruvian context?</p> <p>Approaches: Baseline information (background) and factors that determine adoption of GlobalGAP standard. Data (case study) : survey, interviews, texts, websites.</p>		
	Sub-conclusions		
Chapter 6	Conclusions and discussions		

2. Why Private food standards are important in international trade?

The aim of this chapter is to provide a general overview of private food standards and discuss their importance in global trade.

As a starting point, the unexpected rise of private food standards will be discussed and how and why private food standards have emerged is explained.

Second, in order to be able to understand the legal structure of private food standards, the discussion will focus on the position of these standards within the Law domain and its relationships with other branches of the law.

Finally, a general overview of the potential implications of private food standards in developing countries will be presented in order to discuss their controversial position in international trade.

The sub-conclusions, at the end of this chapter, will answer the main question posed at the beginning of this chapter.

2.1 The unexpected rise of Private Food Standards

Private food standards have proliferated in the past years posing different opinions about the motives behind their unexpected rise. As a consequence it is important to analyze the driving forces behind these standards since motives are various and can vary from stakeholder to stakeholder. Some common points can be identified:

Food Safety has been pointed out by several authors as the most important reason for these standards. In recent decades, the growing number of food scandals such as Salmonella outbreaks, BSE, Dioxin residues in feedstuff and other food safety events, has undermined consumer's trust in food safety and has revealed a lack of transparency in the food supply chains. This entire situation has resulted in a growing number of consumers becoming increasingly concerned about food safety issues (Jaffee and Jabbar, 2005).

These increasing consumer concerns about food safety, and as a result, the reinforcement of food safety regulation at international levels, may account for the rise of private food standards. For example, the passage of the Food Safety Act in 1990 was an important

event in the United Kingdom that was a precedent for future legislation at the EU level. Under this Act, any supplier of a branded product is responsible for the safety of that product. In other words, all fresh produce sold in unpackaged form was considered to bear the brand of the retailer. As a result, enforcement action could be taken against a wholesaler or retailer even if the offense was caused by other parties in the food chain (e.g., food importers, overseas exporters). Both, reputation and financial resources were at stake (liability claims) if firms failed to prove due diligence in detecting and preventing problems in the food chain. As a response, the major United Kingdom supermarkets began to audit primary producers, food manufacturers, and selected overseas suppliers and each company developed its own standards for this purpose. These actions further became part of the foundation for wider private food safety initiatives in Western Europe (Lee,2006; Jaffee, 2005).

Literature review reveals other important reasons behind this private food standards trend. It has been argued that private food standards are a response to the emergence of a regulatory gap between existing public legislation and the rising expectations and pressure from consumers triggered by several food scares (Lind and Pedersen , 2011).

In this sense, it has been stated that private law can be used to supplement or repair public law. For example, public law in traceability is lacking in certainty as to whether internal traceability (within a business) is required while ISO 22000 explicitly requires internal traceability (Van der Meulen *et al* 2009a).

However, compliance with public law requirements can be a motive in itself. To comply with their own legal obligations, businesses depend on how the product has been dealt with upstream. Therefore they may want to ensure themselves with private law instruments that legal obligations are being complied with, or to impose these obligations on producers working in countries where different legal requirements apply, thus using private law to bridge the gap between different legal systems (Van der Meulen, 2011a). This is associated with legal liability as another important reason. While several firms have reported more capable and better equipped to manage food safety and respond faster to failures than regulatory authorities, they felt that the government should be responsible for setting minimum standards. Due to budget cuts, it is expected that the public sector will reduce much of its food safety inspection and monitoring activities. Certain of these have been taken over by the industry, but some believe that monitoring food safety place an

extra burden on retailers, particularly given the potential legal liabilities. Therefore, legal liability framework has had a significant influence on the structure and implementation of food safety procedures (Fulponi, 2007).

But the evolution of consumer's demands goes beyond food safety issues. Since quality and safety remain key food attributes for consumers, specific product attributes as well as the processes by which they are produced are growing in importance. For example, increasingly, consumers are also demanding that production and processing methods be environmentally sustainable, animal friendly and obey recognized labor and social standards. These new consumer demands are also considered main drivers of many new food safety schemes (Fulponi, 2007).

Last but not least, the rise of transnational supermarket chains is considered accountable for this trend as well. In simple words, these retail-owned standards can help businesses to distinguish themselves in the market protecting markets from competitors (Van der Meulen *et al.* 2009a). As firms compete among themselves in national and international markets and attempt to differentiate their products in order to gain/or protect market share, public standards are unlike to provide sufficient scope for product differentiation on the basis of food safety and quality attributes (Henson and Reardon, 2005) and to reward firms for investing in enhanced food safety and quality controls (Reardon *et al.*, 2001). Thus, there might be strong incentives for leading firms to promulgate and private standards in order to differentiate themselves from competitors that operate at or near regulatory food safety and/or quality requirements.

2.2 Private Food Law within the Food Law

Law

Law is intended to prevent and resolve conflict by organizing and describing the rights and duties in our society. Food Law is a specialization in law.

The most important primary source of law is "written law" and case law. Other primary sources are international treaties and so-called unwritten law. European Community law resembles the civil law system and Legislation (treaties, regulations and directives) is its major source of law.

Regarding the branches of law, a first distinction is between public and private law. Private law is concerned with relations between parties who have no public power or do not

exercise it. There are different kinds of private parties with different legal status. Among them are natural persons, associations of persons without legal personality, and various legal persons. National private law can be subdivided in several ways; one of them is an important division in the law of persons, law of property, contract law and non-contractual liability law (or tort law). Public law covers relations in which public authorities are involved as such: they are using the public powers. National public law can be subdivided into constitutional law, administrative law and criminal law.

While Constitutional law creates rules on food (based on the treaties that fulfill the function of a constitution for the European Union), Administrative law deals with the exercise of public powers by the executive in relation to private persons including companies and provides systems of legal protection for these persons. Examples are the rules concerning the process of obtaining authorization to bring novel foods to the market. In food business it is usually the responsibility of the regulatory affairs department to deal with public authorities acting under administrative law. The legal department of business concerns itself more often with contracts and other private law matters. Regarding Criminal law, traditionally it has been used for the enforcement of legal obligations, for example rules in measures and penalties applicable to infringements of food law and feed law. Increasingly, however, enforcement powers are also granted under administrative law as described above. Nowadays, even private law may play a role in enforcement.

Private Law deals with the enjoyment of rights and obligations, relations and disputes between individuals or organizations without public powers. Public authorities wielding public power are not involved in these relations and disputes. However, a public authority can be a party in a private law contract, but treated as any other private contract partner, and public powers cannot be used in this relationship. For private law, the role of public power is merely to provide the means and forum through which private standards disputes are resolved. If need be, the state provides an armed strong arm (the police) to enforce the verdict of a judge in a private law suit (Van der Meulen *et al* 2009b).

The structure of the private law can be described briefly by focusing in four complexes which each have their own character : the law of persons defining the status of a person, the law of property defining the claims of persons on goods (including intellectual property on ideas) , contract law defining legal agreements between persons, and non-contractual

liability law (or tort law) for injuries and damage caused by other persons that have no other pre-existing relevant relation with the victim.

The law of persons is important because it builds the structure necessary to create a legal person (an association, a foundation, a limited company) that can own property, make contracts, be liable and so on. However for private food standards the most important is contract law, since a contract in law is an agreement that creates binding obligations between the parties involved. It is a mutual exchange of promises, which the law will enforce. The obligation to fulfill the promise made in the contract can be upheld in a court of law. In case of non-fulfillment, the debtor is liable for the damages suffered by the creditor. To a large extent food safety is ensured through so-called self-regulation or private standards. Contract law is a legal instrument for this self-regulation.

Finally, non-contractual liability law or tort law is the most important in liability cases. This law is the law of wrongful acts that have to be prevented, and if they occur have to be stopped and for which compensation of damages has to be paid. Torts mainly encompass those obligations and duties of care which we all owe to others who may be affected by our actions. For example a consumer who suffers ill health due to a food company neglecting its duty of care with respect to food safety could thus seek compensation both for damage to health, and for economic damage in the form of medical costs or income losses. A special type of tort is based on EC and national legislations on product liability.

2.3 Food Law

According to Van der Muelen *et al* (2009b), most of food law is national and European administrative law safeguarding the relationships between public authorities and private persons, when authorities apply public power to limit or enable certain actions by private persons. So food law might be presented as a subdivision of administrative law. However that classification would lose sight of other important traits of food law. Next to administrative, food law can also be private law. Self-regulation by food producers to set quality standards or to give certain methods of producing food a special place in the market uses private law contracts or private law legal persons in addition to, or instead of, action by public authorities. In short, food law is a functional part of law that combines parts of several branches of law in a coherent body of law to serve its goals.

2.4 Private food standards

Self-regulation, private (voluntary) standards, codes of conduct or certification schemes, are structures that have been created by private actors using private law instruments to regulate conduct of food businesses (Van der Meulen, 2011b). However, as stated before, private standards incorporate public law requirements, thus embedding them in contractual relations and exporting them beyond the jurisdiction of public legislators.

Private food standards are also called non-binding or “voluntary rules”, which means that there is no actual obligation to comply with these rules by legislation. Therefore, a business might decide to adopt these rules only if it thinks is a good way to comply with public law or because this adoption might bring some other benefits to the company. If this is the case, the business acquires internal obligations within the organization since its workers have to adjust their working practices in order to comply with what it is stated in the rules. The situation changes if the business communicates to its customers or trading partners that the company has decided to apply a specific standard within the organization. If a contractual relationship exists and if it is stated in the contract the compliance with a specific standard, these “voluntary rules” become binding between parties. As long as there is no contract, there is no obligation to apply the non binding rules. If a set of rules not binding is included in a contract, it becomes binding for the parties to the contract (Van der Meulen *et al.* 2009a).

However, the most important consideration here is that in many cases, suppliers can only acquire contracts if they are willing to accept the obligation. Legally there is no obligation to apply the rules, but if you do not apply them, you are out of business. In such a situation we may call the rules concerned ‘de facto’ binding. The combination of these elements – the power to create obligations by means of contracts and the power of certain players to dictate the terms of contract to such an extent that they have to be fulfilled even before the contract is concluded – forms the legal basis of a development where the private sector creates norms that apply to the food sector in addition to and even in competition with food law found in legislation e.g. in public law. Contract is a part of private (civil) law (Van der Meulen, 2011b).

As stated before, some authors refer to private food standards with the term “schemes” as making reference to complete structures that involve audits and third party certifications in

order to ensure the development and fulfillment of the requirements. Then, owning a “scheme” implies activities such as enforcement, audits, certifications and accreditations, therefore implying a deeper commitment between contractual parties and in some cases the use of public law.

Examples of private food schemes are: GAP, HACCP, BRC, IFS, SQF, ISO 22000 and GlobalGAP among others. Although a thorough review of the specifics of these standards is not the purpose of this thesis, an overview of the GlobalGAP will be presented in the next chapter since the implications of its implementation and adoption is the main focus of our study case in Chapter 5.

Regarding the limits of private food law, competition law is public law ‘par excellence’ but an area mainly concerned with the regulation of private agreements and in this sense it may set a boundary to the expansion of private food law (Van der Meulen 2011b).

2.5 Private food standards: Trade barriers or improvement catalysts in development countries.

In the last years, private food standards have opened an interesting debate about their implications in developing countries since critics argue that private food standards do not have scientific justification and act as trade barriers affecting agricultural trade and impeding poverty reduction in less developed economies.

Private standards are becoming more established in many developed countries and have non negligible impacts on developing countries. It is well known that most of these private voluntary standards are initiated by retailers from industrialized countries, especially from European markets where retailers are highly concentrated and have an average market share of seventy per cent (Persillet and Latouche, 2008). With this previous information in mind it is interesting to think about the impacts these standards have on the retailer’s suppliers. In a globalized world as the one we are living in, it is expected to have developing countries supplying goods to developed countries. Then, it is important to analyze the implications of private food standards in the developing country context.

Literature review points out that GlobalGAP may be challenging for small producers in developing countries posing considerable obstacles to their participation in fresh fruit and vegetables exports, but at the same time other research studies argue that the

implementation of Good Agricultural Practices (GAP), a requirement of the GlobalGAP standard, may bring benefits in developing countries by enhancing the production of safe and healthy food, improving working conditions and diminishing environmental problems. Small scale producers might be in disadvantage because larger companies better overcome the high cost of compliance of the standard due to economies of scale in contrast to small growers. In addition, it has been stated that the illiteracy of farmers, lack of education and technical support commonly present in developing countries, are contributing to widen the gap between large and small growers. As a result exclusion of small growers from high value markets is described as a negative consequence (Mausch *et al* 2006).

Trade liberalization, improved market access and increased agricultural trade are often proposed as means to combat rural poverty and raise food security in developing countries (Kleinwechter 2005). Furthermore, the marginalization of developing country farmers in the international trade system is seen as a main driver of persistent poverty in the world (Mayrand *et al.*2005). To avoid this and to ensure that trade serves as an instrument to alleviate poverty and to improve food security, a broad and non-discriminative participation in trade, especially by vulnerable and marginalized groups is necessary (McCulloch *et al.* 2001). The previous statements tell us about the increasingly importance agricultural development has in developing countries and therefore the assessment of the private standards implications is of a main concern.

For example, a research carried out in developing countries by UNCTAD 2007, states the concern that the increasingly demand of food safety and environmental requirements in international markets may strengthen the trend of a growing concentration of agricultural production in a small numbers of producers with larger financial capitals and the exclusion of many small producers from the high value international markets. This situation might pose important implications on poverty reduction since in many cases, smallholders participation is strongly related to rural development in developing countries.

On the other hand, private standards can also have positive implications for developing countries. Standards can act as catalyst for progressive change; it can bring modernization of supply chains and stimulate the adoption of better safety and quality control procedures which may bring along new comparative advantages. Indeed, although GlobalGAP certification might not result in price premiums for producers, compliance with high quality

and food safety standards may provide developing countries with a competitive advantage in specific food products. An often-cited example is Peru's asparagus sector (O'Brien and Diaz Rodriguez, 2004). In addition the implementation of the GAP programs can bring a number of benefits such as improved consumer health (food safety), reduced environmental impacts, and increased profits as a result of more efficient use of resources, improved worker conditions and enhanced compliance with national regulations. (UNCTAD, 2007)

Regarding GlobalGAP standard impacts in Latin America, it has been stated that Latin America is an important producer and exporter of fresh fruit and vegetables and the region accounts for more than half of the value of fresh fruit exports from all developing countries. It exports a large proportion of off-season and tropical fruit (in particular bananas, avocados, pineapples, mangoes and papayas) to developed-markets. Therefore, meeting food safety standards, especially maximum residue levels for chemical pesticides and fertilizers, are an increasingly important requirement for continued export success. It is important to mention that the extent to which the different factors affect the horticultural exports of individual exporting countries depends to a large extent on the destination of those exports. Given the high share of fresh fruits and vegetables exports going to the EU, the GlobalGAP standard seems especially relevant for many Latin American countries (UNCTAD, 2007).

2.6 Sub- conclusion

As we can see there are several reasons supporting the rise of private food standards in global trade. Despite the increasing concerns about past food safety scandals seem to be the main reason, other important reasons such as the attempt to supplement or repair public law, the compliance with public regulations, liability and differentiation support the statement that there is a gap in food regulation that needs to be filled either by private law, public law or both. With this previous statement in mind, I can conclude that private food standards can be justified if they have been created in an attempt to regulate a blurred context within the food law domain.

However, an important and controversial aspect regarding private food standards has to do with its voluntary, non-binding character. Indeed, being private food standards "voluntary rules" there is no obligation to comply with them. However, when their compliance is the only way through which suppliers acquire contracts with their buyers, there is no other option but fulfill the requirements of the standard stated in these

contracts. In addition, once a contract specifying the compliance of certain private food standard is signed there is no other option than meet the requirements of the standard. In case on non-compliance, private food standards (also called self-regulation) can make use of other branches of private law but also public law (administrative law) to resolve disputes.

Indeed private law, serves private food standards in several ways. Through the law of persons its creates the legal structure under which, an association, a foundation, a limited company or any other similar organization can own a property, make contract, be liable and so on. Through the contractual law, it can create binding obligations between the parts involved and the law will enforce them, in this respect, it has been stated that food safety is ensured through self-regulation or private standards. Finally through the non-contractual liability, a consumer who suffers ill health due to a food company neglecting its duty of care with respect to food safety could seek compensation both for damage to health, and for economic damage in the form of medical costs or income losses.

As we can see, private food standards, despite its “voluntary character” are considered “de facto” binding and are supported legally mainly by contractual law. Is the combination of these elements – the power to create obligations by means of contracts and the power of certain players to dictate the terms of contract that forms the legal basis of a development where the private sector creates norms that apply to the food sector in addition to and even in competition with food law found in legislation such as public law.

Another important controversial aspect of private food standards is their implications in developing countries. Private food standards have been criticized to act as trade barriers excluding smallholders from international agricultural chains impeding agricultural development and poverty reduction in less developed economies.

On the other hand, interesting examples around the world have demonstrated that private food standards rather than posing obstacles to small producers in developing countries and preventing them to participate in international trade, bring benefits enhancing the production of safe and healthy food, improving working conditions and farming practices and diminishing environmental problems. For example, compliance with high quality and food safety standards may provide developing countries with competitive advantages in the international trade of their agricultural products. An often-cited example is the successful participation of the Peruvian asparagus in international markets. From this

specific case we can confirm that private food standards can act as catalyst of agricultural development in less developed economies.

As we can see, private food standards are controversial and their implications in developing countries must be further studied since every country is a different context and conclusions drawn for one scenario may not apply to other realities.

Finally, private food standards are of concern not only for developing countries engaged in international trade of agricultural products but also for the international organizations that rule and govern global trade such as the World Trade Organization. In this respect, the next chapter analyses the implications of private food standards within the context of the WTO.

3. Why are Private food standards of concern within the context of the World Trade Organization (WTO)?

In the global context, the rise of private standards has been seen as a challenge to the position of established international institutions that lay down rules for the promulgation of public food safety regulations, notably the World Trade Organization (WTO) (Henson SJ, 2007). Private food standards have been discussed extensively within the WTO's SPS Committee and the main concern is that they are weakening the functioning of the WTO SPS Agreement.

In an attempt to provide a better understanding in this topic, in the first part of this chapter an overview regarding WTO origins, principles and agreements of interest will be provided in order to set the background for the followed discussion about private standards within the context of the WTO.

In the second part of this chapter, once having discussed the implications of private food standards within the WTO, the GlobalGAP standard, as our private food standard of concern will be described with main focus on its certification requirements for the fresh fruits and vegetables sector.

Finally, and in order to provide background for the discussion, EU requirements for fruits and vegetables (legal and non-legal requirements) will be presented and their relationship with the GlobalGAP requirements will be discussed in an attempt to answer the main question of this chapter in the sub-conclusion.

3.1 Private food standards and the World Trade Organization (WTO)

Private standards have grown considerably in importance and are now a significant factor to take into account when dealing with market access issues. Market access is about trade and trade is governed and regulated by the WTO. However, WTO rules in principle only apply in government to government relations while the private standard is typically an issue between private parties (Van der Meulen, 2010).

Because of their increased importance in international trade and their possible trade impact, private standards are subject to debate within the WTO. The main question is whether and how food safety requirements demanded by the private sector should be dealt with at the multilateral level.

Technically these standards are voluntary as they are not required by law. However, in the case that there would be no choice but to sell your produce via a private standard, these can effectively set the conditions for the import or sale of products, which makes them more mandatory in practice. Due to the growing use of private standards by retailers in the previous years, a debate about their trade facilitating aspect is currently disputed within the WTO. In this sense, as a starting point, it is important to understand WTO principles and agreements of interest, which are presented in the next subchapters.

3.1.1 World Trade Organization

The World Trade Organization (WTO) is the only global international organization dealing with the rules of trade between nations. WTO's goal is to help producers of goods and services, exporters, and importers conduct their business while allowing governments to meet social and environmental objectives. The WTO was born out of negotiations in 1995 and the greater part of the WTO's current work comes from the 1986–1994 negotiations called the Uruguay Round and earlier negotiations under the General Agreement on Tariffs and Trade (GATT). Therefore, the WTO and its predecessor, the GATT has helped to create a strong and prosperous international trading system contributing to remarkable global economic growth (WTO, 2012a).

In addition, the WTO also provides a legal and institutional structure for the implementation and monitoring of these agreements and the needed mechanisms for the settling of disputes that might arise from the agreements' interpretation and application (WTO, 2012a).

Regarding the organization's members, the WTO currently has 153 members (on February 2011), of which 117 are developing countries or separate customs territories but there are no WTO definitions of "developed" or "developing" countries. However, developing countries in the WTO are designated on the basis of self-selection although this is not necessarily automatically accepted in all WTO bodies. Peru is member of the WTO since 1 January 1995 (WTO, 2012a).

3.1.2 WTO agreements of interest.

There are two specific WTO agreements dealing with food safety, animal and plant health and safety and product standards in general. Both try to identify how to meet the need to apply standards and at the same time avoid protectionism in disguise. These two important agreements are: The Technical Barriers to Trade Agreement (TBT) and The Sanitary and Phytosanitary Measures Agreement (SPS) (WTO,2012b).

The Technical Barriers to Trade Agreement (TBT) Technical regulations and standards are important, but they are not the same in all countries. Therefore, the TBT agreement tries to ensure that all these regulations do not create unnecessary obstacles to trade. The agreement also sets out a code of good practice for both governments and nongovernmental or industry bodies to prepare, adopt and apply voluntary standards. The agreement says the procedures used to decide whether a product conforms with relevant standards have to be fair and equitable. It discourages any methods that would give domestically produced goods an unfair advantage. (WTO,2012b).

The Sanitary and Phytosanitary Measures Agreement (SPS) allows countries to set their own standards, but it also says regulations must be based on science. They should be applied in order to protect human, animal or plant life or health and they should not arbitrarily or unjustifiably discriminate between countries where identical or similar conditions prevail (WTO,2012c).

Between these both agreements, the most relevant for agri-food standard is the Agreement on Sanitary and Phytosanitary Measures (SPS) since it disciplines the use of requirements and standards in international trade in order to ensure that food safety and quality requirements are not misused as protectionist measures (WTO, 1995).

3.1.3 Private standards and the WTO SPS Committee

Each WTO Member country has the right to choose the level of protection it considers appropriate to protect life or health within its territory. However, when SPS measures directly or indirectly affect trade, members have the obligation to minimise negative impacts of such measures on international trade. Therefore, SPS measures must be applied only to the extent necessary to protect life or health and not be more trade restrictive than required; be based on scientific principles and not be maintained without

sufficient scientific evidence; and not constitute arbitrary or unjustifiable treatment or a disguised restriction on trade (Huige M, 2011).

The preferred way of meeting the core principle of scientific justification is through the use of internationally developed food safety, plant and animal health protection standards – that is, those adopted by the the Codex Alimentarius Commission (CAC), the International Organisation for Animal Health (OIE) and the International Plant Protection Convention (IPPC) (Huige M, 2011). Indeed, the use of these international standards is encouraged by the World Trade Organisation arguing that trade will flow if everybody adheres to uniform measures (WTO, 1995). Therefore, the harmonization of national requirements, on the basis of these international standards, facilitates trade by reducing the proliferation of distinct national requirements. In addition, the SPS Agreement allows only for national standards or measures beyond the above mentioned international standards if they can be justified on the basis of an appropriate risk assessment and if they meet the criterion of least trade restrictiveness to achieve the desired level of health protection (Huige M, 2011). If member countries do this way, they are unlikely to be challenged legally in a WTO dispute. Finally, the WTO agreement also ensures that SPS requirements can be challenged by other trading partners, through the use of the WTO's dispute settlement mechanism (Huige M, 2011).

In June 2005, during a meeting of the SPS Committee, St Vincent and the Grenadines, supported by Jamaica, Peru, Ecuador, and Argentina, complained about the requirements for exporting bananas and other products to European supermarkets. They said that GlobalGAP's SPS and TBT requirements are tougher than the governments' requirements (WTO, 2005). The European Commission rejected the complaint by stating that it did not concern any official requirement of the EU. After that however the issue of private standards has been on the agenda of the Committee as a general issue, not pointing to one specific WTO-member (Stanton, G.H. and Wolff, C., 2008).

The previous paragraph can be analyzed in two ways: (i) The applicability of the SPS Agreement and the legality of the private standards within the WTO and (ii) Whether GlobalGAP requirements are tougher than the government requirements. Following I will discuss the applicability of the SPS agreement and in the next subchapter GlobaGAP

requirements will be discussed in relation to the government requirements for fresh fruits and vegetables.

3.1.4 Applicability of the SPS Agreement: Legality of Private Standards in the WTO.

Lee, (2006) has stated that the relation between WTO and private food standards is based on legal issues since it is of concern the legality of private standards in the context of the WTO, especially if the EU can be challenged at the WTO on grounds of GlobalGAP. In this sense, the applicability of the Article 13 of the SPS Agreement poses the question whether the GlobalGAP organization falls under the scope of non-governmental entity, and only in this case the Commission might have a legal base to influence their practices in order to fulfill its international obligations. Article 13 of the SPS Agreement indicates that:

“Members are fully responsible under this Agreement for the observance of all obligations set forth herein. Members shall formulate and implement positive measures and mechanisms in support of the observance of the provisions of this Agreement by other than central government bodies. Members shall take such reasonable measures as may be available to them to ensure that non-governmental entities within their territories, as well as regional bodies in which relevant entities within their territories are members, comply with the relevant provisions of this Agreement. In addition, Members shall not take measures which have the effect of, directly or indirectly, requiring or encouraging such regional or non-governmental entities, or local governmental bodies, to act in a manner inconsistent with the provisions of this Agreement. Members shall ensure that they rely on the services of non-governmental entities for implementing sanitary or phytosanitary measures only if these entities comply with the provisions of this Agreement (WTO, 2012c)”.

The definition of “nongovernmental entity” in the SPS Agreement is blurred, vague and non-well defined. However, the TBT Agreement gives a more precise definition: “Body other than a central government body or a local government body, including a non-governmental body which has legal power to enforce a technical regulation”. According to Lee 2006, although this definition is rather vague and open-ended, it is possible to argue that, in the light of the context and purpose of the SPS and the TBT agreements, “non-governmental entities” are NOT individual economic operators (or their associations) but rather private entities which have been entrusted by government with the performance of

certain tasks or which have otherwise a special legal status as regards the development and implementation of SPS/TBT rules. Being GlobalGAP, a voluntary standard, it has no legal power and it is not entrusted by government. In this sense, GlobalGAP doesn't fit into the definition of "non-governmental body" in the TBT Agreement, therefore cannot be regulated by the Commission.

As we can see, if private food schemes, among others, GlobalGAP, do not fall within the scope of non-governmental entity, Art. 13 of the SPS Agreement cannot be called upon to regulate what these private organizations are doing. According to Lee 2006, the Commission is severely constrained in what it can do to influence, much less restrict, what the private sector is doing in the context of global sourcing. After all, these are commercial contracts between two voluntary parties in a free market.

In this sense, a couple of question remains: first, if national governments, the Contracting Parties in WTO terms, can be held accountable for actions of private parties and the second one, if all these GlobalGAP control points are really required to ensure food safety. As a partial response to these questions, Annex 1 of this thesis presents the WTO update on SPS measures. In a meeting held on 30-31 March 2011 the Sanitary and Phytosanitary (SPS) Measures Committee adopted five "actions" regarding how WTO members might deal with private sector standards for food safety and animal and plant health.

3.2 GlobalGAP requirements are tougher than government requirements.

The perception of most WTO Members in the SPS committee is that private standards go beyond the standards set up by international standard setting bodies that are referenced in the SPS Agreement. For example, according to Henson and Humphrey (2009), the private standards "go beyond" and extend to ethics, environment, animal welfare and social accountability and they are much more specific about how to structure the production process. On the other hand, Rau, M.L (2009) states that looking purely at the SPS aspects however there is little proof of many private standards going beyond public standards in terms of setting, for example, higher maximum residue levels.

Smith (2009) state that strictly speaking from an SPS point of view in most cases there would be no interference with the international standards as it seems that in most cases private standards take the official national requirements or standards, or the international standards as a basis to build upon.

As we can see, different opinions have been stated regarding the applicability of private food standards in international trade. In order to draw our own conclusions, an analysis between the private food standard GlobalGAP and the EU legal requirement for fruits and vegetables will follow. Followed, a detailed description of the GlobalGAP standard will be presented and then the EU market access requirements for fresh fruits and vegetables will be described.

3.2.1 GlobalGAP Organizational overview

GLOBALG.A.P.'s roots began in 1997 as EUREPGAP, an initiative by retailers belonging to the Euro-Retailer Produce Working Group. British retailers working together with supermarkets in continental Europe become aware of consumers' growing concerns regarding product safety, environmental impact and the health, safety and welfare of workers and animals and their solution was to harmonize their own standards and procedures and develop an independent certification system for Good Agricultural Practice (G.A.P.). Over the next ten years the process spread worldwide and in 2007 EurepGAP changed its name to GLOBALG.A.P. Today is the world's leading farm assurance program with a rapidly growing list of countries – currently more than 100 on every continent (GlobalGAP, 2012). See Figure 1.

Regarding its membership, GlobalGAP members are divided in three groups: Producers and suppliers, Retailers and food services and Associates. Producer and supplier members fully comply with the GLOBALG.A.P standard and are entitled to use the GLOBALG.A.P logo and represent their producer interests in the GLOBALG.A.P governance structure. Retailers and food service members demonstrate that their policy is in line with GLOBALG.A.P core values through the use of the GLOBALG.A.P brand in their corporate communication strategy and are part of the standard setting process as well. Finally, Associates Associate members make contributions to National Technical Working Groups and other stakeholder consultation processes having a significant influence on the GLOBALG.A.P standard setting process, without being directly involved in decision making (GlobalGAP, 2012). Peru is member of GlobalGAP under the group producers and suppliers through AGAP (Peruvian Association of producers and agro exporters), however it doesn't have participation as retailer or food service neither as associate.

FACTS & FIGURES



GLOBALG.A.P. certifies producers of fruit and vegetables in the following countries:

Argentina	1012	Chile	2677	France	3893	Jamaica	5	Martinique	2	Slovenia	26
Armenia	1	China	177	Germany	3465	Japan	16	Mauritius	1	South Africa	1787
Australia	152	Colombia	518	Ghana	819	Jordan	18	Mexico	324	Spain	15919
Austria	847	Costa Rica	273	Greece	10952	Kenya	2021	Moldova	2	Sri Lanka	2
Azerbaijan	1	Côte d'Ivoire	497	Guadeloupe	10	Korea (South)	282	Morocco	443	Sudan	1
Bahrain	1	Croatia	132	Guatemala	1233	Kosovo	2	Mozambique	325	Suriname	1
Belgium	3090	Cyprus	709	Guinea	45	Latvia	5	Namibia	25	Swaziland	5
Bolivia	1	Czech Republic	90	Honduras	29	Lebanon	16	Netherlands	5125	Sweden	14
Bosnia/Herzegovina	537	Denmark	158	Hungary	1162	Lithuania	1	New Zealand	1506	Switzerland	17
Brazil	327	Dominican Republic	943	India	2829	Macedonia	14	Nicaragua	2	Tajikistan	5
Bulgaria	18	Ecuador	772	Indonesia	2	Madagascar	205	Norway	22	Tanzania	27
Burkina Faso	131	Egypt	563	Ireland	46	Malaysia	12	Oman	1	Thailand	396
Cameroon	31	Ethiopia	16	Israel	1354	Mali	156	Pakistan	44	Tunisia	226
Canada	19	Finland	1	Italy	19508	Malta	62	Palestinian Territories	210	Turkey	2534
							Panama	48	Uganda	2	
							Peru	2512	Ukraine	3	
							Philippines	8	United Arab Emirates	1	
							Poland	1770	United Kingdom	4	
							Portugal	548	United States	900	
							Puerto Rico	4	Uruguay	62	
							Romania	36	Venezuela	1	
							Saudi Arabia	2	Vietnam	185	
							Senegal	101	Zambia	1	
							Serbia/Montenegro	295	Zimbabwe	17	
							Slovakia	13	Total	97361	

Figure 1: Number of producers GlobalGAP certified per country.

Source: GlobalGAP Fruit and Vegetable Booklet (GlobalGAP, 2012)

National Technical Working Groups (NTWG's) are also part of the GlobalGAP organization. These NTWGs are set up in several countries to help adopt GLOBALG.A.P.'s universal standard on a local scale. NTWGs identify specific local adaptation and implementation challenges and develop guidelines, known as National Interpretation Guidelines. These guidelines provide guidance to certification bodies and producers on how to implement GLOBALG.A.P control points and compliance criteria at a national level. There is a NTWG established in Peru, working in the development of National Interpretation Guidelines for the fruits and vegetables sector and is managed by Procitrus (Peruvian Citrus Growers Association) as the host company. Despite these guidelines are not officially approved yet, they are currently under internal technical review by the GlobalGAP organization (GlobalGAP 2012).

3.2.2 GlobalGAP Governance

GlobalGAP is governed by a Board that is made up of an equal number of elected producer and retailer representatives and is chaired by an independent chairperson. The Board works very closely with the operational GLOBALG.A.P Secretariat in Cologne and its tasks involve determining strategy, designing the standards setting procedure, adopting standards and rules, and providing the legal framework for regulating the certification bodies. The GLOBALG.A.P Certification is developed and defined by various Stakeholders Committees, three Technical Committees and the Certification Body Committee. National Technical Working Groups support the work of the committees on a local level. The Integrity Surveillance Committee (ISC) assesses non-compliances and imposes correctional measures and sanctions.

The GlobalGAP Secretariat supports the work of the Board and all the committees. This function is fulfilled by FoodPLUS GmbH, a non-profit limited company based in Cologne, Germany, that acts as a single management platform for GLOBALG.A.P. The executive management of FoodPLUS GmbH, i.e. its Managing Director, bears responsibility for the implementation of policies and standards, as well as facilitates the GLOBALG.A.P benchmarking process, manages the GlobalGAP database and enforces the decisions made by the ISC. Financial and legal ownership and responsibility for FoodPLUS GmbH is held by the EHI Retail Institute via its 100% subsidiary EHI-Verwaltungsgesellschaft mbH. The EHI Retail Institute also operates the European Retail Academy, a global network of research institutes linked to retail activities and topics (GlobalGAP, 2012).

The GLOBALG.A.P Technical Committees are the backbone of GLOBALG.A.P certification and are made up of industry experts from the entire supply chain. They are responsible for developing and defining the standard criteria, called Control Points and Compliance Criteria and they also define the cornerstone of the rules, called GLOBALG.A.P General Regulations, which establish clear criteria for the successful implementation and verification of the standards. GLOBALG.A.P has three main Technical Committees: Crops, Aquaculture and Livestock. Chile is the only South America country with representation in the Technical Committee of Fruits and Vegetables. Peru doesn't have participation in any committee (GlobalGAP, 2012)

Stakeholder Committees are working groups made up of stakeholders (GLOBALG.A.P. members, non-members, NGOs, retailers, suppliers and others) who want to be actively involved in the standard development process. The Certification Body Committee (CBC) coordinates and supervises worldwide certification body activities developed by certified auditors and inspectors. In early 2012 a South American CBC sub-group was established in response to a request by the South American certification bodies to form a regional sub-group that represents their local sector interests. CBC Latin America exchanges contents of their meetings with CBC Central on a regular basis (GlobalGAP,2012).

3.2.3 GlobalGAP Standards and Certification

GlobalGAP offers 3 main certification products named localg.a.p, GLOBALG.A.P and GLOBALG.A.P.+ Add-on: GLOBALG.A.P offers 16 standards for 3 scopes Crops, Livestock, and Aquaculture while localg.a.p. and GLOBALG.A.P.+ Add-on offer customized programs for their members. The localg.a.p certification is intended for emerging markets since it helps producers gain gradual recognition by providing an entry level to GLOBALG.A.P certification. The GLOBALG.A.P.+ Add-on has developed add-on modules that enhance the GlobalGAP certification offering producers and buyers specific assurances tailored to their interests and preferences. So far two ready-to-use modules have been developed: GLOBALG.A.P Risk Assessment On Social Practice (GRASP), which covers workers' health safety and welfare and GLOBALG.A.P Animal Welfare (GlobalGAP,2012).

The GLOBALG.A.P certification covers food safety and traceability, environment, workers' health, safety and welfare and animal welfare. In addition it includes Integrated Crop Management (ICM), Integrated Pest Control (IPC), Quality Management System (QMS), and Hazard Analysis and Critical Control Points (HACCP). The GLOBALG.A.P certificate, also known as the Integrated Farm Assurance Standard (IFA), is revised every four years and is now in its fourth version obligatory from 1st January 2012 for all its members.

The GLOBALG.A.P IFA Standard V4 is built on a system of modules that enables producers to get certified for several sub-scopes in one audit and it consists of General Regulations which map out the criteria for successful CPCC implementation and Control

Points and Compliance Criteria (CPCCs), which clearly define the requirements for achieving the quality standard required by GLOBALG.A.P.

The Control Points and Compliance Criteria are also modular-based consisting of (i) The All Farm Base Module: This is the foundation of all standards, and consists of all the requirements that apply to all producers must first comply with to gain certification, (ii) The Scope Module: This defines clear criteria based on the different food production sectors. GLOBALG.A.P covers 3 scopes: Crops, Livestock and Aquaculture and (iii) The Sub-scope Module: These CPCCs cover all the requirements for a particular product or different aspect of the food production and supply chain.

For example, to get certified, producers must comply with all the CPCCs relevant for their sub-scope. For example, a strawberry grower must comply with the All Farm Base CPCCs, the Crops Standard CPCCs and the Fruit & Vegetables CPCCs to receive a GLOBALG.A.P Fruit & Vegetables Standard Certificate. See Figure 2:

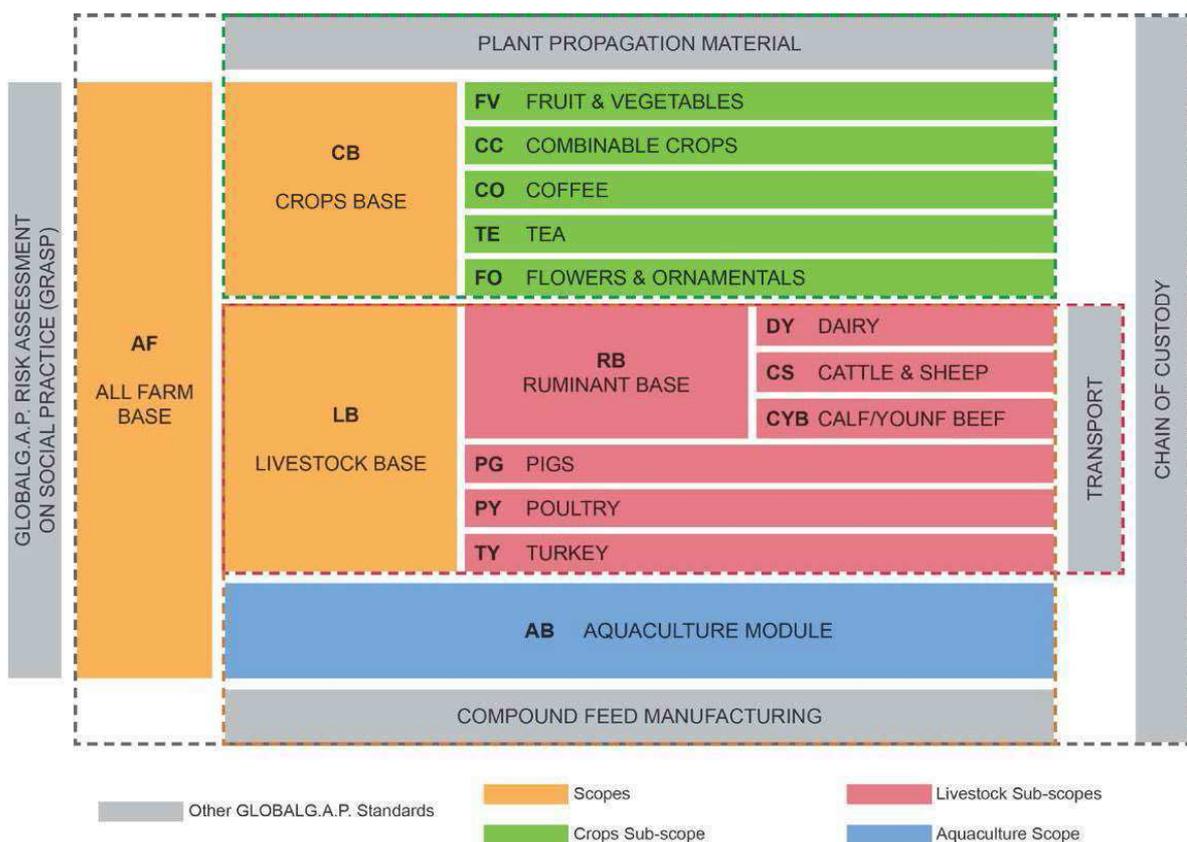


Figure 2: Integrated Farm Assurance Standard (IFA) structure

Source: GlobalGAP Fruit and Vegetable Booklet (GlobalGAP, 2012)

At this point, it is important to mention that there are 2 certification options: Option 1: Single Producer with or without an optional Quality Management System and Option 2: Multiple Producers with a mandatory Quality Management System (GlobalGAP 2012).

As we can see in Figure 2, the Crops module has been developed for 5 specific groups of products: Fruits & Vegetables, Flowers & Ornamentals, Combinable Crops, Green Coffee and Tea, but since our case study in Chapter 5 is based on the implementation of GlobalGAP for fruits and vegetables, the present analysis will be limited to this module.

The GLOBALG.A.P Fruit & Vegetables Standard covers all stages of production, from pre-harvest activities such as soil management and plant protection product application to post-harvest produce handling, packing and storing. Main aspects covered by this standard are: soil management, substrates, pre-harvest controls for plant protection product application, organic fertilizer application, pre-harvest check, harvesting, producer handling covering hygiene, sanitary facilities, packing and storage areas, quality control, pest control, post harvest washing, and post harvest treatment (GlobalGAP 2012). See Figure 3:

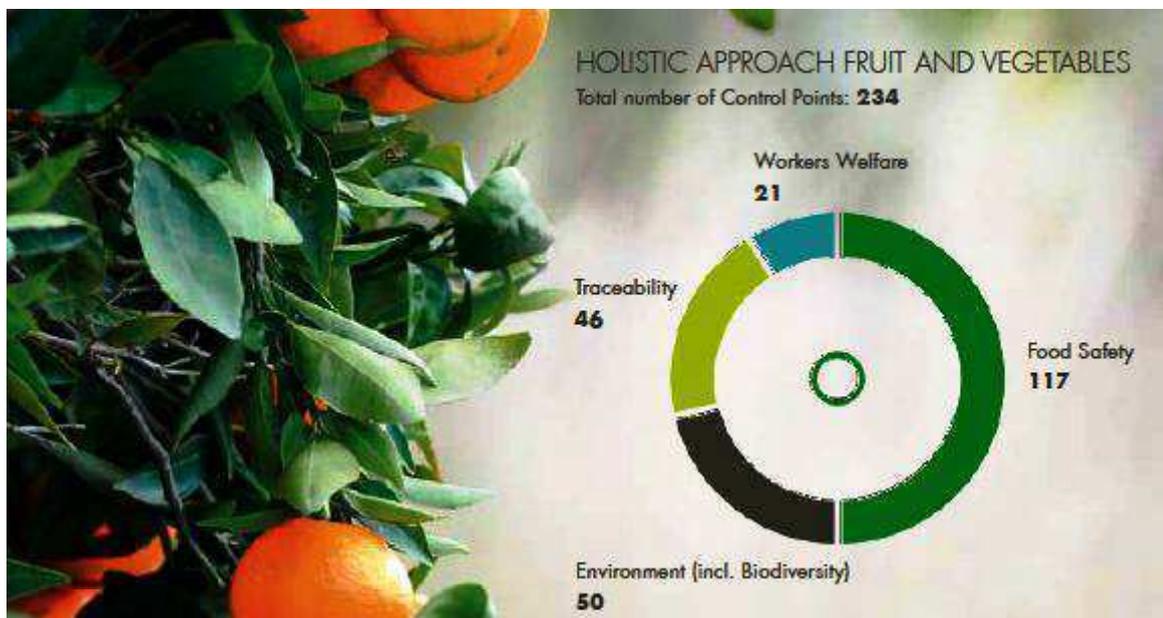


Figure 3: Holistic approach of the control points for fruits and vegetables (GlobalGAP).

Source: GlobalGAP Fruit and Vegetables Standard Booklet (GlobalGAP, 2012)

In order to be able to discuss the relationship of GlobalGAP standard with EU food safety and quality regulations, the identification of markets access requirements for fresh fruits and vegetables to the European Union needs to be presented.

3.3 EU requirements in the fresh fruit and vegetable sectors (legal and additional (non-legal) requirements)

According to CBI (2011) (See Annex 2 for the original document), the buyer requirements or access buyer requirements for fresh fruits and vegetables can be divided in two groups: legislation and additional (non-legal) requirements. Legal requirements set the basis for what requirements products marketed in the EU must meet. Products that fail to meet these requirements are not allowed on the EU market. Additional requirements go beyond legislation, as companies can go further in their requirements than legislation. The main categories of additional requirements are environmental requirements and social (labour) requirements.

3.3.1 Legal products requirements in the fresh fruit and vegetable sector

According to CBI (2011), the main focus when it comes to food is food safety. This has led to the introduction of legal requirements focusing on hygiene and traceability, emphasizing the importance of guaranteeing hygiene measures throughout the chain “from farm to fork”, in order to guarantee that the food marketed in the EU is safe. These legal requirements are applicable to all food marketed in the EU. In addition EU legislation establishes maximum levels for certain pesticides and contaminants that can be present in food. The starting point for EU legislation is no specific product, but all food stuff placed on the market. In certain cases, however, the EU has established product-specific legislation in addition to the categories mentioned above. This is also the case for fresh fruits and vegetables.

Examples of food legislation applicable to all food products marketed in the EU:

The General Food Law (Regulation (EC) 178/2002)

Hygiene of food stuffs (Regulations (EC) 852/2004; 853/2004; 854/2004)

Examples of food legislation restricting pesticides and contaminants in the food products marketed in the EU:

Maximum residue level (MRLs) in food stuff (Regulation (EC) 396/2005)

Contaminants in foods (Regulation (EC) 1881/2006)

Microbiological contamination of food stuff (Regulation (EC) 2073/2005)

Example of legislation specifically focusing on the fresh fruits and vegetables sector:

Quality standards for the marketing of fresh fruit and vegetables (Regulation (EC) 2200/96) / (Regulation (EC) 1234/2007)

3.3.2 Additional (non-legal) requirements

Additional requirements or non-legislative requirements are requirements set by companies, not the EU or individual EU Member States. Broadly speaking non-legal requirements can be divided into two categories: Environment requirements and social requirements (labour standards), (CBI, 2011).

According to CBI (2011), the most relevant and highly required non-legal environmental requirements that apply to the fresh fruits and vegetables sector are: Compliance with GlobalGAP (Required by eg: Dole, Fyffes, Del Monte) and compliance with national environmental laws and regulations in the country of origin. As the EU can only restrict product-related issues, this requirement is additional to EU legal requirements as it also looks to production processes which are not visible in the final product (requested by most larger companies eg. Dole).

Social requirements are based on ILO's basic standards, laying down principles on what is perceived as the most important labor issues. These concern among other basic safety conditions for workers: "Occupational health and safety (OHS)" and no use of child labor or forced labor. Therefore the most relevant non-legal social requirements are the International ILO standards, and the participation in the industry initiatives or international certification schemes with additional and/or stricter social standards than the ILO basic standards required for example by: Chiquita, Dole, Del Monte. Fair trade certification with special attention to worker's right and benefits is also of importance (CBI, 2011)

3.4 GlobalGAP requirements analysis within the context of EU legal requirements for fresh fruits and vegetables

As we can see in figure 4, GlobalGAP control points for fruits and vegetables certification focus in 4 aspects which have been converted to percentages as follows:

Food Safety (50%),

Environment (21%),

Traceability (20%)

Workers welfare (9%)

If we compare the above information with the EU legal requirements for fruits and vegetables we have Figure 4:

GlobalGAP control points for fresh fruits and vegetables	EU requirements for fresh fruits and vegetables				
Food Safety (50%),	Hygiene of food stuffs (Regulations (EC) 852/2004; 853/2004; 854/2004)	Microbiological contamination of food stuff (Regulation (EC) 2073/2005)	Maximum residue level (MRLs) in food stuff (Regulation (EC) 396/2005)	Contaminants in foods (Regulation (EC) 1881/2006)	Quality standards for the marketing of fresh fruit and vegetables (Regulation (EC) 2200/96)
Environment (21%),					
Traceability (20%)	The General Food Law (Regulation (EC) 178/2002)				
Workers welfare (9%)					

Figure 4: Comparison GlobalGAP and EU legal requirements for fresh fruits and vegetables.

Source: Own elaboration (Based on GlobalGAP Fruit and Vegetable Booklet, 2012).

As we can see, EU legal requirements for fresh fruits and vegetables mainly focus on aspects such as food safety (under the following rules: Regulations (EC) 852/2004; 853/2004; 854/2004, Regulation (EC) 2073/2005, Regulation (EC) 396/2005, Regulation (EC) 1881/2006 and Regulation (EC) 2200/96) and traceability under the General Food Law Regulation (EC) 178/2002. Environmental and workers welfare aspects are not legally required and thus are considered additional (non-legal) requirements. Since EU law does not have any environmental and/or worker welfare regulation that apply to agricultural products from exporting countries, for example Peru, we can state that GlobalGAP requirements, indeed extends its requirements beyond legal requirements for agricultural products exported to the European Union.

3.5 Sub-conclusion

The main reason why private food standards are of concern within the context of the WTO can be explained by the fact that private food standards are about market access issues and market access issues deal with trade which is governed and regulated by the WTO. However, here it is important to mention that WTO rules in principle only apply in government to government relations while the private standard is typically an issue between private parties. This previous statement leaves in the air the question whether the national governments, the contracting parties in WTO terms, can be held accountable for actions of private parties.

Lee, 2006 has stated that the relation between WTO and private food standards is based on legal issues since it is of concern the legality of private standards in the context of the WTO, especially if the EU can be challenged at the WTO on grounds of standards such as GlobalGAP. The applicability of the Article 13 of the SPS Agreement poses the question whether the GlobalGAP organization falls under the scope of non-governmental entity, and only in this case the Commission might have a legal base to influence private parties practices in order to fulfill its international obligations. Despite the definition of “nongovernmental entity” in the SPS Agreement is blurred, vague and non-well defined, the Commission argues that GlobalGAP, being a voluntary standard, has no legal power and it is not entrusted by government. In this sense, GlobalGAP doesn't fit into the definition of “non-governmental body” in the TBT Agreement, therefore cannot be regulated by the Commission.

Another important issue (already mentioned in the previous chapter) about private food standards is that technically, they are voluntary as they are not required by law. However, the growing use of private standards by retailers in the previous years have made them “de facto” mandatory, meaning that in practice producers have to comply with these standards in order to sell their products abroad. These concerns about private standards have also contributed to the debate about their trade facilitating aspect which is currently disputed within the WTO.

According to the WTO SPS agreement, SPS measures must be applied only to the extent necessary to protect life or health and not be more trade restrictive than required; must be based on scientific principles and not be maintained without sufficient scientific evidence;

finally should not constitute arbitrary or unjustifiable treatment or a disguised restriction on trade. Then, the problem with private food standards can be explained by the fact that for most WTO Members in the SPS committee, private standards go beyond (extend to ethics, environment, animal welfare and social accountability) than the standards set up by international standard setting bodies that are referenced in the SPS Agreement: the Codex Alimentarius Commission (CAC), the International Organisation for Animal Health (OIE) and the International Plant Protection Convention (IPPC).

In this sense, our brief analysis of the comparison between GlobalGAP standard and the EU legal requirements for fresh fruit and vegetables supports the statement of most WTO members that private standards go beyond legal requirements. While GlobalGAP control points explicitly focus on aspects such as food safety, environment, traceability and workers welfare, EU legal requirements focus exclusively on food safety and traceability issues. Environmental and workers welfare aspects are covered under additional (non-legal) requirements. Since EU law does not have any environmental and/or worker welfare regulations that apply to agricultural products from exporting countries, for example Peru, we can state that GlobalGAP requirements, indeed extends its requirements beyond legal requirements for agricultural products exported to the European Union.

However, others important aspects about GlobalGAP that might be interesting to take into account are its initiatives in emerging markets such as South America countries. Actually Peru is actively involved through the Peruvian National Technical Working Group but also has representation as a supplier through AGAP, the main Peruvian Association of producers and agro exporters. This previous scenario might be reflecting the interest of both parties in this increasingly private food standards trend.

4. How is the structure of the regulatory environment for Peruvian agricultural products?

In order to be able to discuss the establishment of the GlobalGAP standard in the Peruvian context, basic and important past and present events related to the Peruvian agricultural sector must be first understood.

For this purpose, the New Institutional Economics (NIE) approach will be applied, and through its four levels of social analysis it will provide an overview of the current agricultural context and will present and discuss the institutional structure that frame the regulatory environment for the Peruvian agricultural products.

Since the Peruvian agricultural products are touched not only by national regulations but also by the regulations from the countries where these products are sold, it is important to have an overview of those regulations. Indeed, in our case, Peruvian agricultural products intended to enter the European Union have to comply not only with Peruvian (local and national) regulations but also with the EU regulations for fresh fruits and vegetables. The second level of the social analysis provides details in this direction.

Finally, in the last part of this analysis, the discussion will go around how GlobalGAP as a mechanism of governance is framing the Peruvian agricultural context and how these new organizational structures are having an important impact in the agricultural development of the country.

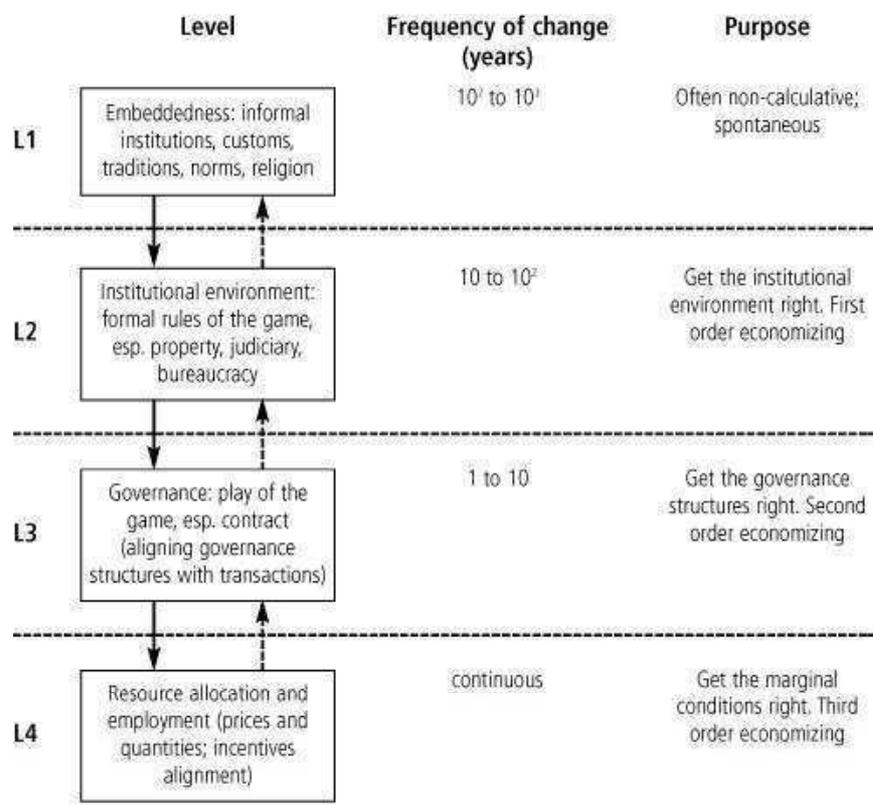
4.1 New Institutional Economics and the Four Levels of Social Analysis

The New Institutional Economics is a large and multidisciplinary field that includes aspects of economics, history, sociology, political science and business organization. Accordingly there is no commonly agreed definition about NIE, however a basic premise frequently used is: institutions matter for economic performance. The purpose of the NIE is to explain the determinants of institutions and their evolution over time, and to evaluate their impact on economic performance, efficiency and distributions. In a society; institutions can be defined as a set of formal and informal rules of conduct that facilitate coordination or govern relationships between individuals. Economic activities are embedded in a framework of institutions, formal and informal (Kherallah and Kirsten,2002).

In this sense, the NIE approach can help us to understand how agricultural activities in the Peruvian context have evolved over the past decades and how the (international) agricultural trade through the establishment of food safety and quality standards have shaped this longstanding structure leading to the emerge of new institutions, organizations

and ways of workings. The four levels of social analysis is the starting point for this analysis. Figure 5 describes the NIE and its four level of social analysis.

Categorization of institutions in the economy by level



L1: social theory L2: economics of property rights/positive political theory L3: transaction cost economics L4: neoclassical economics/agency theory.

Figure 5: New Institutional Economics and the Four Levels of Social Analysis

Source: Williamson (2000)

The solid arrows that connect a higher with a lower level signify that the higher level imposes constraints on the level immediately below. The reverse arrows that connect lower with higher levels are dashed and signal feedback. Although the system is fully interconnected, Williamson neglects these feedbacks. The NIE has been concerned principally with levels 2 and 3 (Williamson, 2000).

4.2 Top level or Embeddedness” level

The top level is the social “embeddedness” level. This is where the norms, customs, mores, and traditions are located. Furthermore, religion plays a large role at this level. Institutions at this level change very slowly-on the order of centuries or millennia. An identification and explication of the mechanisms through which informal institutions arise and are maintained would especially help to understand the slow change in Level 1 institutions. In addition, it is important to mention that many of these informal institutions have mainly spontaneous origins. However they are "adopted" and thereafter display a great deal of inertia-some because they are functional (as with conventions); or take on symbolic value or finally are pervasively linked with complementary institutions (formal and informal), etc. Be that as it may, the resulting institutions have a lasting grip on the way a society conducts itself (Williamson, 2000).

Transferring the above citation to the Peruvian agricultural sector, it is interesting to start describing the most important facts regarding Peruvian agriculture changes through the last century.

According to Garcia (2005), in the case of Peru, each ethnic group has a characteristic life system that is the result of a daily, seasonal and extraordinary coexistence that has been shaped throughout millennia. Furthermore agriculture has been a constant for thousands of years and cultural aspects have evolved over time to provide significant clues that explain Peruvian small farmers' traditions and behaviors.

Peru has a diverse territory that is made up of three different geographic regions. The first is the Coast, which consists in valleys close to the sea that are rich in agricultural products. This area is surrounded by desert. The second area is the Sierra, whose high mountains were the cradle of the Peruvian Andean civilization. It is currently home to the majority of the country's indigenous population. The third region is the jungle. This area remains inhospitable despite its rich natural resources (Morales, 2008).

However, one of the most import facts in the Peruvian agricultural context is the Agrarian Reform of 1969. The Agrarian reform is the government administration of possession and use of land. In most cases the redistributed land is generally used for agricultural purposes. Over the course of Peru's history, land has been expropriated from one small group of land owners to the individuals who worked the land. Peru was involved in a series

of different reformations of land in the 20th century. Before reform the land ownership structure in Peru was very uneven. Overall in 1961, large estates were responsible for only 1.2% of the Peruvian farms, but controlled more than 52% of the land. The peasant communities, on the other hand, were responsible for 84.6% of the farms and controlled less than 41% of the land. The percentages were even more lopsided when it came to the coastal segment of Peru. Land ownership was obviously unequal and greatly inefficient. The landlords had far too much land and not enough labor, while the peasants had too little land and too much labor (Kay, 1998).

The unequal distribution of lands, coupled with economic inequality, contributed to inefficient economic development. Farmers continued to use rudimentary techniques to exploit the land and farming in the Sierra was particularly difficult due to Andean geography. In many cases, owners of estates in the Sierra had little contact with their properties given that they lived in the cities and relied on farm administrators (Morales, 2008).

According to Kay (1998), the military took control of the government in 1969. Its goal was to institute major social, economic and political changes in Peru and enact a new Land Reform Law (Law Decree N-17716). At the political level, the military's primary focus in terms of land was on incorporating peasants into the political system under the tutelage of the State, broadening the social base and thereby legitimizing its rule. This aim was part of the military government's broader objectives to create a strong, autonomous national State, free from the oligarchic control of the past.

As Garcia (2005) states, although the idea was simple – distribute land among those who work on it – the reform's implementation was largely unsuccessful and fell short of the goals set by Velasco and his government. In the Andes, less than half of landless peasants actually received land, and in the coastal and jungle regions, cooperatives established from expropriated plantations were plagued by mismanagement. The peasants' lack of technical capacities and education constitute another factor that explains the failure of the cooperative system. Peasants toiled from morning to night on lands owned by a cooperative that was incapable of effective management (except for the sugar companies on the Coast) due to a lack of capacities and knowledge. In his paper, Kay (1998) mentions that technology used was not optimum, especially in the highlands, where the cooperatives used technology that differed little from that used by the peasants, thus perpetuating poor productivity.

As a result, the smallholding is a basic element in the quest to understand how small farmers evolved in Peru as a result of the unsuccessful land reform driven by the military government. This fragmentation process initiated in 1969 and, according to the statistics referred to in INCAGRO's research, the number of agricultural units went from 400,000 units in 1965 to 1,700,000 in 1999 (count taken from a national census conducted that year). According to this study, fragmentation led to other problems such as inadequate risk management, a lack of scale economies for production and difficulties in accessing complementary services, thus eroding the sector's competitiveness (Morales, 2008).

Today, agriculture in Peru is being driven by increased private investment and export market development. Two tendencies are present with regard to productive and marketable units for the country's development (Morales, 2008). The first is a tendency to stimulate the land market, which is feasible given changes in the legal framework. The premise of this school of thought is that large companies will purchase land to develop economic activities. Under this perspective, small farmers should sell their lands. This will effectively eliminate the possession of small properties in the future to create a more competitive market. Small farmers that give up their holdings may become part of the workforce at larger ventures or may change to other activities. This tendency has met with some criticism, particularly in relation to the lands located in the Peruvian highlands, which, unlike the Coast, is located at high altitudes and thus not very attractive to companies. Today, most of the small farmers in Peru are found in the highlands (Morales, 2008).

The second tendency involves generating associative models for small farmers. These models are meant to enable farmers to develop their activities and take advantage of the benefits that associative frameworks offer. The objective is to help farmers become more competitive in the new market. Up to now, several associative models have been in the country but few have succeeded (Morales, 2008).

4.3 Second level or the "Institutional environment"

The second level is referred to as the institutional environment. The structures observed here are partly the products of evolutionary processes, but design opportunities are also posed. Going beyond the "informal constraints (sanctions, taboos, customs, traditions, and codes of conduct)" of a Level 1 kind, now "formal rules (constitutions, laws, property rights)" are introduced. This opens up the opportunity for first-order economizing: get the

formal rules of the game right. Constrained by the shadow of the past, the design instruments at Level 2 include the executive, legislative, judicial, and bureaucratic functions of government as well as the distribution of powers across different levels of government (federalism)(Williamson, 2000).

The regulatory environment in which agricultural sector performs is crucial for its development. This means that an environment that guide, facilitate and supports the export of agricultural products will benefit most of the players involved in the food chain.

However, in a domestic environment where regulations are missing or not enough clear and no guide neither support is provided, companies will face more difficulties when trying to comply with external regulations from their customers abroad. As a result companies might not achieve the desired performance expected by international markets and this situation may negative consequences for growers and exporters.

Following, the description of the institutions and their rules that frame the food safety regulatory environment in the Peruvian context will be addressed. In addition, a comparison between national requirements and EU requirements for fresh fruit and vegetables will be presented complementing in this way the analysis started in the previous chapters regarding private standards. As stated at the beginning of this chapter Peruvian agricultural products intended to enter the European Union have to comply not only with Peruvian (local and national) regulations but also with the EU regulations for fresh fruits and vegetables.

4.3.1 Regulatory environment at National Level (Peruvian rules)

Peruvian authorities engaged in food safety and quality issues have seen a necessity to improve food standards and regulations to assure food safety not only for the national market but also for global markets in which Peruvian products participate.

In the Peruvian context, the regulatory environment is given by public organizations that set the rules and standards for the agricultural sector. These institutions and their regulations of interest are listed as follows:

Ministry of Health (MINSA): The Ministry of Health maintains the mission to protect and promote public health, to prevent diseases, and to guarantee healthcare to all inhabitants of the country. In addition, one of its main responsibilities is to formulate public policy regarding sanitation (MINSA, 2012).

Regarding microbiological contamination the Ministerial Resolution N° 591/2008/MINSA of the Ministry of Health establishes the microbiological criteria for safety and quality

standards for food and drinks oriented to human consumption. Although this document is legally binding in theory, some work still needs to be done with the enforcement of these regulations.

The Legislative Decree N°1062 (D.L N° 1062) of June 2008 approves the Peruvian Food Safety Law and states that the MINSA (through DIGESA) is the competent national authority responsible for the compliance of this regulation. This law states the legal frame in order to assure the safety of food products oriented to human consumption. Its main goal is to protect the health of consumers through a preventive and integral approach within all the food chain. The scope of this norm is at national level. This norm explicitly refers to the use of the Codex General Principles of Food Hygiene, the HACCP system and the Maximum Residues Limits (MRLs) for chemicals compounds that might put at risk human health.

Ministry of Agriculture (MINAG): is an institution of the Peruvian Government in charge of the agricultural sector. Among the main goals are the enhancement of producing organizations and the promotion and integration of agricultural chains. It also encourages technological innovations and training directed to agricultural producers by providing them with technical assistance. Finally it also facilitate agricultural producers with access to legal, administrative, management, financial, technical, sanitary, and other assistance allowing to the producers better performances. The Ministry of Agriculture gives SENASA the power to issues rules that regulate the agricultural exports (MINAG, 2012).

National Agrarian Health Service (SENASA): is a state agency that reports to the Ministry of Agriculture. SENASA is the national authority in issues related to agricultural safety, seeds and organic production. SENASA's most important function is to issue the rules, regulations or guidelines that do not constitute trade barriers to foreign trade and remain according to national and international regulations (SENASA, 2012).

The Legislative Decree N°1062 (D.L N° 1062) of June 2008 that approve the Peruvian Food Safety Law also states that SENASA, as the National Agrarian Health Service, is in charge of the elaboration of the Agri-Food Safety Regulation Document. This document deals with technical affairs, requirements and surveillance systems regarding safety of agricultural and livestock primary processing and production oriented to national and international markets.

For the exposed above, we can conclude that SENASA is the main authority at national level responsible for the regulation regarding safety of fresh fruits and vegetables. In this

sense, SENASA, through Directorial Resolutions, makes compulsory at national level the use of procedures aimed to assure the safety of specific products (fruits and vegetables) in national but also international markets.

Examples of these Directorial Resolutions are:

- Resolución Directorial N° 33-2010-AG-SENASA-DSV.- Aprueban Procedimiento para la Certificación Fitosanitaria de las Frutas Frescas de Cítricos destinadas a la exportación. (For Citrus Fruits, issued 10/07/2010)
- Resolución Directorial N° 01-2009-AG-SENASA-DSV.- Aprueban Procedimiento para la Certificación Fitosanitaria de las Frutas Frescas de Uva destinadas a la Exportación (For table grapes, issued 07/01/2009)
- Resolución Directorial N° 402-2005-AG-SENASA-DGSV Aprueban Manual de Procedimientos para la Certificación Fitosanitaria de los Frutas Frescas de mango destinadas a la exportación (For mangoes, issued 10/01/2006).

What all these regulations have in common is that they require additional compliance with other national regulations but also international regulations according to the destination market of the products.

Related important national regulations are about pest control activities like the eradication of the fruit fly specie. In this respect, Peru is a member of the International Plant Protection Convention (IPPC) and is totally committed with pest control activities. Since IPPC Legislation states that contracting parties shall, immediately upon their adoption, publish and transmit Phytosanitary requirements, restrictions and prohibitions to any contracting party or parties that they believe may be directly affected by such measures, Peru has its corresponding regulations published online and can be reviewed through the IPPC website (IPPC, 2012).

An important related international regulation is the Directive (2000/29/EC) which states that products aimed at the European Union must comply with the Phytosanitary Certification. This requirement will be commented in further detail later in this section.

INDECOPI: is the National Institute for the Defense of Competition and Protection of Intellectual Property. It is a Specialized Public Agency ascribed to the Government, therefore with legal capacity in domestic public law. Among its main functions are market promotion and protection of consumers' rights. The Technical Normalization Committees of INDECOPI issue Peruvian Technical Norms (NTP) for the different sectors; however, in

the case for fruits and vegetables, these regulations are of voluntary character (INDECOPI, 2012). Some examples are: NTP 011.018:2005 for Avocados, NTP 011.023:2006 for citrus fruits, NTP 011.109:2008 for asparagus and NTP 011.012:2005 for table grape. These norms are a small modification of the corresponding Codex Alimentarius Commission (CAC) standards for each product and include minimum quality requirements and regulations for presentation of the products. In addition, it lays down maximum limits for contaminants and MRLs for pesticides residues, which are suggested by the CAC. The provisions regarding hygiene are also based on the CAC. It is important to mention that these norms are not mandatory but serves a guide basic quality and safety requirements.

4.3.2 International and regional (European) requirements

The organizations that develop standards at international level are the United Nations (UN), the World Trade Organization (WTO), the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO), the Codex Alimentarius Commission (CAC) and the International Plant Protection convention (IPPC) among other international organisations.

However, the most important regulations for food safety and quality have been developed by organizations such as the World Trade Organization (SPS and TBT Agreement), Codex Alimentarius Commission (basic texts on food hygiene and HACCP), and the International Plant Protection Convention (International Standards for Phytosanitary Measures).

It is important to mention, however, that most of these regulations are of voluntary character since they are not compulsory required by markets. Finally it is also important to mention that several private standards base their regulations based on these international standards. Concerns related to private standards within the context of international organizations such as the WTO and CAC might arise, a typical example is the GlobalGAP standard.

At regional level we have the European Commission, which at national and EU level, establishes the rights of consumers to safe food and accurate and honest information. The EU food law aims to harmonize existing national requirements in order to ensure the free movement of food and feed within the EU. The European Union has established requirements that must be met for all its member states as well as for foreign exporters that want to trade with European markets.

The most important legal requirements applicable to all food products marketed in the EU are The General Food Law (Regulation (EC) 178/2002) and Hygiene of food stuffs (Regulations (EC) 852/2004; 853/2004; 854/2004). In addition, examples of food legislation restricting pesticides and contaminants in the food products marketed in the EU are Maximum residue level (MRLs) in food stuff (Regulation (EC) 396/2005), Contaminants in foods (Regulation (EC) 1881/2006) and Microbiological contamination of food stuff (Regulation (EC) 2073/2005). An example of legislation specifically focusing on the fresh fruits and vegetables sector is Quality standards for the marketing of fresh fruit and vegetables (Regulation (EC) 2200/96),(CBI, 2011). Following a brief description of each of them.

The General Food Law Regulation (EC) 178/2002

On the 28th of January 2002 the European Parliament and the Council adopted Regulation (EC)178/2002 laying down the General Principles and requirements of Food Law. The aim of the General Food Law Regulation (GFL) is to provide a framework to ensure a coherent approach in the development of food legislation. It lays down definitions, principles and obligations covering all stages of food/feed production and distribution.

Despite the rules of the General Food Law are intended for all member states, countries that do not belong to European Union but intend to sell their products to this market should meet these requirements. Therefore, Peruvian exporters of fresh fruits and vegetables that sell their products in EU markets should comply with this regulation.

The GFL identifies six principles of food law; four of these principles (regarding general objectives for protection of human life and health, risk assessment based on science, precautionary principle and consumer protection) address food law as such and two principles (regarding public consultation and public information) address transparency. These principles are followed by three general obligations of food trade (regarding import, export and international standards). Finally eight articles (regarding food safety, feed safety, presentation, responsibilities, traceability, responsibilities for food, responsibilities for feed and liability) containing general requirements of food law are addressed.

Regulations (EC) No 852/2004, (EC) No 853/2004 and (EC) No 854/2004 on the hygiene of foodstuffs

In April 2004 new Hygiene rules were adopted and these became applicable in the Member states on January 1, 2006. The most important for fruits and vegetables chains is the Regulation (EC) No 853/2004.

Article 5 of Regulation (EC) No 853/2004 of the European Parliament and of the Council on the hygiene of foodstuffs requires food business operators to put in place, implement and maintain a permanent procedure based on Hazard Analysis and Critical Control Point (HACCP) principles. HACCP systems are generally considered to be a useful tool for food business operators in order to control hazards that may occur in food. The HACCP requirements should take account of the principles contained in the Codex Alimentarius and they should provide sufficient flexibility to be applicable in all situations, including in small businesses. Regulation (EC) No 853/2004 allows the HACCP based procedures to be implemented with flexibility so as to ensure that they can be applied in all situations (EC, 2012b).

The other two regulations (EC) No 854/2004 and (EC) No 855/2004, are more concerned with food of animal origin and therefore not important in this context.

Regulation (EC) 2073/2005 on microbiological contamination of food stuff

This regulation is directed at food operators and gives food-safety criteria and process-hygiene criteria. A food safety criterion means “a criterion defining the acceptability of a product of a batch of food stuff applicable to products placed on the market”. A process-hygiene criterion means “a criterion indicating the acceptable functioning of the production process”. Such a criterion is not applicable to products placed on the market. It sets an indicative contamination value above which corrections actions are required in order to maintain the hygiene of the process in compliance with food law.

Regulation (EC)396/2005 on Maximum Residues Levels (MRLs) of Pesticides

All foodstuffs intended for human or animal consumption in the European Union (EU) are subject to a maximum residue level (MRL) of pesticides in their composition in order to protect animal and human health. This regulation brings together and harmonizes in one text the limits that apply to different human or animal food products and, in addition, it establishes a maximum limit applicable by default. Previous European legislation set different limits for different kinds of product: for example for plant products, including fruit and vegetables it was the Directive 90/642/EEC. This Regulation, (EC)396/2005, repeals

previous Directives, proposing harmonized maximum limits for all foodstuffs instead and includes the same level of protection for animal feeding stuffs (European Council 2012c). It is important to mention that the setting of permanent MRLs can be considered for any product in combination with an active substance authorized under Directive 91/414/EC. In this respect, Directive 91/414/EC should be considered of main importance together with Regulation (EC) 396/2005 in the establishing of MRLs for these substances.

Regulation (EC) 1881/2006 setting maximum level for certain contaminants in foodstuffs

This Regulation sets forth maximum levels for certain contaminants in foodstuffs so as to keep them at levels which are toxicologically acceptable. The foodstuffs listed in the Annex shall not be placed on the market where they contain a contaminant listed therein at a level exceeding the maximum level allowed. Provisions regarding monitoring and reporting are also included in this regulation. The annex of this regulation list maximum level for the following contaminants: nitrate, mycotoxins (Aflatoxins, Ochratoxin A, Patulin, Deoxynivalenol, Zearalenone, Fumonisin and T-2 and HT-2 toxin), metals (lead, cadmium, mercury and tin), 3-monochloropropane-1,2-diol (3-MCPD), dioxins and PCBs and Polycyclic aromatic hydrocarbons.

Regulation (EC) No. 2200/96 on the common organization of the market in fruit and vegetables

This Regulation sets up a common organization of the market in fruit and vegetables. Products to be delivered fresh to the consumer may be classified by reference to a set of standards. The holder of products covered by the quality standards adopted may not display such products or offer them for sale, or deliver or market them in any other manner within the Community than in conformity with those standards. The information particulars required by the quality standards must be shown legibly in an obvious position on one side of the packaging. Products covered by quality standards shall be accepted for importation or exportation from third countries only if they conform to the quality standards or to standards at least equivalent to them. Norms granting rights to producer's organizations are also established.

Regulation (EC) No. 1234/2007 establishing a common organisation of agricultural markets and on specific provisions for certain agricultural products (Single CMO Regulation)

This Regulation establishes a common organization of agricultural markets of the following products: cereals; rice; sugar; dried fodder; seeds; hops; olive oil and table olives; flax and hemp; fruit and vegetables, both fresh and processed; wine; live plants and products of floriculture; raw tobacco; beef and veal; milk and milk products; eggs; pig meat, sheep meat, goat meat and poultry meat. The Regulation lays down, for each agricultural market, provisions concerning the granting of aid and market support measures. Further provisions deal with (i) setting up and official recognition of producers' organizations and interbranch organizations; (ii) trade with third countries, giving particular regard to the issue of import and export licences as well as management of import quotas; and (iii) supply of food from intervention stocks to designated organizations for distribution to the most deprived persons in the European Community.

Council Directive 2000/29/EC on protective measures against the introduction into the Community of organisms harmful to plants or plant products and against their spread within the Community

Before certain plants can be introduced into the Community, plant products and other objects (listed in Part B of Annex V to Directive 2000/29/EC) must be accompanied by a Phytosanitary certificate, issued by the National Plant Protection Organization of the exporting country. In the Peruvian case this certificate is issued by SENASA.

Phytosanitary certificates should be issued conforming to the models set out under the International Plant Protection Convention (IPPC) certifying that the plants, plant products or other objects: Have been subject to the appropriate inspections; are considered to be free from quarantine harmful organisms, and practically free from other harmful organisms and are considered to conform with the Phytosanitary regulations of the importing country.

4.4 Third level or the “Governance level”

The third level is where governance is located. Although property remains important, a perfectly functioning legal system for defining contract laws and enforcing contracts is not covered at all. Costless court ordering being a fiction, much of the contract management and dispute settlement action is dealt with directly by the parties-through private ordering. The governance of contractual relations becomes the focus of analysis (Williamson 2000).

As a precedent of the following lines, and according to Meade et al 2010, it can be said that Peru's fruit and vegetable export industry benefits from a combination of factors that have supported its rapid growth. In the early 1990s, a new constitution and new laws encouraged international investment in Peru, as well as Peruvian engagement in international trade. In addition, Peru's export industry benefits from a business climate that welcomes foreign investors and encourages trade. Finally, free trade agreements with all major trading partners, such as the United States, the EU, and China, provide an invaluable stimulus to the export industry.

This previous statement intends to explain the rise of agriculture export sector in the Peruvian context while describing some facts that have enabled this development. Parallel to all these favorable events, agricultural standards and regulations at different levels have arisen as a way to regulate, and in some cases govern this trend in agri-food international trade. This can be exemplified through the standard GlobalGAP.

4.4.1 GlobalGAP standard as a mechanism of governance in the international agricultural trade.

I will include GlobalGAP in this level, because GlobalGAP is frequently associated to governance mechanisms through Third-Party Certification (TPC) and audit. TPC is a product safety and quality verification mechanism in which third parties assess, evaluate and certify safety and quality claims against a particular set of standards and compliance procedures (Hatanaka and Busch, 2008).

The analyses of GlobalGAP as a governance mechanism will be approached through three main aspects: vertical coordination and supply chain management, cooperatives and farmer organizations, and finally access to agricultural input and rural credit markets. The information presented in this chapter is only intended to provide us with a brief overview of these aspects.

4.4.2 Vertical coordination and supply chain management

The increased need for vertical coordination and supply chain management creates a potential new role for contract farming as a way to link small farmers to high-value markets in the wake of market liberalization in developing countries. Due to the requirements of the new agriculture, food-marketing firms prefer to engage in marketing and production contracts with farmers in developed as well as developing countries to ensure greater coordination of quantity and quality of supply (Kherallah & Kirsten, 2002).

Contract farming reduces both production and marketing risk by ensuring a guaranteed source of supply with specific quality requirements to processors or intermediaries and ensuring farmers an immediate market outlet for their produce (as well as access to inputs). On the other hand, contract farming schemes have been plagued by many problems in the past, for example monopolistic trader behavior. This situation displaces decision-making authority from the farmer to the downstream processor or distributor turning the farmers into quasi-employees. Other problems such as the high per unit costs of contracting with small-scale farmers and meeting stringent quality and safety requirements could contribute to the danger that small holders might be excluded from contracting arrangements (Kherallah & Kirsten, 2002).

In Peru, nowadays and due to the increased activity in the agricultural export sector, we can appreciate more small farmers inserted into the production chains of major exporting companies. This inclusive system has allowed these farmers to improve their agricultural practices and increase their profits as well (AgronegociosPeru, 2011). The case of CPF, The Fruits Producers Cluster, further detailed in chapter 5 exemplifies how the vertical coordination among the parties is established and how associations of producers and exporters benefit from this type of organizational structure. Despite few cases of vertical integration have been studied in the Peruvian agricultural context, it is clear that the CPF case is a successful example of how the establishment of high standards and requirements by international markets, have pushed growers to improve their farming practices and organizational management leading in economical benefits for all the parties involved.

4.4.3 Cooperatives and farmer organizations

Cooperatives and farmer organizations are institutional arrangements, the importance of which has re-emerged recently to organize small farmers in developing countries in the wake of agricultural market liberalization (Kherallah & Kirsten, 2002).

The advantages of organizing farmers into groups include, among other factors, a reduction in the transaction costs of accessing input and output markets, as well as improving the negotiating power of smaller farmers in relation to large buyers or sellers (Kherallah & Kirsten, 2002). However, cooperatives suffered from various organizational problems and a lack of clearly defined property rights assignments resulted in opportunistic behavior (such as free-riding, moral hazard, agency problems, etc.), bureaucratic inefficiencies, and under-investment in the cooperative (Cook, 1995; Cook & Iliopoulos, 2000).

In the Peruvian context, producers associations have acquired more presence in the past few years. These associations were created with the aim of support growers to consolidate their efforts in the areas of production and commercialization, and to strength their position internationally (AGAP 2012). However other implications might be present. In the coming chapters we will describe how this associations benefits their members and how they fit into the agricultural communities.

4.4.4 Access to agricultural input and rural credit markets.

In many developing countries, due to the high transaction costs (including information costs), inability to enforce contract with farmers, and thin markets, private traders are unwilling to provide input credit to farmers. As a result, there is a market failure in the provision of credit to rural households and farmers are unable to finance the purchase of agricultural inputs such as modern seeds and fertilizers (Kherallah & Kirsten, 2002).

In Peru the panorama looks different. For example, during 2010, continued the growth in the volume of domestic financial loans to finance agricultural and livestock activity, exceeding by 10.11% the volume of financial loans for the same period in 2009. Agriculture-oriented loans continued to show an upward trend driven by the strong dynamism of private investment in the field, and positive expectations of entrepreneurs in the agricultural sector. Regarding the placements by type of institution, the banking system (commercial banks) were the preferred ones, followed by the Municipal Savings and Credit system (CMAC), Rural Savings and Credit system (CRAC) and finally Agrobanco system which has increased its presence in the sector in the past few years (MINAG, 2011).

4.5 Fourth level.

The firm, in this level, is typically described as a production function. Because the present analysis is not intended to describe the firm as an individual players, but instead pretends to analysis how it relates with the other players within the food chain, we will not go into further detail at this level.

To sum up, the aim of this NIE analyses have been to present an overview of the current Peruvian agricultural context, starting from important past events such as the agrarian reform, which has framed agricultural context of the past decades, to end up with a description of the intuitions that play key roles in agricultural development and international trade and their respective standards and regulations. Finally the governance aspect

frequently present in private food standards such as GlobalGAP has been commented in the Peruvian context which provides us with interesting information that complement our case study in the next chapter.

4.6 Sub- conclusion

Agriculture has been a constant for thousands of years in the Peruvian context. In 1969 the new land reform law imposed by the military government attempted to create a strong, autonomous national state, free from the oligarchic control of the past. Before the reform the land ownership structure was very uneven and the land ownership was obvious unequal and greatly inefficient. This unequal distribution of land coupled with economic inequality contributed to inefficient economic development.

Despite the idea of the Agrarian Reform was simple; distribute land among those who work on it, the reform's implementation was largely unsuccessful and mainly plagued by mismanagement. The peasant's lack of technical capacity and education contributed as another factor to explain the failure of this cooperative system characterized by inadequate technology and poor productivity. Therefore the smallholding is a basic element in the process to understand how small farmers evolved in Peru as a result of the unsuccessful land reform driven by the military government. Fragmentation led to other problems such as inadequate risk management, lack of scale economies for production and difficulties in accessing complementary services, thus eroding the sector competitiveness.

However, the current agricultural boom that Peru is experiencing is the result of different factors coming together in the past few years. One of most important is related with the favorable regulatory environment that is promoting agricultural development. An environment where the rules are clear, promote and facilitate trade. In this sense, Peruvian authorities have seen the necessity to improve food standards and regulations to guarantee food safety not only for the national market but also for global markets in which Peruvian products participate.

In Peru, as in many other countries, food regulations are developed by public authorities. The most important institutions that frame the regulatory environment for food products in Peru are DIGESA, SENASA and INDECOPI. The regulations from DIGESA and SENASA are legal requirements while INDECOPI regulations are voluntary and based on the Codex Alimentarius

Examples of these regulations are: Regulation 591/2008 for microbiological criteria for food stuff and Legislative Decree No 1062-2008 on food safety based on international standards such as the Codex General Principles for Food Hygiene, HACCP and MRLs. In addition SENASA has developed obligatory procedures for export of specific agricultural products such as avocados, citrus fruits, mangoes, table grapes, etc.

The European Union has established requirements that must be met for all its member states as well as for the foreign exporters that want to trade with European markets, in our case, the Peruvian agricultural products. The most important regulations for fresh fruits and vegetables are the General Food Law (Regulation (EC) 178/2002), Hygiene of food stuffs (Regulations (EC) 852/2004; 853/2004; 854/2004), maximum residue level (MRLs) in food stuff (Regulation (EC) 396/2005), contaminants in foods (Regulation (EC) 1881/2006), microbiological contamination of food stuff (Regulation (EC) 2073/2005) and Quality standards for the marketing of fresh fruit and vegetables (Regulation (EC) 2200/96),(CBI, 2011).

As we can see Peruvian regulations focus on food safety and quality, however regulations that focus on environmental issues or workers in the agricultural sector don't exist. Since EU law does not have these same regulations applicable in the exporting country, in our case Peru, we can conclude that environmental issues and workers welfare requirements demanded by GlobalGAP, are indeed beyond legal requirements.

However, despite GlobalGAP is not a legal requirement, this is a good example to exemplify how the Peruvian agricultural context has changed in the last years due to agricultural development somehow promoted by the incorporation of private food standards in the Peruvian context. The analyses of GlobalGAP as a governance mechanism can be approached through three main aspects: vertical coordination and supply chain management, cooperatives and farmer organizations, and access to agricultural input and rural credit markets.

Regarding vertical coordination, nowadays and due to the increased activity in the agricultural export sector, we can appreciate more small farmers inserted into the production chains of major exporting companies. This inclusive system has allowed these farmers to improve their farming practices leading in economic benefits. In relation to cooperatives and farmers organizations, producers associations have acquired more

presence in the past few years. These associations were created with the aim of support growers to consolidate their efforts in the areas of production and commercialization, and to strength their position internationally. Finally, regarding access to agricultural input and rural credits markets it has been registered a continued growth in the volume of domestic financial loans to finance agricultural and livestock activities. In other words, agriculture-oriented loans continued to show an upward trend driven by the strong dynamism of private investment in the field and positive expectations of entrepreneurs in the agricultural sector.

In the next chapter, I will present an empirical study which will focus in the second and third level of the NIE. The idea is to analyze how GlobalGAP standard is incorporated in the Peruvian agricultural context, but also discuss the factors that determine its adoption by small and midsize growers.

5. Case study: Which characteristics define and determine the adoption of the GlobalGAP in the Peruvian context?

This question is intended to provide further detail in how the GlobalGAP standard is incorporated in the Peruvian agricultural context; which are the main characteristics of this scenario and which factors determine the adoption this standard by Peruvian growers.

5.1 Methodology

5.1.1 Research Area

The survey was performed between November and December 2011 in the agricultural valleys of Huaral, Santa Rosa, Cañete, Chincha and Lima in the central coast region of Peru. See Figure 6:

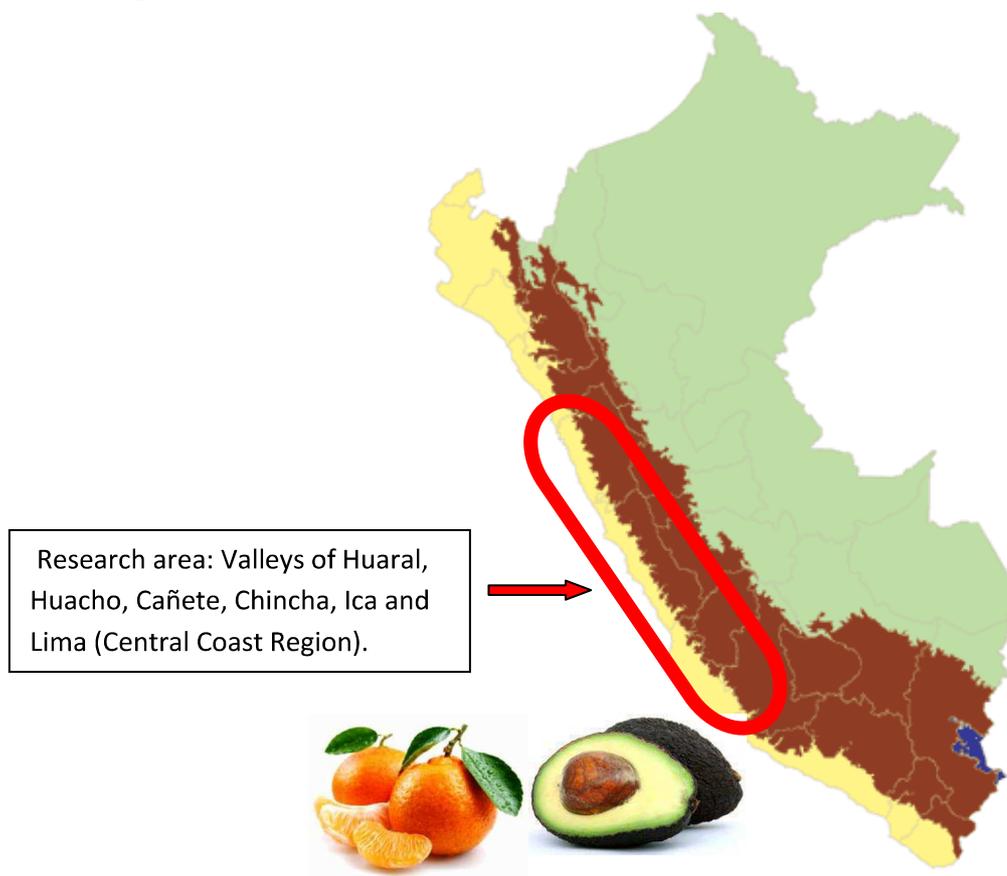


Figure 6: Map of Peru showing the geographical area of research

5.1.2 Identification of the population and the sample.

The population used to take the sample is all producers (around 100) members of PROCITRUS, the association of citrus fruits producers of Peru. However it is important to mention that many of these producers also grow avocados, table grapes and avocados in the same farm.

In addition, the Valle Grande Rural Institute, a renowned organization working in the valleys of Cañete, Chincha and Pisco carrying out activities of investigation and transference of productive technology favoring agricultural producers, provided us with the list of their farmers associated.

Producers were selected from both groups in order to obtain the most representative sample of the geographical area.

The observation units of the study were farms that produce different agricultural products such as citrus fruits, avocados, table grapes, asparagus, tomatoes, sweet potatoes and maize, among others, all present in the same geographical area of research.

Two main groups of sample were taken:

Adopters: 21 growers who have already certified GlobalGAP

Non-adopters: 16 growers who have not certified GlobalGAP standard, however might be evaluating the possibility to certify this standard.

At this stage it should be made clear that the study is not representative as both sample groups were not selected randomly. Hence, strictly speaking, the study must be regarded as a case study.

5.1.3 Research design and data collection

The design of this case study allows the comparison of both groups: Producers complying with the standards “Adopters” and producers that have not certified the standards “Non-adopters”, however the latter group might be evaluating the possibility to certify GlobalGAP in their farms.

The Questionnaire has been designed in order to obtain two main groups of data: Baseline information or general data in order to provide a general overview of the producers under evaluation, and factors that determine the adoption of the GlobalGAP standard. This latter group has also been subdivided in three main aspects under evaluation: perceived advantages (in order to discover which are the main motives behind the implementation of the GlobalGAP standards by Peruvian growers), degree of difficulty (in order to discover

which are the main challenges faced by Peruvian growers during the implementation of the standard) and technical and financial support (in order to discover if Peruvian growers received any kind of assistance during the implementation and adoption of the standard). Questionnaires were delivered to both groups of growers. The Questionnaire can be found in Annex 3

The Questionnaire is comprised of 6 main sections and which have been grouped as shown in Figure 7:

Sections	Aspects evaluated
A: General Information	Baseline information
B: Compliance with safety and quality standards	
C: Organizations structure	
D: Perceived advantages	Factors that determine the adoption of the GlobalGAP standard
E: Degree of difficulty	
G: Technical and financial support	

Figure 7: Questionnaire overview / Source: Own elaboration

Section A asks for general information: Here adopters and non-adopters are differentiated. Information about age and size of the farm, number of employers and types or crops is required in order to provide a general overview of the producers in the research area.

Section B asks about the compliance with food safety and quality standards in the farm in order to evaluate the level of acceptance of standards by producers.

Section C asks about the organizational type of the farm, market destination, intermediates and type of relationship with the buyers. Information obtained here will be also used to complement information obtained in section G about technical and financial assistance.

Section D asks to grade the degree of importance (5 point Likert Scale) for some specific factors as a reason to adopt the GlobalGAP standard. These factors are food safety, market access, improved farming practices, higher prices and social-environmental impacts.

Section E asks to grade the degree of difficulty (5 point Likert Scale) for some specific factors during the implementation of the GlobalGAP standard. These factors are training of the personnel, changes in the infrastructure and afford certification costs.

Section F asks to grade the degree of technical and financial support (5 point Likert Scale) received from different organizations during the implementation of the GlobalGAP standard.

5.1.4 Data Analysis

For the analysis of the results of the baseline information (Sections A,B and C) qualitative and descriptive analysis was used in other to provide an overview of the characteristics of adopters and non-adopters and the context in which they operate.

For the analysis of the factors that determine the adoption of the GlobalGAP standard (Sections D, E, and F) the results were analyzed quantitatively using the non-parametric statistical test Mann-Whitney U-Test.

5.1.5 Weakness and Limitations

Some weakness and limitations of the methodology of this study could be identified and should be described in advance to avoid misinterpretation of the results and the conclusions.

An important fact that should be considered is that the research geographical area is unique in the country due to its concentration of citrus fruits and avocado producers, this means producers of these agricultural products are concentrated in this region and a comparatively good infrastructure exist, mainly the principal harbor of Callao located in Lima, the capital. Thus, this region can be considered as being favored with respect to access to international agricultural markets and participation in agricultural export trade. The situation in the rest of the country can be expected to be less favorable, especially in remote areas of the Andean highlands and the Jungle. Therefore this study cannot be considered representative of Peru.

Another point is the composition of the samples, which were not randomly selected. In the case of adopters a slight overrepresentation of middle size producers can be expected. In addition an important shortcoming is the small sample size. The limited number of cases limited the possibilities for statistical analysis.

5.2 Results

5.2.1 Size and age of the farms.

When adopters were asked about how long their farms have been GlobalGAP certified, the responses obtained ranged from 6 months to 7 years. However, the average time obtained was 2.7 years. This result can be interpreted as that most of the growers interviewed in this geographical area are relatively new exporters to the European Union and therefore no early adopters of this standard. This affirmation has been supported by information provided from a body certification representative: early adopters of the GlobalGAP standard in Peru are more associated to specific crops, mainly asparagus, than to a specific geographical area. Very few large exporting companies started to certify GlobalGAP for their asparagus crops at the beginning of the last decade when this certification became a requirement of European markets. Since then, demand for GlobalGAP certification services have continue to increase steadily but it was not until 2006 that the demand increased in approximately 300% not only for asparagus but for other agricultural products such as artichokes, avocados, citrus fruits, etc.

Regarding the farm size a main difference can be observed between adopters and non-adopters. See Figure 8:

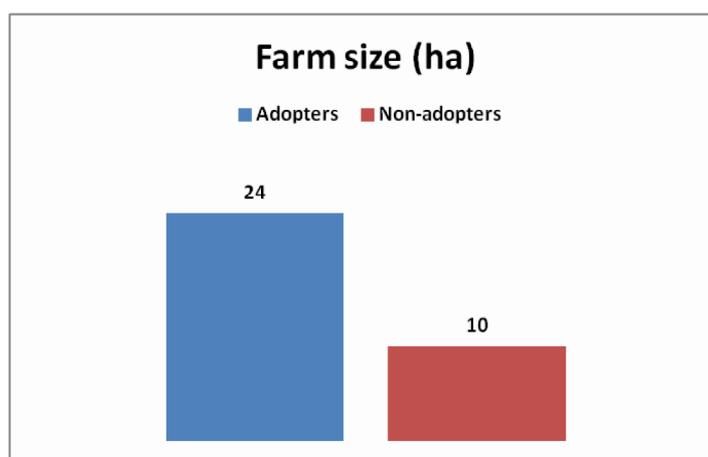


Figure 8: Farm size (ha) / Source: Own elaboration.

It is observed, there is a farm size difference between both groups. Adopter's farm size ranges from 5 to 300 ha while non-adopters farms range from 3.5 to 25 ha. The statistical median are 24 ha and 10 ha respectively. Larger farms certify GlobalGAP while the smaller ones do not. Reasons might vary but among the most cited are the fact that larger farms, due to economies of scale, are most able to overcome the costs associated to the

implementation and adoption of the standard. In addition, larger farms have easier access to other resources (such as technical support and financial resources) and therefore are more able to meet these safety and quality standards while complying with higher volumes as frequently required by European buyers. Different studies performed in other developing countries support these previous statements. The next section of this chapter explores in more detail this topic since the reasons that determine the adoption and implementation of this standard are of the main concern.

Regarding the number of farm workers, this is variable and approximately ranges from 5 to 250 indistinctly of the group. This situation is explained due to the fact that different crops are harvested seasonally and therefore they are not available during the whole year, as a result, farms hire more personal in campaigns or higher seasons to overcome the higher labor demand.

5.2.2 Agricultural crops description.

As international trade of agricultural products has expanded significantly during the last few years, the globalization of agricultural food chains and the increasingly competition among global food chains players has transformed the way companies operate worldwide. This situation is reflected in the changes of consumers eating habits that have shaped the supply of agricultural products in the food chain. Changes on food global demand can be exemplified in the following paragraph:

According to Temu and Marwa (2007), the EU market for fresh horticulture products has expanded, as part of the general trend toward healthier diets. There is increasing demand for “exotics” or tropical fruit, such as mangoes, papayas, and avocados, as consumers seek to diversify their diet with new and interesting fruits and vegetables. Products such as asparagus, mangoes, artichokes, citrus fruits and table grapes are successfully demanded in international markets pushing adopters to focus on this kind of products. Important factors that influence their grown are good climate conditions that allow these products enter the European markets due to counter season but also helped by the cheap labor present in the Peruvian horticultural context (Meade *et al*, 2010).

Regarding the types of crops grown in this geographical area, most adopters cultivate citrus fruits and avocados; however, asparagus, snow peas and artichokes are also cultivated but in less quantities. White asparagus are mainly grown in the north of the

coastal region (La Libertad) however green asparagus grown in most of the coastal region. See Figure 9 for further details.

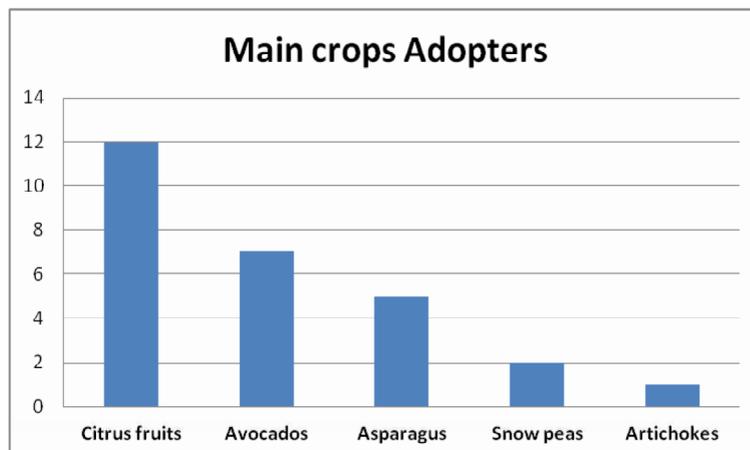


Figure 9: Main crops adopters / Source: Own elaboration

On the other hand, local demand of agricultural products provides non-adopters an important reason to continue growing typical products demanded by local consumers. Products such as sweet potatoes, maize, cassava, cotton, etc are sold in the local markets but in general are not considered profitable products in the Peruvian context. The reason may be that these products are also grown in other geographical areas of the country and since their supply is constant and from different regions, makes them ordinary products. Since most of these products have been traditionally grown in this geographical area, their cultivation do not demand higher investments in technology or additional requirements that are commonly associated to high-value products for export. See Figure 10 for further details.

It is interesting to notice that asparagus, despite in small quantities, are also grown by non-adopters. This situation can be explained by two reasons: the first one is that there is a market in which exporters (Not necessarily adopters), in order to meet high volumes required by the buyers (not necessarily EU markets) buy asparagus from non-adopters, who seen an opportunity to make profit. The second reason is that, despite very small, there is a market for asparagus in the Peruvian context. Being no sot quality demanding non-adopters can supply these products to the local market mainly comprised mainly of international hotel chains, luxury restaurants and some retailers.

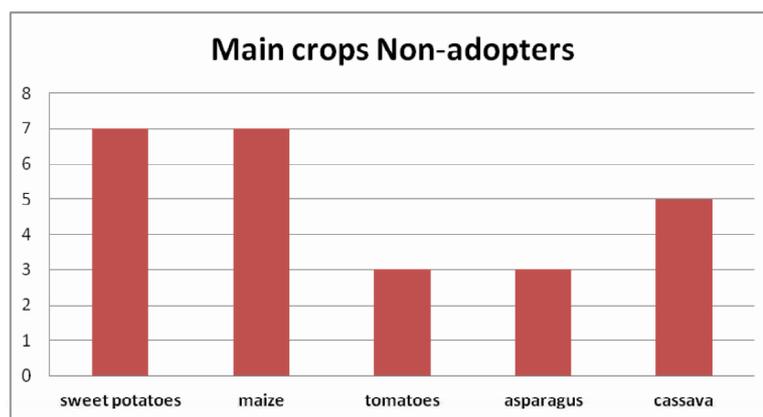


Figure 10: Main crops non-adopters/ Source: Own elaboration

5.2.3 Compliance with Food Safety and Quality Standards

As we have seen in chapter 4, the Peruvian horticultural export sector is ruled by different domestic and international regulations and their compliance will bring implications for growers. In this sense, and in order to get more insight into the growers' level of compliance, adopters and non-adopters were asked about food safety and quality requirements they meet in their farms. See Figure 11.

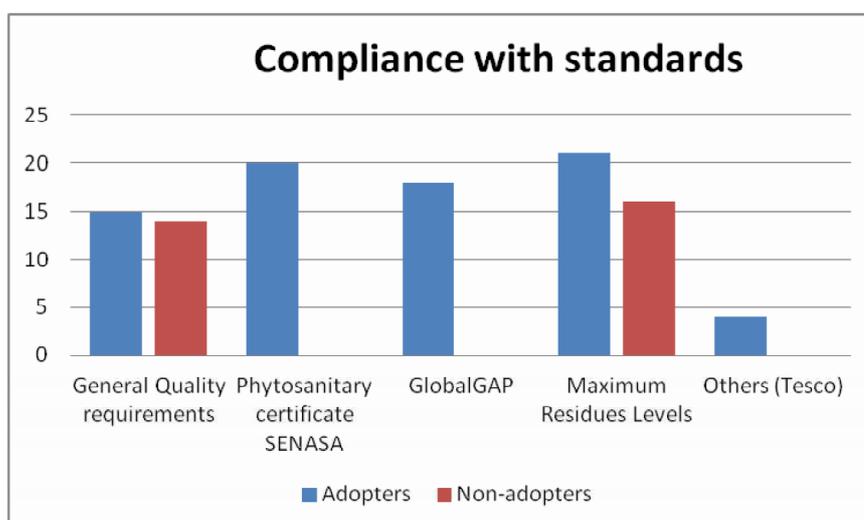


Figure 11: Compliance with food safety and quality standards / Source: Own elaboration.

By the figure we can see that both groups declared to comply with the Maximum Residue Levels (MRLs) for pesticides and with the domestic General Quality requirements issued by DIGESA (see chapter 3 for further details). However, adopters also comply with the GlobalGAP standard and the Phytosanitary certificate issued by SENASA. It is interesting

to notice that some adopters declared to comply also with the TESCO Nurture certification. It is logical to infer that because non-adopters are not involved in export activities they do not comply with all the other standards. However, another important reason is that Non-adopters declared to be not fully aware of this standard due to a lack of information. Next section of this chapter goes in further detail in this topic.

At this point it is important to mention the impact that these international regulations have had in the Peruvian horticultural environment. The increased activity in the agricultural export sector has enhanced the work of organizations such as SENASA and DIGESA in their efforts to improve the safety of the consumers and promote agricultural growth and economic development. In this sense, domestic regulations are also intended to meet international requirements for food safety and quality allowing Peruvian horticultural products to successfully compete in the international markets. An interesting example of how the develop of food safety standards has support the industry is cited by Rios (2007): The rising year-round demand for fresh vegetables in US and European Union markets significantly boosted Peruvian exports of fresh asparagus during the off-season. When these exports were affected by the botulism scare caused by Peruvian canned asparagus in the late 1990s, proactive measures by the industry and government to implement the Codex Alimentarius protocol on food safety significantly improved the overall quality and safety of Peruvian asparagus. A newly established standards body published national technical standards for asparagus, and many producers have attained certification via GAP, GMP, HACCP, and GlobalGAP standards. This upgrading effort helped Peru to maintain its position as the world's largest asparagus exporter.

However, in the many of the cases, opportunities are increased only when growers comply with domestic requirements but also with international standards such as GlobalGAP. In this respect, non-adopters due to their lack or limitation in resources, most of the times are not able to meet international food quality and safety standards, decreasing their opportunities to growth in international markets.

All the previous information has provided and overview of the main characteristics of Peruvian agricultural export sector. Next section will allow us to discuss factors that determine the adoption and implementation of the GlobalGAP standard by the Peruvian growers.

5.2.4 Organizational structure

Regarding the organizational structure, all the adopters in this geographical area are small or medium family-owned enterprises (Pro citrus 2012). It is also interesting to notice that few of these businesses, despite remaining family-owned, have become of industrial type.

For the case of non-adopters the figure looks similar since all of them are also small family-owned businesses. It is interesting to notice that in this geographical area most of the companies are small mid size family-owned; the few larger agribusiness companies that domain most of the agricultural activity of these products aimed to export are situated in the north of the country (Trujillo), but also in the south (Ica).

However, growers associations are common in this geographical area. It is interesting to mention that in order to meet higher volumes for exports adopters associate despite each of them still holds their own GlobalGAP certificate.

The analysis of how these producers associate in this geographical area is a very interesting and successful example of how small and medium agricultural producers take advantage of the current agricultural boom in the Peruvian context. This is the case of the Consorcio de Productores de Fruta (CPF, Fruit Producers Cluster), a joint fruit export operation composed of 58 small and medium agricultural businesses. CPF was established in 2001 and by 2004 had become the major fresh fruit exporter in Peru. CPF's exports are mainly avocados and citrus fruits.

CPF emerges as a solution that allows small businesses to take advantage of the export margin, acquire significant purchasing and selling power, avoid price competition between exporters to access buyers, and dilute expenses. CPF has allowed small businesses to have direct access to foreign markets benefiting them through the export margin. In addition, medium businesses have obtained an exportable volume that allows them to negotiate better prices and financial conditions for the profit of all the joint operation members, both small and medium businesses. The distribution of expenses based on the fruit volumes provided by each member allows foreign markets to be accessible to all members, regardless of their size. Finally, traditionally, the Peruvian agricultural sector has been very informal leading to very low yields for the sector. Yet, things have changed with CPF. The need for integration in order to export requires keeping accurate joint accounting, which results in the integration of the joint operation members to the formal sector, and, consequently, an increase in tax collection. Through CPF, agricultural

businesses have learned that it is better to pay taxes and enjoy the export margin than to sell locally, even though when selling locally they do not pay taxes. The profitability increase in the countryside has generated more investment in the agricultural sector, creating jobs for thousands of Peruvians (ITC, 2006).

It is also important to mention that all adopters have certified GlobalGAP under option 1 (single producer with one site or multiple sites), and as stated before each of them owns its own GlobalGAP certificate. Indeed, a body certification representative confirmed the fact that Option 2 (small-scale farmers can form a producer group and obtain certification together) is not common in this geographical area and not common for these export crops. Option 2 is highly practiced in the north area of the country and most exclusively for mangoes and bananas in agreements with foreign large companies operating in Piura, Lambayeque and surrounding areas. Organic certification (farming system that maintains and replenishes soil fertility without the use of toxic and persistent pesticides and fertilizers) is also common in this area especially for coffee beans.

Factors that influence the adoption of the GlobalGAP standard

This section aims at deepening our understanding of the decision-making process with relation of the implementation and adoption of the GlobalGAP standard by Peruvian growers in a target geographical area. But, what drives producers to certify the standard GlobalGAP in their farms?

In the first section of this chapter we presented an overview of the Peruvian horticultural context through the description of producer's characteristics that frame the horticultural exports.

In the second part of this study case, the empirical data collected through the questionnaires is analyzed using the non-parametric statistical test of Mann-Whitney U test in order to evaluate and determine which factors influence the adoption and implementation of the GlobalGAP standard by the Peruvian growers. In this sense, and for a better understanding, the data has been organized in three main topics around which the discussion will follow. These three main discussion points are: Perceived Advantages, Degree of Difficulty and Technical and Financial Support.

5.2.5 Perceived Advantages of the GlobalGAP Certification

Certification can act to impede exports, either because explicit bans are placed on imports of particular products or because the cost of compliance with requirements diminishes

export competitiveness. Standards can therefore be a source of competitive advantage for the developing countries if they upgrade capacity and make the necessary adjustments in the structure and operation of their supply chains. For many high-value foods, including fruits and vegetables, the challenges of international competitiveness have moved beyond price and basic quality parameters to greater emphasis on food safety. Indeed, rising food safety standards serve to accentuate supply chain strengths and weaknesses, and thus affect the competitive positions of countries and distinct market participants (Jaffee and Henson, 2004).

Despite the previous paragraph mainly focuses around competitive advantages for developing countries that meet the standards, another important topic that should be studied is the consumers' willingness to pay for safe and quality products. However, not being the main topic of our case study, we will only advice in recommendations further analysis in this direction.

For a better addressing of the Perceived Advantages, adopters and non-adopters were asked to rate the following five aspects using 5-point Likert-scales: Food Safety, Market Access, Improved Farming Practices, Higher Prices and Social- environmental issues. In order to evaluate if there are a significant difference in each of these aspects between Adopters and Non-adopters, the data was analyzed using the non-parametric test of Mann-Whitney U test. For each of the five aspects propositions were formulated in order to test the results obtained.

Proposition 1: There is a difference between adopters and non-adopters regarding Food Safety issues as a motivation to adopt GlobalGAP standard. See Figure 12.

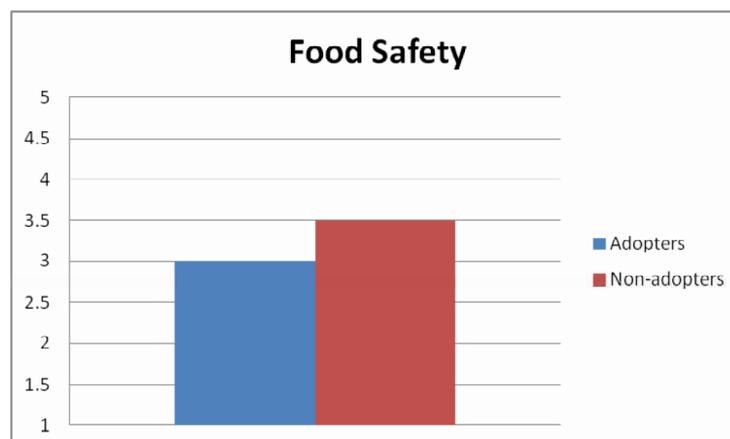


Figure 12: Mann-Whitney U test results (Food safety) / Significance level (α) = 0,05; p-value = 0,37 / Source: Own elaboration

According to our results ($p\text{-value} > 0,05$) , there is no difference between adopters and non-adopters regarding food safety issues as a motivation to adopt the GlobalGAP standard . When adopters and non-adopters were asked to rate the grade of importance of Food Safety issues as a reason to adopt the GlobalGAP standard, both groups had similar responses which means that Food Safety issues, despite an issue for both groups, is not a decisive factor that determine the adoption of this standard by producers in this geographical area. It is interesting to notice that despite it is stated that GlobalGAP standard itself was created based on past Food safety concerns and scandals; in the Peruvian context this reason seems not to be the main motivation for its adoption.

Proposition 2: There is a difference between adopters and non-adopters regarding market access as a motivation to adopt GlobalGAP standard. See Figure 13:

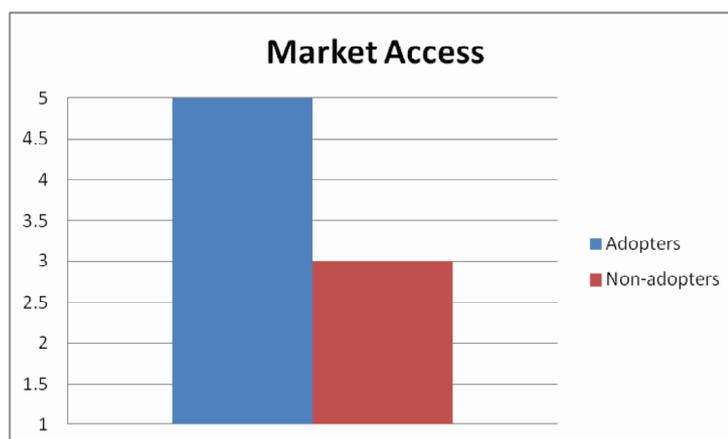


Figure 13: Mann-Whitney U test results (Market access): Significance level (α) = 0,05; $p\text{-value} = 0,00$ / Source: Own elaboration

According to our results ($p\text{-value} < 0,05$), there is a significant difference between adopters and non-adopters regarding market access as a motivation to adopt GlobalGAP standard. When adopters and non-adopters were asked to rate the grade of importance of market access as a reason to adopt the GlobalGAP standard, both groups had different responses. This means that market access issues, despite an important issue for both groups (median more than 3), is a decisive factor that determine the adoption of this standard by producers in this geographical area. Dorr and Grote 2009, support this statement: “Thus, certification has become increasingly relevant as a marketing signal for

the agribusiness over the past few years, especially in the fruit sector. Substantial parts of many value chains are now certified by standards such as GlobalGAP, Fair Trade, Integrated Fruit Production and Organic. In order to access international markets such as the European Union (EU) and the United States (US), fruit producers increasingly need to meet the buyer's requirements and comply with certification systems". As stated before, market access is a factor that influences the adoption of the GlobalGAP standard by producers in this geographical area.

Proposition 3: There is a difference between adopters and non-adopters regarding improved farming practices as a motivation to adopt GlobalGAP standard. See Figure 14:

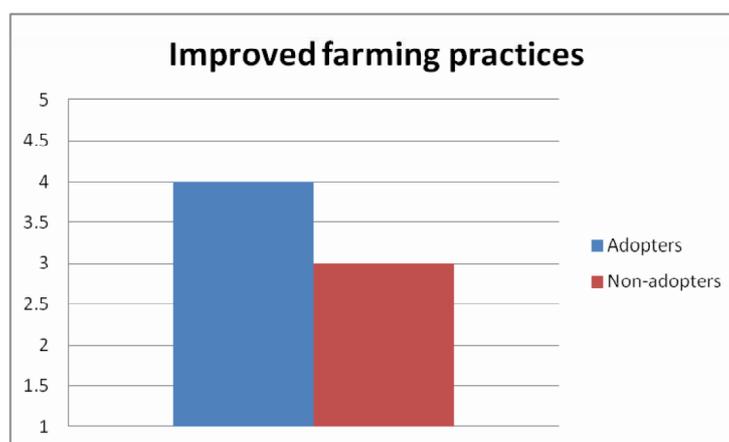


Figure 14: Mann-Whitney U test results (Improved farming practices): Significance level (alpha) = 0,05; p-value = 0,31/ Source: Own elaboration

According to our results (p-value > 0,05), there is no difference. When adopters and non-adopters were asked to rate the grade of importance of market access as a reason to adopt the GlobalGAP standard, both groups had similar responses which means that Improved farming practices, as a reason to implement the GlobalGAP standard, is not a decisive factor that determine its adoption by producers in this geographical area. However, literature review supports the idea that the adoption of GlobalGAP standard is in many cases a catalyst of agricultural development in many developing countries. As researchers have detailed elsewhere (Campbell *et al.*, 2006; Mausch *et al.*, 2006; Graffham *et al.*, 2006), certified good agricultural practices oblige growers to upgrade their farm management techniques (e.g. pesticide management) and on farm facilities,

implement more business-like and professional practices (e.g. bookkeeping), and develop a more highly skilled and educated work-force (e.g. training in applying pesticides). As we can see despite our results state that improved farming practices is not a decisive factor, benefits seems to be perceived by producers however in the long term.

Proposition 4: There is a difference between adopters and non-adopters regarding higher prices as a motivation to adopt GlobalGAP standard. See Figure 15:

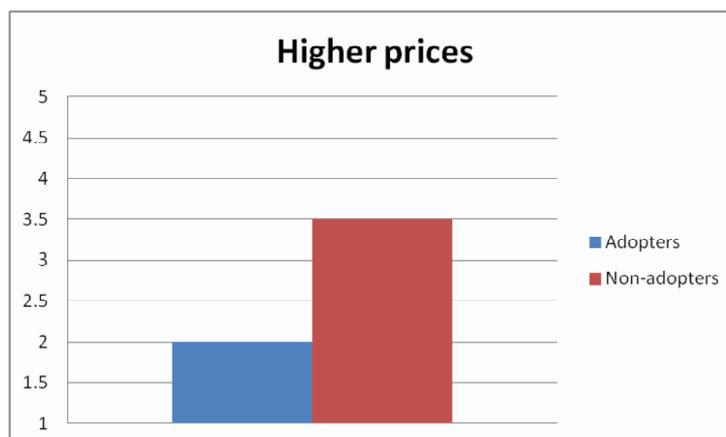


Figure 15: Mann-Whitney U test results (Higher prices): Significance level (α) = 0,05; p-value = 0,001/ Source: Own elaboration

According to our results (p -value < 0,05), there is a significant difference. When adopters and non-adopters were asked to rate the grade of importance of higher prices as a reason to adopt the GlobalGAP standard, both groups had different responses which means that higher prices is a decisive factor that determine the adoption of this standard by producers in this geographical area.

However, some clarifications should be made in this respect. The results show that it is non-adopters who declared high prices as a motive to certificate the standard. Since they have not certified GlobalGAP standard, they might be biased in their responses. It seems that non-adopters see this certification as a way to get higher prices for their produce; on the other hand, Adopters have a totally different opinion, since the results shown that the higher prices are not the main reason that drives them to implement GlobalGAP. According to literature, for some specific products such as mangoes and grapes this is indeed the case (Dorr and Grote, 2009) , but in general it was perceived that reasons for certification by adopters are more driven by market access issues due to global

competition in horticultural trade than by higher prices producers might receive for their products.

Proposition 5: There is a difference between adopters and non-adopters regarding social-environmental issues as a motivation to adopt GlobalGAP standard. See Figure 16:

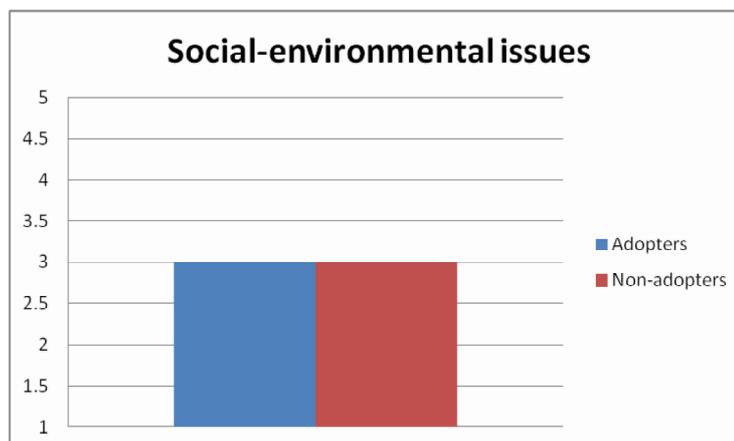


Figure 16: Mann-Whitney U test results (Social -environmental issues): Significance level (alpha) = 0,05; p-value = 0,97/ Source: Own elaboration

According to our results (p-value > 0,05), there is no difference. When adopters and non-adopters were asked to rate the grade of importance of Social-Environmental issues as a reason to adopt the GlobalGAP standard, both groups had similar responses which means that despite an important issue for both groups, social-environmental issues are a not decisive factor that determine the adoption of this standard by producers in this geographical area.

However, literature review supports a different point of view. An interesting case described by Bain, 2008 states that for some companies (mainly multinationals), certifying standards like GlobalGAP is a decisive factor since allow them to demonstrate their social-environmental commitment with the community where they are operating: "According to participants, certification also helps producers mitigate risk by allowing them to demonstrate that their production practices are socially and environmentally responsible. In particular, multinational companies, such as a Dole or a Chiquita, are concerned and increasingly conscientious about ways to protect their image as they find themselves the targets of campaigns for corporate social responsibility. in 2004, Chiquita President and CeO, Fernando Aguirre explained that 'Our Sa8000 and GlobalGAP certifications reflect

this company's tremendous efforts and commitment to attain high ethical, social and environmental standards based on the principles of transparency and independent verification' (Chiquita Brands international, n.d.). Thus, GlobalGAP certification is viewed as an important tool to defend multinational companies against criticism or negative publicity by NGOs or the media about their practices, thereby protecting their valuable brand-name and international image" (Bain, 2010).

5.2.6 Degree of difficulty in the implementation of the GlobalGAP standard.

The questions about degree of difficulty in the implementation of the GlobalGAP standard intends to provide further insight into more factors that influence the adoption of this standard. The questionnaire was developed to test whether there is a difference between adopters and non-adopters regarding the degree of difficult in the training of personnel, adjusting facilities/infrastructure and affording of certification costs during the implementation and adoption of the standard. In order to evaluate if there is a difference between adopters and non-adopters, the data was analyzed using the non-parametric Mann-Whitney U test. For each of the three aspects propositions were formulated in order to test the results obtained.

Proposition 6: There is a difference between adopters and non-adopters regarding the degree of difficulty in the training of the personnel with the new standard. See Figure 17:



Figure 17: Mann-Whitney U test results (Training of the personnel): Significance level (alpha) = 0,05; p-value = 0,93 / Source: Own elaboration

According to our results ($p\text{-value} > 0,05$), there is no difference. When adopters and non-adopters were asked to rate the degree of difficulty in the training of the personnel with the GlobalGAP standard, both groups had the same response which means that training of the personnel, however is no a decisive factor that determine the adoption of the standard.

A body certification representative gave us further insight confirming our results. Not only in this geographical area, but in most agricultural areas in the country there is a similar scenario. Agricultural activities are mostly associated with low level-skill workers. Since most farms are established in rural areas, they employ people from the surrounding communities, most of them poor areas. Indeed, in some remote areas in the highlands illiteracy is still present. This is why training of the workers with the requirements of the standards becomes in many cases a tedious task, since the enforcement of some activities might take some time and patience. From the exposed before we can conclude that for both cases, adopters and non-adopters, the work force is the same and therefore degree in difficulty training workers is not a decisive factor when implementing the standard.

In this respect, it is interesting to mention that some institutions such as non-profits organizations or in some cases government-related organizations have initiated social programs oriented to upgrade the farmer's skills in agricultural practices. It is very important to notice that this recently interest was raised due to the fact that the Peruvian agricultural activity has become of main importance in the past few years due to the steady increase of agricultural exports.

Proposition 7: Adopters and Non-adopters differ with regard to the degree of difficulty adjusting the infrastructure and facilities of the farm to comply with the standard. See Figure 18:

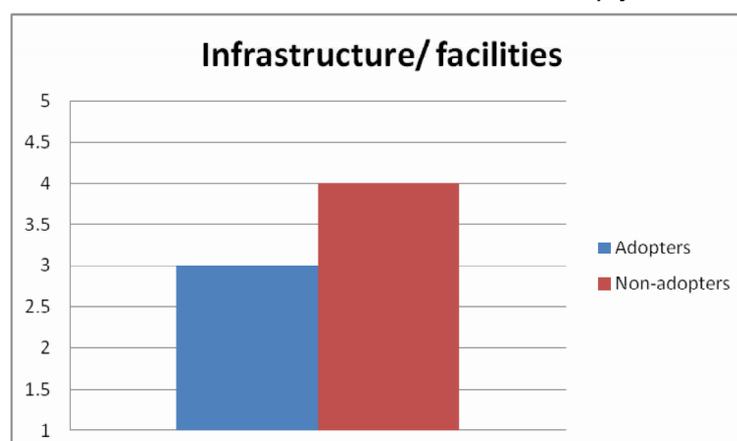


Figure 18: Mann-Whitney U test results (Infrastructure/facilities): Significance level (alpha) = 0,05; p-value = 0,09 / Source: Own elaboration

According to our results (p-value > 0,05), there is no difference. When adopters and non-adopters were asked to rate the degree of difficulty in changing the infrastructure and facilities of the farm to adopt the GlobalGAP standard, both groups had similar responses which means that changes in the infrastructure, is not a decisive factor that determine the adoption of the standard.

However, according to Martinez and Bañados, 2004, the established infrastructure does not always allow for the changes needed to meet the requirements. In this sense, adopters declared that they had to adjust their old facilities and build new areas in order to meet some requirements. For example, safety regulations for the handling and storage of chemicals demanded new space such as mix pesticide areas in order to comply with the standard. Other requirements such as the increase in the number of toilets and signposting requirements for safety areas were also considered somehow problematic.

However, adopters finally stated that despite they faced some constraints adjusting facilities and infrastructure to the new standard, this issue does not represent a main obstacle in the implementation of the standard. For non-adopters the situation appears more challenging since their lack of financial resources, as a main deterrent.

Proposition 8: There is a difference between adopters and non-adopters regarding the degree of difficulty affording certification costs. See Figure 19:

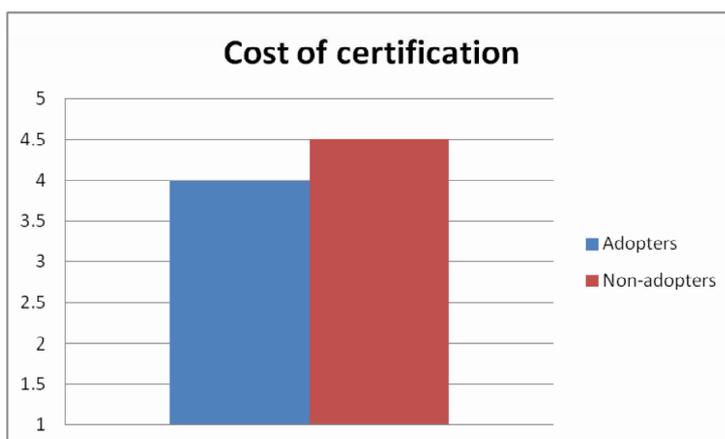


Figure 19: Mann-Whitney U test results (Cost of certification): Significance level (alpha) = 0,05; p-value = 0,03 / Source: Own elaboration

According to our results ($p\text{-value} < 0,05$), there is a significant difference. When adopters and non-adopters were asked to rate the degree of difficulty affording the certification costs, both groups had different responses. This means that affording certification cost, being an important issue for both groups (media more than 3), is also a decisive factor that determine the adoption of this standard.

This aspect tells us how important it is for the producers to beat the costs associated with the implementation and adoption of the standard. As shown in Figure 9, even for Adopters, associated costs represent an important burden in their budget. For Non-adopters this situation represents even a bigger impediment that delay or in some cases avoid them to get the certification.

important associated costs according to the respondents are training, infrastructure, auditing and certification itself. Concerning personnel training, in many cases Adopters declared to hire skilled professionals as part of its staff who would be in charge of the implementation of the standard in addition to his/her other regular duties. In this respect, Adopters might avoid to contract the services of an external consultant, or certification body auditor due to high costs.

To get an idea about the costs involved in the GlobalGAP certification, a certification body representative provided us with an estimated cost. Important factors include the number or hectare (farm size), location of the project, if the producers handle the entire food chain or not among other factors. For example, changes in facilities are directly related to the number of hectares to certify. The training of the personnel is related to technical assistance that might be provided by external companies through refreshing or updating courses required beyond the basic introductory training. In some cases internal audits are also required before the real audits an can also be provided by external companies. Finally, the certification body representative provided us with a fee document which explains in more detail the cost associated to the GlobalGAP implementation.

5.2.7 Technical and financial support

The questions about technical and financial support were intended to deep into whether there is a significant difference between adopters and non-adopters regarding technical and financial support they receive from different organizations (private, public, nongovernmental, etc). Examples of technical and financial support are guidance on pesticide management and access to credits and loans respectively. Since horticultural

exports have increased exponentially during the last decade, organizations that provide services to the agricultural development have had to adapt themselves to this new scenario. Proposals 9 and 10 were made in order to test the results obtained using the Mann Whitney U test.

Proposition 9: There is a difference between adopters and non-adopters regarding technical support they receive from different organizations. See Figure 20:

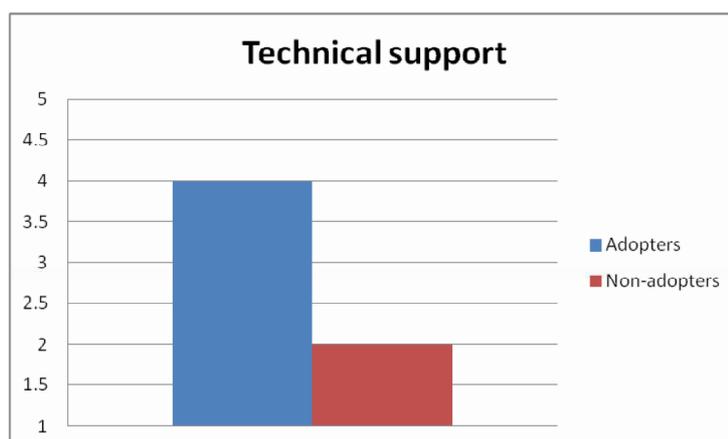


Figure 20: Mann-Whitney U test results (Technical support): Significance level (α) = 0,05; p-value = 0,006 / Source: Own elaboration

According to our results (p -value < 0,05), there is a significant difference. When adopters were asked to mention the three most important organizations that provide them with technical assistance or guidance, Senasa, Procitrus, Prohass and CPF were the most recalled ones, however most non-adopters recalled Valle Grande. As stated in chapter 4, Senasa, as a governmental organization provide at national level useful information regarding quality and safety issues in agricultural practices. Examples are guidance and lectures on pest management, water management, improvement in farming practices, etc. Procitrus and Prohass, as private producer’s organizations, provide adopters with handy and up to date information regarding international markets requirements. CPF, as a big food trading cluster of exporters was also mentioned for most Adopters confirming its involvement in the provision of technical assistance to its members. Finally, Valle Grande was recalled by a group of non-adopters, since this non- profit organization is aimed to provide technical guidance in farming practices to small-scale farmers and their communities (Cañete Valley) in this way allowing them to upgrade their living standards

through agricultural development (not necessarily related to horticultural export activities). In this case, it seems that the difference between adopters and non-adopters is based on the fact that in the last decade several associations have emerged as a way to provide technical assistance to producers involved in horticultural export activities. Commodity associations are far more widespread in Latin America than in other developing regions. Evidence gathered by Giuliani *et al.* (2005) on governance of agricultural value chains and clusters in Latin America (sugar, tobacco, wine, fruit and milk) suggests the existence of high levels of joint action, mostly promoted by collective or inter-professional associations engaging in trade promotion, basic research and extension, technology transfer and provision of other services to small farmers, among others. Examples of such associations are found in Chile: SalmonChile and Chilealimentos (fruits and vegetables); Brazil: Valexport (fruits); Argentina (wine); and the Peruvian Institute for Asparagus and other vegetables (IPEH). (Giuliani *et al.*, 2005; Gálvez *et al.*, 2009).

In this respect, the exporters and producers associations form another important group of organizations that provide support to their members. Among their main activities are the participation in international negotiations, participation in the opening of new markets, legal support, promotion of the agricultural exports, statistics and information related to the agricultural sector, directory of the exporters, etc. However these organizations are not responsible/neither have the legal power to issue rules that regulate the agricultural sector. Among the most important exporters associations we have:

ADEX: Promote the competitiveness of its members in the global market through the group defense, consulting, training and innovation, permanent formulating proposals for the development of Peruvian foreign trade. In sum, ADEX is committed to the country in promoting the export culture (ADEX, 2012).

AGAP: Is a civil association that groups the main agro-exporter associations in the country. It was established in 2003 in order to represent the interests of the agricultural export sector in a national and international context. The main members that belong to AGAP are: PROCITRUS, PROHASS, PROVID, APEM, IPEH among others (AGAP, 2012).

Regarding the producers associations, their main activities are the representation of the Peruvian producer's interests in government and related institutions and the provision of technological support to the economic agents. These associations also help growers to

consolidate their efforts in the areas of production and commercialization, and to strengthen their position internationally. In sum, these organizations facilitate technology transfer, the application of economies of scale, sponsor research programs, and help member growers gain better access to international markets. It is important to mention that these organizations are not responsible/neither have the legal power to issue rules that regulate the agricultural sector, however they provide technical advice and support through the INDECOPI committees.

Among the most important producers associations we have: PROCITRUS, PROHASS and PROVID.

Proposition 10: There is a difference between adopters and non-adopters regarding financial support they receive from different organizations. See Figure 21:

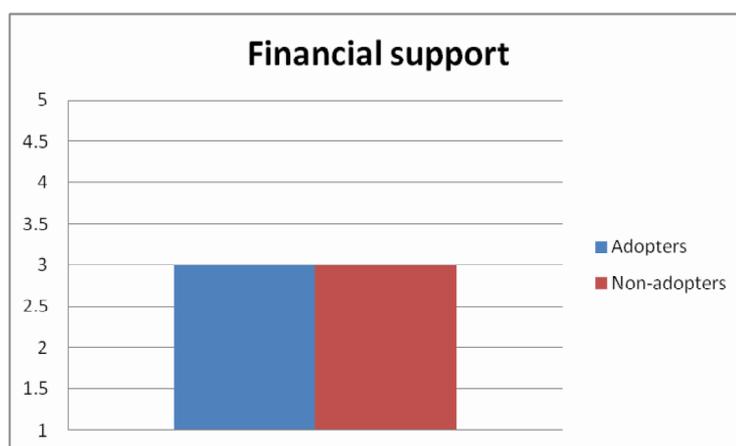


Figure 21: Mann-Whitney U test results (Financial support): Significance level (α) = 0,05; p-value = 0,63 / Source: Own elaboration

According to our results ($p\text{-value} > 0,05$), there is no difference. This means that both groups might have the same opportunities to access credits and loans from financial assistance organizations. Indeed, a body certification representative explained us about financial assistance services provided for medium and small sized producers, even in remote areas. It is true that currently there are more organizations that provide financial support to medium and small sized producers than in the past. Organizations that provide credits and loans to producers are: Commercial banks, Agrobanco (a bank aimed to provide credits to agricultural development activities) and Rural Banks called Cajas municipales (Government-owned agricultural banks exclusively oriented to small-scale

farms. Adopters in general declared to request credits from commercial banks. However, most of non-adopters chose Agrobanco or Rural Banks since the interest rates are lower and they can amortize the credit in the long run as well. Despite different interest rates and conditions have been established for financial services aimed to agricultural activities, the ultimate point is that all these different alternatives allow small-scale producers to have access to credits and loans, a situation that in the past was difficult or only affordable by larger companies.

5.3 Sub-conclusion

The establishment of the GlobalGAP standard in the Peruvian context can be described through the following aspects: age and size of the farms, types of crops, compliance with food safety and quality standards and organizational structure of the farms.

We found that the average time of the farm certified with GlobalGAP is 2.7 years; therefore we can conclude that growers in this geographical area are not early adopters of this standard. Regarding the size of the farms, the statistical median for the farm size is 24 ha for adopters and 10 ha for non-adopters, and we can conclude that are the bigger ones that certify the standard. However, it is interesting to notice the size differences among farms since the biggest farm (adopter) is 300 ha and the smallest one (non-adopter) is 2.5 ha.

Regarding the type of agricultural crops adopters are characterized by products such as asparagus, mangoes, artichokes, citrus fruits and table grapes which are highly demanded in international markets. On the other hand, non-adopters supply the local demand with products such as sweet potatoes, maize, tomatoes and cassava which have been for centuries important components of the Peruvian diet.

Regarding the compliance with food safety and quality standards, both groups comply with the Maximum Residue Levels (MRLs) for pesticides and with the domestic General Quality requirements issued by DIGESA. However, adopters also comply with the GlobalGAP standard and the Phytosanitary certificate issued by SENASA since the latter is a requirement to export horticultural products.

Regarding the organizational structure, all farms are family-owned businesses, however some adopters have become of an industrial type. Producers associations in this

geographical area are a very interesting example of how small and medium sized producers take advantage of the agricultural boom in the Peruvian context. A specific example, is the case of CPF (Fruit Producers Cluster), a producer association that has allowed small and mid-size growers to play successfully in international markets.

Regarding the factors that determine the adoption of the GlobalGAP standard, we have analyzed 3 main groups : perceived advantages (in order to understand which are the main motives behind the implementation of the GlobalGAP standards by Peruvian growers), degree of difficulty and cost of compliance (in order to understand which are the main challenges faced by Peruvian growers during the implementation of the standard) and technical and financial support (in order to understand if Peruvian growers received any kind of assistance during the implementation and adoption of the standard).

Perceived advantages were evaluated for food safety, market access, improved farming practices, higher prices and social-environmental issues. Degree of difficulty in the implementation of the GlobalGAP standard was evaluated by training of personnel, adjusting facilities/infrastructure and affording certification costs. Finally, technical and financial support was also assessed.

Regarding the motivations behind the adoption of the GlobalGAP standard, we found significant difference between adopters and non-adopters for market access and higher prices, meaning that these reasons are determining the adoption of the standard by Peruvian growers. On the other hand, for food safety, improved farming practices and social-environmental issues, we found that there is no difference between adopters and non-adopters meaning that these reasons are not decisive factors determining the adoption of the standard among Peruvian growers.

Regarding the degree of difficulty in the implementation of the standard, we found significant difference between adopters and non-adopters in relation to affording certification costs, therefore this is a factor determining the adoption of the standard. On the other hand, for training of the personnel with the new standard and adjusting facilities/infrastructure to comply with the standard, we didn't find difference between adopters and non-adopters, therefore these factors can be considered don't determining the adoption of the standard.

Finally, for technical support received from different kind of public and private organizations, we found that there is a difference between adopters and non-adopters. Therefore we can conclude that this factor determine the adoption of the standard. However, for financial support, since we didn't find difference between adopters and non-adopters, we conclude financial assistance is not a decisive factor determining the adoption of GlobalGAP standard between adopters and non-adopters.

6. Conclusions and discussions

In this chapter the four research sub-questions that were raised in Chapter 1 will be reviewed and discussed. Afterwards the main research question will be answered in the main conclusion. Close out recommendations will be provided as an input for further analysis and research in this topic.

Sub-question 1: Why Private food standards are important in international trade?

Whatever the reasons behind the emergence of private food standards: past food safety scandals and events, the regulatory gap between existing public legislation and consumer's concerns on food safety, guarantee compliance with public regulations, liability or differentiation from competitors, the true is that private food standards can be considered justified if they intend to provide clarification within this often blurred context of the food law domain.

They are important because even called "voluntary rules", this means, there is no legal obligation to comply with them, in reality they are considered "de facto" mandatory. Buyers might require from their suppliers compliance with certain type of private food standards as a pre requisite for a contractual relationship. In case of non compliance, private food standards (also called self-regulation) can make use of other branches of private law but also public law (administrative law) to resolve disputes that may arise. The analysis of the structure of the private food standards tell us that indeed, private food standards use other branches of the law domain to serve its goals. In this sense, public law (administrative law) and private law (contractual law) are the most important. Based on contractual law, private food standards can create binding obligations between the parts involved in the contract and the law can enforce them. Is the combination of these elements: the power to create obligations by means of contracts and the power of certain players to dictate the terms of contract, that forms the legal basis of a development where the private sector creates norms that apply to the food sector in addition to and even in competition with food law found in legislation such as public law.

Finally private food standards are also important due to their implications in global agricultural trade. Despite private food standards have been often criticized to exclude smallholders from agricultural chains in developing countries, interesting examples around

the world have demonstrated that they can act as catalyst of agricultural development in less developed economies fostering poverty reduction.

However, the scenario might be different in every country, and since it has been stated that Latin America as a region accounts for more than half of the value of fresh fruit exports from all developing countries, the implications of private food standards in this geographical region must be carefully analyzed and discussed.

Sub -question 2: Why are Private food standards of concern within the context of the World Trade Organization (WTO)?

The main reason why private food standards are of concern within the context of the WTO can be explained by the fact that private food standards are about market access issues and market access issues deal with trade which is governed and regulated by the WTO.

The position of the WTO through its SPS Agreement is that allows countries to set their own standards, but it also says regulations must be based on science. They should be applied in order to protect human, animal or plant life or health and they should not arbitrarily or unjustifiably discriminate between countries where identical or similar conditions prevail. For this, the preferred way of meeting the core principle of scientific justification is through the use of internationally developed food safety, plant and animal health protection standards such as CAC, IPPC and OIE, then trade will flow if everybody adheres to uniform measures. If member countries do this way, they are unlikely to be challenged legally in a WTO dispute. However, WTO rules in principle only apply in government to government relations while the private standard is typically an issue between private parties. This is indeed the dilemma of private food standards within the context of the WTO, whether the national governments, the Contracting Parties in WTO terms, can be held accountable for actions of private parties. The analysis of the applicability of the Article 13 of the SPS Agreement tell us that the Commission has no legal power to regulate the activities of private parties regarding private food regulations.

Technically private food standards are voluntary as they are not required by law, this means that legally there is no obligation to comply with them, but when there would be no choice to growers but to sell their produce via private standards, this scenario makes them mandatory in practice. These concerns about private standards have also contributed to the debate about their trade facilitating aspect which is currently disputed within the WTO.

Many WTO Members in the SPS committee state that private standards go beyond the standards set up by international standard setting bodies that are referenced in the SPS Agreement which are also the basis for many national requirements. In this sense, our brief analysis in the comparison between GlobalGAP standard and the EU legal requirements for fresh fruit and vegetables, supports this statement of most WTO members about private standards, indeed, private standards go beyond legal requirements. While GlobalGAP control points explicitly focus on aspects such as food safety, environment, traceability and workers welfare, EU legal requirements focus exclusively on food safety and traceability issues. Environmental and workers welfare aspects are covered under additional (non-legal) requirements. Since EU law does not have any environmental and/or worker welfare regulation that apply to agricultural products from exporting countries, for example Peru, we can state that GlobalGAP requirements, indeed extends its requirements beyond legal requirements for agricultural products exported to the European Union.

But other important aspects of the GlobalGAP standard might be also taken into account for further discussion in chapter 5. For example, GlobalGAP initiatives in emerging markets, a scenario that can be mirrored by the fact that more countries in Latin America are certifying this standard. Peru is a leading country in this respect with more than 2500 producers certified. Peru is also a member of the GlobalGAP organization through the category of producers and suppliers represented by AGAP (Peruvian Association of producers and agro exporters). In addition Peru has established a National Technical Working Group which is working in the development of National Interpretation Guidelines for the fruits and vegetables sector and is managed by Procitrus (Peruvian Citrus Growers Association) as the host company. Finally, from a region point of view, in early 2012 a South American Certification Body Committee (CBC) sub-group was established in response to a request by the South American certification bodies to form a regional sub-group that represents their local sector interests. The previous information might be reflecting the interest of both parties in this increasingly trend.

Sub-question 3: How is the structure of the regulatory environment for the Peruvian agricultural products?

The answer to this question describes the structure of the Peruvian agricultural sector and the regulatory environment that affects its agricultural exports. For this purpose, the New Institutional Economics (NIE) approach has been utilized. Through its four levels of social analysis, the agricultural context is described and the main institutions and rules that play key roles in the agricultural development that have been reviewed and discussed. In addition, European regulations that apply to the Peruvian agricultural exports are described.

The top level of this social approach tells us that in Peru, agriculture has been a constant for thousands of years and remains present in the three regions of the country: the Coast, La Sierra and the Jungle. With the Agrarian Reform of 1969, one of the most important events that shaped the Peruvian agricultural development, the military government took possession and managed the use of land leading to what many authors consider an unsuccessful reform since the unequal distribution of lands, coupled with economic inequality, contributed to inefficient economic and agricultural development.

As a result, the smallholding is a basic element to understand how farmers have evolved in the previous years. However, it also sets the scenario in which the Peruvian agricultural boom has developed; mostly comprised by smallholders and mid-sized growers that despite doing well in international markets are still facing challenges and constraints derived from past government mismanagements.

The second level describes the institutional regulatory environment which is crucial for the development of the sector. The fact that the global market is being increasingly restricted and ruled by international regulations has somehow brought positive effects for the Peruvian agricultural development. This scenario has enhanced the work done by Peruvian setting standards organizations, resulting in a leverage of the agricultural sector. Government-owned key institutions supporting this agricultural development are MINSA, MINAG, SENASA and INDECOPI and an example of their work can be exemplified in the successful case of the Peruvian asparagus, a situation that has resulted in an increase of job opportunities leading to agricultural development in less developed areas in the country.

International regulations that apply to Peruvian horticultural exports to the European Community are the General Food Law Regulation (EC) 178/2002, Phytosanitary Certificate (Directive 2000/29/EC), Maximum Residues Levels (MRLs) of Pesticides

(Regulation (EC)396/2005) and Regulation (EC) No 852/2004 on the hygiene of foodstuffs among others.

The third level is where governance is located. Here is important to mention again that Peru's horticultural export sector benefits from a combination of factors that have supported its rapid growth. New laws encouraging international investment, the current favorable business climate that welcomes foreign investors and free trade agreements with major trading partners such as the United States, the EU, and China have stimulated this agricultural development. However, parallel to all these favorable events, agricultural standards and regulations at different levels have also arisen as a way to regulate, and in some cases govern agri-food international trade. The establishment of GlobalGAP in Peru can serve to exemplify how structures of governance are being created.

The analyses of GlobalGAP as a governance mechanism can be approached through vertical coordination and supply chain management, cooperatives and farmer organizations, and access to agricultural input and rural credit markets. In the Peruvian context, we have seen that producers and exporters associations but also clusters of trading companies play an important role in the agri-food chain but mainly constitute an important component in the supply chain management for many small and mid-sized Peruvian growers. The case of CPF, The Fruits Producers Cluster, further detailed in the next chapter exemplifies how the vertical coordination among the parties is established and how associations of producers and exporters benefit from this type of organizational structure. Despite few cases of vertical integration have been studied in the Peruvian agricultural context, it is clear that the CPF case is a successful example of how the establishment of high standards and requirements by international markets, have pushed growers to improve their farming practices and organizational management leading in economical benefits for all the parties involved. From the stated before we can conclude then that indeed, governance structures articulated through private standards, if well managed and always aimed to benefit all the parties involved in the agri-food chain, can serve as a catalyst for agricultural development and a source of increased benefits for all the participants in the agri-food chain.

The fourth level of this social analysis is typically described as a production function and since our assessment is not intended to describe the organizations as individual players,

but instead how they relate with the other players within the food chain, this level has not been analyzed in detail.

Sub-question 4: Which characteristics define and determine the adoption of the GlobalGAP in the Peruvian context?

According to the information gathered through our study case, important characteristics that define the establishment of the GlobalGAP standard in the Peruvian context are the size and age of the farms, the type of agricultural crops, the current compliance with food safety and quality standards and the organizational structure of the farm. However, it must be noticed that the empirical data collected refers to the geographical area of the central coastal region of Peru. Despite we cannot assure that these characteristics apply to the whole country, we can support the fact that since most of the GlobalGAP certification activity is done in the Coastal region of the country, these characteristics are general for the establishment of the GlobalGAP standard in the Peruvian context.

Considering that GlobalGAP was founded in 1997, and since we found that the average time of the farm certified with GlobalGAP is 2.7 years, we can conclude that growers in this geographical area are not early adopters of this standard. It was around the years 2002-2004 that the certification by few larger companies of specific crops like asparagus started GlobalGAP activities in the Peruvian context. Regarding the size of the farms, we can conclude that are the bigger ones that certify the standard. The statistical median for the farm size is 24 ha for adopters and 10 ha for non-adopters, however it is interesting to notice the differences in sizes since the biggest farm (adopter) in our research is 300 ha and the smallest one (non-adopter) is 2.5 ha. So, we can conclude that despite few large producers in the geographical area, most of the growers are indeed smallholders.

In relation to the type of agricultural crops harvested we can conclude that a global trend toward healthier diets has had an important impact in the Peruvian agricultural context since growers have seen an economical benefit in meeting this increasing demand. Products such as asparagus, mangoes, artichokes, citrus fruits and table grapes are successfully demanded in international markets pushing adopters to focus on this kind of products. Important factors that have contributed to this agricultural boom are the good climate conditions that allow these products enter the European markets due to counter

season and the cheap labor present in the Peruvian agricultural context. For non-adopters present in this geographical area the scenario is different since their products are intended to supply the local demand. Therefore they harvest more traditionally products such as sweet potatoes, maize, tomatoes, cassava, products that have been for centuries important components of the Peruvian diet. We can conclude then, that despite geographically situated in the same region, distinctions between adopters and non-adopters regarding the crops they grown are clear. Since adopters might be following higher profits in international markets, non-adopters are focused on the supply of an steady local demand which provide them reasonable profits to continue in the market according to some producers interviewed.

Regarding the compliance with food safety and quality standards, both groups comply with the Maximum Residue Levels (MRLs) for pesticides and with the domestic General Quality requirements issued by DIGESA. However, adopters also comply with the GlobalGAP standard and the Phytosanitary certificate issued by SENASA since the latter is a requirement to export horticultural products. It is important to mention the impact international regulations have had in the Peruvian context. The increased agricultural activities have enhanced the work of organizations such as SENASA and DIGESA regarding food safety and quality regulations. This scenario has help producers to compete in international markets and has provided agricultural development in the Peruvian context.

In the case of non-adopters, since they are not involved in export activities they do not need the certification. However, another important reason is their lack of information and their not really interest in the certification since they have a steady local demand for their products.

The organizational structure is another important characteristic. All the adopters in this geographical area are small or medium sized family-owned enterprises and few of them have become of an industrial type. In the case of non-adopters, all of them are small family-owned businesses. Producers associations in this geographical area are a very interesting example of how small and medium sized producers take advantage of the agricultural boom in the Peruvian context. For example, CPF (Fruit Producers Cluster) has allowed small and medium sized producers to have direct access to foreign markets benefiting them through the export margin. They have obtained exportable volume that allows them to negotiate better prices and financial conditions for the profit of all the joint

operation members, both small and medium businesses. In addition, the need for integration in order to export volumes requires keeping accurate joint accounting, which results in the integration of the joint operation members to the formal sector, and, consequently, an increase in tax collection. The profitability increase in the countryside has generated more investment in the agricultural sector, creating jobs for thousands of Peruvians. A finally importance notice here is that despite producers associate, each of them hold their own GlobalGAP certificate, this means that despite growers associate in order to meet high volume for exports, they certify the GlobalGAP standard under the option 1, which means a single producer with one site or multiples sites. Certification under option 2 is not common in the geographical area.

Regarding the factors that determine the adoption of the GlobalGAP standard, we have divided the analysis in 3 main groups: perceived advantages of the certification (in order to understand producers´ motives to attain the certification), degree of difficulty in the implementation of the standard (in order to evaluate which are the main challenges producers face during the implementation of the standard), and the access to technical and financial support (in order to assess the assistance producers receive from private or public organizations). Perceived advantages were evaluated for food safety, market access, improved farming practices, higher prices and social-environmental issues in order to determine if there are significant differences for each of these aspects between adopters and non-adopters. For the analysis of the degree of difficulty in the implementation of the GlobalGAP standard, factors such as the degree of difficult in the training of personnel, adjusting facilities/infrastructure and affording certification costs were taken into account. The aim was again to determine if there is a difference between adopters and non-adopters for each of these factors. Finally, technical and financial support producers might receive from different organizations (private, public, nongovernmental, etc), was assessed in order to evaluate if there is a significant difference between adopters and non-adopters.

Regarding food safety issues, as a motivation to adopt the GlobalGAP standard, we found that there is no difference between adopters and non-adopters. This means that despite it has been stated that GlobalGAP standard itself was created based on past food safety concerns and scandals; in the Peruvian context this reason seems not to be the main motivation for its adoption among Peruvian growers.

Regarding market access as a motivation to adopt GlobalGAP standard, we found that there is a significant difference between adopters and non-adopters. This means that market access issues is a decisive factor that determine the adoption of this standard by producers in this geographical area. It has also been supported by literature review that in order to access international markets such as the European Union (EU) and the United States (US), fruit producers increasingly need to meet the buyer's requirements and comply with certification systems such as GlobalGAP.

Regarding improved farming practices, as a motivation to adopt the GlobalGAP standard, we found that there is no difference between adopters and non-adopters, which means that this is not a decisive factor that determine its adoption by producers. However literature review states that GlobalGAP standard might improve farming practices since its oblige growers to upgrade their farm management techniques and on farm facilities, to implement more business-like and professional practices and to develop a more highly skilled and educated work-force bringing benefits for the producers. Despite adopters might not been initially motivated by these aspects, it seems that in the long run they benefits from the improvements gained through the implementation of the standard.

Regarding higher prices, as a motivation to adopt the GlobalGAP standard, we found that there is a significant difference between adopters and non-adopters. Therefore, we conclude that higher prices are a decisive factor that determines the adoption of this standard by producers in this geographical area. Indeed, for some specific products such as mangoes and grapes this is the case. However, an important fact that should be considered here is that in this geographical region (around the capital of the country), a comparatively good infrastructure exists. Competitive logistic services to exporters are easily available since the principal harbor of the country, Callao Harbour, is located in this region.

Regarding social-environmental issues, as a motivation to adopt the GlobalGAP standard, we found that there is no difference between adopters and non-adopters. Therefore we can conclude that this is not decisive factor that determine its adoption by producers in this geographical area. It is interesting to notice however, that for some companies, social-environmental issues are decisive factors that motivate them to get the certification. For

example this might be the case of particular multinational companies stated in Latin America that might be using the certification to defend themselves from criticism or negative publicity about the environmental and social practices in their farms. However no specific case has been appointed in the Peruvian context.

Regarding the degree of difficulty in training of the personnel with the new standard, there is no difference between adopters and non-adopters, which means that this factor is not a decisive factor that determines the adoption of the standard. In general, agricultural activities in the whole country are commonly associated with low level-skill workers, which mean that is the same scenario for adopters and non-adopters. Since most farms are generally established in rural areas, it is expected that they employ people from the surrounding communities, most of them poor areas. Unfortunately in some of these remote areas illiteracy is still present and makes training of the personal in some cases tedious.

Regarding the degree of difficulty adjusting facilities/infrastructure to comply with the standard, there is no difference between adopters and non-adopters, which means that this factor is not a decisive factor that determines the adoption of the standard. Adopters stated that they faced some constraints adjusting facilities and infrastructure in their farms such as bigger storages for chemicals, new mix pesticide areas and increased number of toilets among others. It is important to mention that, for non-adopters the situation might be even more challenging in some cases since their lack of financial resources. It is clear then, than in both cases the adjusting of facilities constitutes somehow equally challenges for adopters and non-adopters.

Regarding the degree of difficulty affording certification costs there is a significant difference between adopters and non-adopters which means that this is a decisive factor that determines the adoption of the standard. From the empirical data gathered we can conclude that the most important costs associated to the implementation of the standard are training, infrastructure, auditing and certification itself. For example, adopters declared to hire skilled professionals to implement the standard but also they might be able to contract external consultant services, a situation that increases the costs associated to the certification. For the cost related to the infrastructure and facilities, important factors are the farm size, the location of the project, if the producers handle the entire food chain, etc. In this case we can state that larger farms will require more adjustments therefore more costs involved. Getting the company ready to get the certification might imply the

outsourcing of external companies to provide further training with the standard and in some cases internal audits are also required before the certification. Finally the certification cost itself is another important burden in the budget. However here is important to mention that certification costs can be shared and therefore reduced under GlobalGAP certification Option 2 or group certification. However, in this geographical area only Option 1 (individual certification) is being practiced.

Regarding technical support received from different kind of public and private organizations, there is a difference between adopters and non-adopters. For adopters, Senasa, Procitrus, Prohass and CPF are the most supportive organization that provides them with technical assistance such as guidance, lectures and training on pest management, water management, and improvement in farming practices, etc, in most cases for free or at affordable costs. Procitrus and Prohass, as private producer's organizations, provide adopters with handy and up to date information regarding international markets requirements. CPF, as a big food trading cluster of exporters is also involved in the provision of technical assistance to its members. As we can see the, agricultural boom the Peruvian agricultural sector is experiencing is being supported by different organizations, starting from key public institutions that deal with food quality and safety regulation to private associations of producers and exporters in order to provide their members a better position in the international markets. In the case of non-adopters, the scenario is somehow different; since they receive support from different organizations such as NGOs aimed to promote agricultural development as a way to improve living standards in rural communities, and no necessarily promote non-adopters participation in international markets.

Finally regarding financial support, we conclude that there is no difference between adopters and non-adopters. Currently and due to the Peruvian agricultural boom, there are more organizations that provide financial support to medium and small sized growers than it was in the past. The most important organizations that provide credits and loans to growers are commercial banks, Agrobanco and Rural Banks, the latter government-owned agricultural banks exclusively oriented to small-scale farms. In general, adopters request credits from commercial banks while non-adopters chose Agrobanco or Rural Banks since they have special types of credits aimed to meet smallholders' necessities. Therefore we can conclude that, in contrast to the past, nowadays the accessibility to credits and loans

is wider than it used to be in past, not only for the large farms but also for the medium and small farmers in the agricultural context.

Main Conclusion

One of the most important and interesting findings in this thesis is the significance of the different standards that regulate the Peruvian fresh fruits and vegetables sector. It was found that Peruvian public regulations have been enhanced in an attempt to allow Peruvian agricultural products to compete in international markets. However the enforcement of these regulations at national level might deserve further study. On the other hand, private voluntary standards such as GlobalGAP are on the rise since records demonstrate that the certification of this standard by Peruvian growers is gaining more adopters. Therefore we can confirm the high importance GlobalGAP has in the sector.

The establishment of the GlobalGAP standard in the Peruvian context has allowed characterizing some important aspects of the agricultural development in this geographical area. For example, the fact that most of the farms are not early adopters of the standards considered that GlobalGAP started its activities in 1997. Farm sizes in this area vary from 2.5 ha to 300 ha, which might somehow still resemble the legacy of the Agrarian Reform. The different types of crops between adopters and non-adopters are well defined since each group of producers has found a demand, international or local, where supply their products. In this sense there is no competition between both groups of producers, instead it seems they coexist harmoniously in the same geographical area. Regarding the compliance with safety standards, adopters apply tougher controls since their products are intended for international markets and therefore have to comply with stricter international standards such as GlobalGAP.

Our findings tell us that, despite it has been stated that food safety should be the main reason for the adoption of GlobalGAP standard, in the Peruvian context the main reasons behind the adoption of this standard are market access and higher prices. Indeed many studies around the world confirm market access as one of the most important motives behind the certification. On the other hand, social environmental issues and improved farming practices are considered less important. It can be said that Peru as a developing country is still under development of environmental regulations, which mostly apply to the

mining industry, however for the agricultural aspects, MRLs of pesticides have been stated in national regulations but the enforcement of these regulations might deserve further attention.

Regarding the challenges faced by growers during the implementation of the standard, affording certification costs are among the most important. Changes and improvements in infrastructure might account for the biggest investment however this might have direct relation with the size of the farm. Despite studies support that Option 2 certification is a available option to reduce costs by sharing capabilities, in this geographical area this certification option is not practiced since all the adopters interviewed are certified under option 1. Training of the personnel despite not being a determining factor is similar in the whole country since agricultural hand labor has been traditionally associated with low level skilled workforce.

Finally our results tell us that technical assistance is a decisive factor since there is difference between adopters and non-adopters. The establishment of GlobalGAP standard in the Peruvian context has come up with a parallel emergence of certification bodies and consulting companies intended to provide technical assistance in the implementation of the standard. Parallel to these organizations, producers associations and trading clusters have also emerged as a way to support producers with better organizational mechanisms to successfully compete in international markets. Financial assistance in the country is available at all levels of the agricultural sector, providing credits and loans from small growers in remote areas to larger farms in more developed agricultural regions of the country.

7. Looking forward

The present thesis contributes a number of other studies concerning the adoption of standards in developing countries. Nevertheless, it contains a number of limitations among some other methodological weaknesses including small sample size.

Further studies should be developed in order to prove the factors determined in this study prove to be decisive for the adoption of the GlobalGAP standard. Since the results of our case study might serve as a guideline, the validity should be confirmed using a considerable larger sample to allow a more proper statistical analysis in order to obtain more reliable and representative results.

Since cost of certifications is one of the main factors determining the adoption of the standard, a complete separated study only focused on this topic, should be carried out. A detailed analysis including cost-benefit analysis should be performed.

Since this study mainly focuses on the central coast region of Peru, further investigations should be performed in other areas of the country such as the Andeans and the Amazon, because despite GlobalGAP activities are concentrated in the Coast, it is know that in other regions of the country have also started GlobalGAP certifications. In this sense a better overview regarding the implementation of this standard in the whole country might be provided.

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9. Annexes

Annex 1: WTO update on SPS measures

In a meeting held on 30-31 March 2011 the Sanitary and Phytosanitary (SPS) Measures Committee adopted five “actions” regarding how WTO members might deal with private sector standards for food safety and animal and plant health.

The report, submitted to the full membership by a working group of 30 members, contains additional proposed actions that will continue to be discussed. The 30 members involved (including the EU as one member) were those that replied to a questionnaire circulated in July 2008 seeking proposals on what the SPS Committee might do in this area. They then formed an ad hoc working group, which met seven times between October 2008 and October 2010.

The five agreed actions cover defining private standards, sharing information, and cooperation between the WTO’s SPS Committee and other organizations.

Among the concerns that some members have raised about private standards in food safety and animal and plant health are:

- private standards are not always based on science
- they deviate from international standards or from official governmental requirements (for example, for maximum residue limits)
- there are a large number of them, and they are not harmonized
- they are costly for suppliers complying with them and seeking certification for their products, particularly with the large number of standards
- they are set up without transparency, consultation or systems for appealing;
- they prescribe how measures should be applied rather than what the outcome should be, ignoring the principle that equivalent outcomes achieved by different means should be recognized
- they pose disproportionate burdens on small- and medium-sized producers and exporters in developing countries.

But some members have also seen benefits in private standards:

- they help suppliers comply with national and international standards when they prescribe how those standards should be met
- they promote best practices and improved productivity
- they give brands a better reputation and help suppliers have access to markets and credit

•they address emerging risks in a rapid manner, filling gaps, and make it easier for international standards to eventually be adopted.

The five agreed actions for the SPS Committee are:

•to develop a working definition of private standards related to SPS, and limit any discussions to these

•for the SPS Committee and its three sister organizations to inform each other regularly about the work they are doing in the area — the “three sisters” are: the WHO-FAO Codex Alimentarius on food safety, the World Organization for Animal Health (OIE) and the International Plant Protection Convention (IPPC)

•for the WTO Secretariat to inform the committee of relevant developments in other WTO councils and committees

•for member governments to help relevant private sector bodies in their countries that are setting standards related to SPS understand the issues raised in the SPS Committee and the importance of the international standards of Codex Alimentarius, OIE and IPPC

•for the committee to explore co-operation with the three sisters in developing information material underlining the importance of international SPS standards

Members are still exploring how to implement a sixth “action” in which they would exchange information on private standards and develop their understanding of how these relate to international and government standards. While there is agreement to exchange information, there are differing views as to whether this should be part of the SPS Committee’s agenda.

Since the SPS Agreement mainly deals with government measures, some members doubt whether the committee can act on private sector standards. The agreement’s Art.13 includes this sentence: “Members shall take such reasonable measures as may be available to them to ensure that non-governmental entities within their territories, as well as regional bodies in which relevant entities within their territories are members, comply with the relevant provisions of this Agreement.” It does not say how this should be done.

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European buyer requirements: the fresh fruit and vegetables sector

Finding out what EU buyers want

The first thing you probably do as a (potential) exporter to the EU market, is finding out whether there is a demand for your product in the EU. Does your product fit the taste of the EU consumers? Which country/countries should you focus on? When the idea to enter the EU market first comes up, it is time to do some basic market research!

➔ The CBI market survey 'The fresh fruit and vegetables market in the EU' provides useful information on opportunities in the EU. Also see the CBI market surveys covering the market in individual EU countries.

Having established that you want to proceed with the preparations for EU market entry, the next step is finding out what the requirements are for your products in order to be allowed to be marketed in the EU. Buyer requirements, or market access requirements, are all the requirements you can expect from your EU buyer. They can be divided into two groups: legislation and additional (non-legal) requirements.

1. Legislation



Legal requirements set the basis for what requirements products marketed in the EU must meet. Products that fail to meet these requirements are not allowed on the EU market.

2. Additional requirements



Additional requirements go beyond legislation, as companies can go further in their requirements than legislation. The main categories of additional requirements are environmental requirements and social (labour) requirements.

Which buyers are you aiming for?

Analyzing buyer requirements in your sector will give you an idea of where your company fits in. Which buyers do you aim for – buyers requiring a lot or buyers not looking further than legislation? Where do you find the best opportunities? Would changing certain practices open up new opportunities?

This document serves as a guideline for you to find out buyer requirements for the fresh fruit and vegetables sector. The main issues and topics for the sector are explained both in theory and with examples. In addition you can find:

- ➔ sources for more information
- ① practical tips

Product requirements that are established by law must be adhered to by all producers for

1. Legislation §

the EU market. EU legislation sets the basis for all Member States and is the best starting point in your research. Once you know which country to focus on within the EU, you can find out if it has additional, national, requirements for your product (further explained below).

Failure to meet legal requirements means product withdrawal if and when the non-compliance is discovered (see examples in the box below).

Examples of product withdrawals	
	<p>Product: Melons Date: April 2008 Notifying country: Spain Country of origin: Dominican Republic Notification type: Border rejection Reason: The pesticide methiocarb was detected (9.0 mg/kg - ppm). Measures: Product (to be) re-dispatched. Relevant legislation: Legislation on maximum residue levels (MRLs) in food.</p>
	<p>Product: Fruit salad with cantaloupe. Date: March 2008 Notifying country: The Netherlands Country of origin: Honduras honey Notification type: Alert, meaning all Member States are alerted for immediate product withdrawal. Reason: Salmonella (suspicion) as result of check of the importing company. Measures: Product (to be) destroyed. Relevant legislation: EU legislation on microbiological contamination of food (Regulation (EC) 2073/2005)</p>
	<p>Product: Lettuce Date: March 2008 Notifying country: Austria Country of origin: Italy Notification type: Information notification; meaning other Member States do not need to take action. Reason: Detection of methomyl (0.627 mg/kg - ppm) during official market control. Measures: Product already consumed / no stock left. Relevant legislation: Legislation on maximum residue levels (MRLs) in food</p>
<p>➡ For more information on all legal requirements referred to in the examples, see separate documents in the database. You can use keywords from the description of the relevant legislation.</p>	
<p>ⓘ The Rapid Alert System for Food and Feed (RASFF) shows notifications of product withdrawals, which is also where these examples are derived from. Check out recent notifications for your product(s) – this will give you information on which issues EU authorities are focusing on! The EU publishes a weekly overview of RASFF notifications. You can find a link to RASFF in the external links section.</p>	

Legal product requirements in the fresh fruit and vegetables sector

When it comes to food, the main focus in the EU is consumer safety. This has led to the introduction of legal requirements focusing on hygiene and traceability, emphasizing the importance of guaranteeing hygiene measures throughout the chain, “from farm to fork”, in order to guarantee that the food marketed in the EU is safe. These legal requirements are applicable to all food marketed in the EU.

In addition, EU legislation establishes maximum levels for certain pesticides and contaminants that can be present in food. As a producer of fresh fruit and vegetables, you need to find out if there are limits set for your product.

As clearly shown by the categories of legislation already discussed, the starting point for EU food legislation is no specific product, but all foodstuffs placed on the market. In certain cases, however, the EU has established product-specific legislation in addition to the two categories mentioned above. This is also the case for fresh fruit and vegetables.

Examples of food legislation applicable to all food products marketed in the EU:

- The General Food Law (Regulation (EC) 178/2002)
- Hygiene of foodstuffs (Regulations (EC) 853/2004; 854/2004)

Examples of legislation restricting pesticides and contaminants in the food product marketed in the EU:

- Maximum residue levels (MRLs) in foodstuffs (Regulation (EC) 396/2005)
- Contaminants in food (Regulation (EC) 1881/2006)
- Microbiological contamination of foodstuffs (Regulation (EC) 2073/2005)

Examples of legislation specifically focusing on the fresh fruit and vegetables sector :

- Quality standards for the marketing of fresh fruit and vegetables (Regulation (EC) 2200/96)

Finding out legal requirements for your product

Analyzing EU product legislation is not always a straightforward task, as it means getting down to the essentials of EU Regulations and Directives. This is why the CBI has invested in translating EU legislation into practical guidelines for exporters from developing countries. You can find all relevant legislation in CBI’s market information database.

➔ Go to www.cbi.eu/marketinfo

➔ Select the category “Fresh fruit and vegetables” and “European Union” and click ‘GO’

➔ Click on “Legislation” in the filter that appears

➔ Screen through the list of legal requirements that appears and download the documents of relevance for your specific product.

EU requirements vs. national requirements

Legislation in the EU is primarily set at EU level, but there may be country-specific (additional) legal requirements. The EU consists of 27 countries, and although maximum harmonisation is aimed at, this is not always achieved as a result of negotiations and national interests. The CBI has found out what these deviations are- if any.

➔ If you know which market(s) you are aiming for, follow the steps above in CBI’s market information database, but instead of “European Union” in the category search, choose the market(s) of your interest.

📧 If you have questions concerning certain legal requirements, you can contact us at marketaccess@cbi.eu

➡ For the source of the legal requirements, you can consult the EU Export Helpdesk for developing countries. You can find a direct link in the external links section. You will also find direct links to the legal sources in the CBI market information database.

2. Additional requirements



Additional requirements are requirements set by companies, not the EU or individual EU Member States. Whereas legal requirements are a must before marketing any product in the EU, the groups of “additional requirements” or “non-legislative requirements” are a bit harder to classify. The basic principle behind is that the market is always developing and new issues are getting attention all the time. In time, this may result in new legal requirements, but this is not always the case. Sometimes the scope of the requirements fall outside the scope of EU legislation: the EU can only interfere with issues directly related to the product marketed in the EU, as all countries have the freedom to govern over their own labour laws for instance. Companies, however, can choose to act and require more from their suppliers, in order to live up to customer expectations and company values.

Broadly speaking non-legal requirements can be divided into two categories:

🌿 Environmental requirements

👤 Social requirements (labour standards)

Below, relevant non-legal requirements for the fresh fruit and vegetables sector are presented. The number of exclamation marks (1-5 !!!!!) indicates the relative importance of the requirement based on how common the requirement is in the sector. The more exclamation marks, the more companies are likely to include this requirement from their suppliers. Requirements with fewer exclamation marks indicate that only front-runners or companies focusing on a niche market (organic or fair trade) are likely to include the requirement.

① In many cases EU buyers are willing to work together with their suppliers in order to reach the desired level of environmental and social performance. However, most buyers will appreciate a certain level of awareness, which means finding out which issues are important and starting to prepare your company according to what EU buyers require will be an advantage.

🌿 *Environmental requirements*

GLOBALGAP (previously EurepGAP) is an initiative from the industry to promote good production practices in the agricultural sector in order to ensure food safety. GLOBALGAP has become so widely used that it is the most important non-legal requirement for entering the EU market.

EU legislation only restricts pesticides and contaminants in the food product marketed in the EU. Production processes, however, are not allowed to be regulated by the EU outside its borders (except when there is a direct link to the final product). In this view, many companies add to EU legislation by following national (host-country) or international legislation concerning environmental requirements for its production facilities.

Going one step further is looking for environmentally-friendly alternatives to replace conventional ones. Certain companies focus only on the organic niche market, and in order to become a supplier for these companies your products must be organically certified. In order to enter the EU, however, organic production is not a major requirement, but rather represents an opportunity when finding buyers.

Examples of environmental requirements:

- !!!!! Compliance with GLOBALGAP (required by e.g. Dole, Fyffes, Del Monte)
- !!!!! Compliance with national environmental laws and regulations in the country of origin. As the EU can only restrict product-related issues, this requirement is additional to EU legal requirements as it also looks to production processes which are not visible in the final product. (required by most large companies, e.g. Dole,)
- ! Environmentally-friendly produced fresh fruit and vegetables (mainly required by companies specifically focusing on the niche market. However, Chiquita bananas marketed in the EU are certified against the Rainforest Alliance standard, which includes environmental requirements (for more information, see the related document in the database))

① Browsing through company codes of conduct will give you an idea of environmental issues companies in your sector are focusing on. Most (large) companies publish their code of conduct on their websites. You can find some examples in the box below.

➡ You can find more information on environmental issues, including industry initiatives and environmental improvement options, in the related documents.

Examples of environmental requirements in company codes of conduct
“We will require each business unit and its direct suppliers to have an environmental management system in place to properly identify and manage environmental priorities and health and safety issues.”
<i>Chiquita code of conduct, published 2005, valid 2008</i>
“In Dole’s worldwide operations, the Company policy adheres to local regulations, and, where applicable, United States law, EPA regulations, as well as to the internationally recognized environmental protection standards set by the European Union.”
<i>Dole, website 2008</i>

Social requirements

Social requirements are often based on ILO’s basic standards, laying down principles on what is perceived as the most important labour issues. These concern among others basic safety conditions for workers (“occupational health and safety”, OHS), and no use of child labour or forced labour. The basic ILO standards are widely used by (international) companies.

Some companies go further than the basic ILO requirements in their supplier requirements or aims. In some cases, companies choose to become certified by an independent certifier such as Rainforest Alliance, or take part in industry initiatives such as the Ethical Trading Initiative (ETI).

Companies with the highest social criteria are those doing business according to fair trade principles. In general these companies focus specifically on the fair trade niche market.

➡ For more information on the ILO, industry initiatives, management systems, labels and occupational health and safety (OHS) in the fresh fruit and vegetables sector, have a look at the related documents.

Examples of social requirements:

- !!!!! International ILO standards, the main ones dealing with the right to union membership and to negotiate; non-discrimination; forced labour; minimum age; working hours; equal remuneration; minimum wages; and occupational health and safety (required by most (large) companies e.g., Chiquita, Fyffes, Dole)
- !!! Participation in industry initiatives or international certification schemes with additional and/or stricter social standards than the ILO basic standards (required by e.g. Chiquita (Rainforest Alliance), Dole (ETI), Del Monte (ETI))
- ! Fair trade companies, with special attention to workers' rights and benefits (required by companies focusing on the fair trade niche market).

① Browsing through company codes of conduct will give you an idea of social issues companies in your sector are focusing on. Most (large) companies publish their code of conduct on their websites. You can find some examples in the box below.

Social requirements in company codes of conduct

"In accordance with ILO Convention 138 on minimum age and ILO Convention 182 on child labor, Dole prohibits child labor. In a substantial number of developing countries where we operate, our policy is even stricter and prohibits the hiring or employment of people younger than 18 years of age."

Dole, website 2008

"Fyffes is a member of the UK government-sponsored Ethical Trading Initiative (ETI)*. The ETI is an alliance of companies, non-governmental organisations and labour representative bodies. Its purpose is to promote and improve the conditions of workers worldwide who produce products for sale in the UK market. All of the Group's tropical management team and many of our banana and pineapple suppliers have received formal training in this regard"

Fyffes, website 2008

* ➔ [For more information](#) on the ETI, see the related document.

① Also check with your branche organisation which environmental and social issues EU companies pay attention to when selecting their suppliers!

3. Some tips

In addition to legal, social and environmental issues already discussed in this document, also have a look at the following tips:

① As a supplier to an EU buyer, you may make use of suppliers of your own. Make sure that they also meet the (legal) requirements, for instance on use of pesticides, in order to guarantee your products are fit for the EU market!

① Also see chapter 6 in the CBI market survey "The fresh fruit and vegetables market in the EU" for more industry practices!

① Your branche organisation may also provide valuable information on which issues EU buyers focus on when selecting suppliers!

Annex 3

Questionnaire to Producers (Adopters and Non-adopters)

My name is Karina Aybar and I am conducting this study to evaluate the adoption of the food safety standards like GlobalGAP in the central coastal region of Peru. This work is part of my thesis to obtain the MSc Food Safety in the Wageningen University in the Netherlands. The information obtained by this questionnaire will be treated anonymously and confidentially, and personal or company details will not be mention in the thesis.

SECTION A : GENERAL INFORMATION

Date: _____ Questionnaire N° _____

Producer /Company: _____

Your name and position in the company: _____

GlobalGAP ? YES___ NO___ If YES: For how long?_____ Option 1/ Option 2?: _____

Size of the farm (m2) _____

How many people work in the farm? _____

Main crops grown _____

SECTION B : Compliance with food safety and quality standards

Which of these requirements DO YOU MEET in your farm?

	Yes	No	Comments
General Quality requirements (DIGESA)			
Phytosanitary certificate SENASA			
GlobalGAP			
Maximum Residues limits			
Others (Tesco?)			

SECTION C: Organizational Structure

What is the organizational type of your farm?

Family Farm _____ Industrial Farm _____ Both _____

Other (explain) _____

SECTION E : Degree of Difficulty

Grade from 1 to 5 the degree of difficulty of the following factors during the implementation of the GlobalGAP standard in your farm (1= unimportant, 5=very important).

Training of the personnel/staff:

Very easy---- 1-----2 ---- 3 ---- 4 ----5--- - Very difficult

Changes in the infrastructure/facilities of the farm:

Very easy---- 1-----2 ---- 3 ---- 4 ----5--- - Very difficult

Afford the certification cost:

Very easy---- 1-----2 ---- 3 ---- 4 ----5--- - Very difficult

Tell me the 2 most important associated costs when complying with GLOBALGAP

Infrastructure Training Auditing / Certification

Other _____

Which changes did you perform on your farm due to the standard within the last 3 years?

SECTION F: Technical and Financial support

Grade from 1 to 5 the degree of technical support you receive from private or public organizations during the implementation of the GlobalGAP standard (1= No support, 5= Full support).

No support---- 1-----2 ---- 3 ---- 4 ----5-- Full support

Could you mention the 3 most important organizations that provides you with this technical support? _____

Grade from 1 to 5 the degree of financial support you receive from private or public organizations during the implementation of the GlobalGAP standard (1= No support, 5= Full support).

No support---- 1-----2 ---- 3 ---- 4 ----5-- Full support

How do you get these credits or loans?

Commercial Bank ____

AgroBanco ____

Municipal / Rural Bank ____

Exporting Company ____

Other _____

THANK YOU VERY MUCH!!!