The UN Global Compact Food and Agriculture Business Principles: Implementation Requirements and Challenges in Greece

Liana Sargsyan

SCHOOL OF ECONOMICS, BUSINESS ADMINISTRATION & LEGAL STUDIES
A thesis submitted for the degree of
Master of Science (MSc) in Sustainable Development

February 2016
Thessaloniki – Greece
To Andreas
for his overwhelming support
I hereby declare that the work submitted is mine and that where I have made use of another’s work, I have attributed the source(s) according to the Regulations set in the Student’s Handbook.

February 2016
Thessaloniki - Greece
Abstract

This dissertation was written as part of the MSc in Sustainable Development at the International Hellenic University.

The objective of the dissertation is to investigate the implementation requirements and challenges Greece may face when attempting to adopt the United Nations Global Compact Food and Agriculture Business (FAB) Principles. These principles are developed by the United Nations Global Compact and they are voluntary. They encourage agribusinesses to aim for sustainability through food security, environmental and economic viability, respect in human rights, good governance and accountability, and access of knowledge and technology.

Experts from the food and agriculture field have been interviewed in order to investigate the change requirements and challenges for implementing the FAB principles in Greece. The results of the research show that Greece has to overcome many obstacles in order to achieve a sustainable agricultural sector, but this is something feasible since it has the appropriate means.

Several persons have contributed academically, practically and with support to this project. I would therefore firstly like to thank my head supervisor Prof. Dr. Estelle Herlyn for her support, understanding and useful remarks on the dissertation. I would like in particular to thank my supervisor Dr. Georgios Banias for his extensive help and support throughout the entire period of my postgraduate studies. Furthermore, I would like to thank all of the interviewees for their patience and willing support throughout the entire process. Finally, I would like to thank my family and friends for always being helpful and supportive.

Key words: United Nations, Food and Agriculture Business Principles, sustainable development, Greece

Liana Sargsyan

February, 2016
Preface

This dissertation is an original intellectual product of the author Liana Sargsyan. None of the text of the dissertation is taken directly from previously published or collaborative articles.

The conduction of the dissertation took place from September of 2015 until February of 2016, in Thessaloniki, Greece. It is part of my postgraduate studies in the International Hellenic University, in the Sustainable Development programme.

In the Introduction some basic information and the objectives of the study are presented. The concept of the Food and Agriculture Business Principles is being described. Additionally, the motivation to conduct this research is presented, thereafter the research questions and methodology.

The second chapter which refers to the agriculture in consensus with the FAB Principles, the need of delivering these principles is analyzed and more particularly the connection of these principles to agricultural sustainability.

The third chapter that follows, presents the Greek agriculture nowadays, with the objective to inform the reader and provide information about the primary sector of Greece and the role FAB Principles could play in order to lead to sustainable development.

The fourth chapter advances the changes that Greece must proceed to, in order to implement the FAB Principles, according to the information selected from the expert interviewees. These change requirements are presented for each one of the principles.

In the fifth chapter the challenges that Greece may face in order to implement the changes discussed in the previous chapter are being argued. Reference is made to the most important and demanding challenges, as well as how they can be addressed.

Contributions of different societal factor, such as consumers, government, science and media are demonstrated in the sixth chapter. The need of examining them is
leded by the fact that businesses do not exist on their own, but they affect and are influenced by the surrounded societal factors.

The Conclusions section in chapter seven notes that Greece must overcome several challenges in order to adopt the FAB Principles.

Finally, a list of referenced bibliography is shown in chapter eight, and in the last chapter there is the appendix which consists of the questionnaire form.
### Contents

**ABSTRACT** .................................................................................................................. I  
**PREFACE** .................................................................................................................... III  
**CONTENTS** .................................................................................................................. V  
**ACRONYM LIST** .......................................................................................................... VII  

1. **INTRODUCTION** .................................................................................................... 1  
   1.1 **RESEARCH MOTIVATION** ................................................................................ 1  
   1.2 **DESCRIPTION OF THE FAB PRINCIPLES** .................................................... 2  
   1.3 **RESEARCH QUESTIONS** .................................................................................. 3  
   1.4 **RESEARCH DESIGN AND METHODOLOGY** ................................................... 4  

2. **AGRICULTURE IN CONSENSUS WITH THE FAB PRINCIPLES** ......................... 1  
   2.1 **GLOBAL FOOD PRODUCTION AND THE CLIMATE CHANGE** ..................... 1  
   2.2 **THE FAB PRINCIPLES IN RESPECT TO THE THREE PillARS OF SUSTAINABILITY** ................................................................. 3  
   2.3 **THE NEED OF DELIVERING THE FAB PRINCIPLES** ...................................... 5  

3. **GREEK AGRICULTURE NOWADAYS** .................................................................... 8  
   3.1 **AGRICULTURE AS A PRIMARY SECTOR OF GREECE** .................................. 8  
   3.2 **THE ROLE OF THE FAB PRINCIPLES** .......................................................... 10  

4. **CHANGE REQUIREMENTS FOR IMPLEMENTING THE FAB PRINCIPLES IN GREECE** 15  
   4.1 **CHANGE REQUIREMENTS FOR FOOD SECURITY, HEALTH AND NUTRITION** ............................................................. 15  
   4.2 **CHANGE REQUIREMENTS FOR ENVIRONMENTAL RESPONSIBILITY** ............. 16  
   4.3 **CHANGE REQUIREMENTS FOR ECONOMIC VIABILITY** ................................ 17  
   4.4 **CHANGE REQUIREMENTS FOR HUMAN RIGHTS AND DECENT WORK** ........... 18
4.5 Change requirements for good governance .......................................................... 19

4.6 Change requirements for knowledge and technology transfer ............................ 20

5. Challenges for implementing the FAB principles in Greece .......................... 21

6. Contributions of different societal factors .................................................. 23

   6.1 Consumers ................................................................................................. 23

   6.2 Scientific communities ............................................................................... 24

   6.3 Government ............................................................................................... 24

7. Conclusions and outlook ............................................................................... 26

8. Bibliography .................................................................................................. 27

9. Appendix ......................................................................................................... 31
Acronym list

CAP – Common Agricultural Policy
COP 21 – 21st Meeting of Conference of the Parties
COP Report – Communication on the Progress Report
FAB Principles - Food and Agriculture Business Principles
FAO – Food and Agriculture Organization of the United Nations
GDP – Gross Domestic Product
GHGs – Greenhouse gases
IUCN – International Union for Conservation of Nature
SDGs – Sustainable Development Goals
SMEs – Small and Medium Enterprises
UN – United Nations
UNEP – United Nations Environment Programme
UNFCC – United Nations Framework Convention on Climate Change
WWF – World Wildlife Fund
1. Introduction

The food and agricultural sector, including companies, customers and stakeholders play an important role in Greek economy. Through their processes they also significantly affect the environment and the society in which they operate. Some of the issues that concern sustainable development in Europe from the 1990s is the more viable reform of the Common Agricultural Policy and the ecological status of consumer goods.

Particular interest in recent years shows the concept of multifunctionality of agriculture. The consideration of the modern agriculture in the broader context of the roles that performs (economic, social, environmental, development, etc.) and not only as a food and raw materials producer industry. For that reason, it is considered necessary to provide an incentive that will prompt them towards more sustainable practices.

Recently, the United Nations have designated the Food and Agriculture Business Principles, in order to stimulate businesses in the food sector to move towards more sustainable practices. The adoption of these principles by the Greek enterprises would constitute a major step towards sustainability, as businesses represent an important part of the country’s economy and society and. On the other hand, they greatly contribute to the ecological footprint of the country, as well. It is not only for the production process of the agricultural products, but also the great influence they have on the consumer’s attitude and culture.

1.1 Research motivation

The 20th century has been characterized as the century of rampantly exploitation of natural resources and the environment by humans. The same situation, and even more intensive, continues until nowadays. This marks the beginning of a period where human influences on atmospheric environment and nature, and at the same time the nature itself warns - and indeed very intensely - on the results of these serious human interventions.
The environmental impacts of food production and consumption are not limited to the use of land and water. According to the European Commission Roadmap to a Resource Efficient Europe (2011) the food and beverages are responsible for about 17% of direct greenhouse gas emissions and for 28% of the use of material resources. Agriculture is responsible for a compelling fraction of human-induced greenhouse gas emissions which is about 20 to 24 percent globally. Overall GHG emissions from agriculture alone conduce to more than 5 billion tons CO2eq, representing 10 to 12 percent of total GHG emissions.

It is estimated that “agricultural production will have to increase by 60 percent by 2050 to satisfy the expected demands for food and feed, if current trends continue. This is projected to lead to a 30 percent increase in GHG emissions from the agricultural sector” (FAO, 2014). Furthermore, except from the environmental impacts due to intensive natural resources exploitation, a number of questions arise concerning the global agricultural sector. Every element along the agriculture supply chain, including farmers, traders and consumers, has a significant role to play in advancing food security, protecting the environment and enhancing economic growth.

The agricultural sector, and companies related to the agricultural sector play an important role in Greek economy and the desire to increase agricultural production leads to an intensification of crops. The increasing intensification lead to difficulties not only to the environment, but also it may affect other aspects such as the food quality and quantity, and the working conditions of employees.

1.2 Description of the FAB Principles

The importance of the agricultural sector's contribution to the promotion of sustainability, since it is the primary sector, urged the United Nations Global Compact to produce the Food and Agriculture Business Principles (FAB Principles). The FAB Principles have a voluntary framework. They aim to nominate the food and agriculture businesses to adopt there six principles in their policy and thus to advance the positive impact they can have in the food and agriculture space and to engage in principle-based collaboration with the UN, governments, civil society and other stakeholders.
The interest to study this topic occurs from the fact that agricultural sector has a significant influence on Greek economy, and furthermore, agriculture plays a remarkable role on environmental degradation. Moreover, the last years of economic crisis, and the collapse of the Greek economic growth model, have made it even more necessary to change the development policy. The recovery of the Greek economy must rely on those sectors that can develop comparative advantages and become competitive in the European market. The agricultural sector can be one of the pillars that will sustain the recovery of the Greek economy. In addition, it has been observed that there is no sufficient literature concerning the six FAB Principles. That is due to the fact that they are a recently released framework by the UN.

The FAB principles, as developed by the United Nations Global Compact, are the following:

1. **Aim for Food Security, Health and Nutrition**
2. **Be Environmentally Responsible**
3. **Ensure Economic Viability and Share Value – throughout the value chain**
4. **Respect Human Rights, Create Decent Work and Help Rural Communities to Thrive**
5. **Encourage Good Governance and Accountability, and**
6. **Promote Access and Transfer of Knowledge, Skills and Technology**

The aim of this study is to investigate the implementation requirements and challenges Greece may face when attempting to adopt the FAB Principles. Economic crisis, the small size of Greek agricultural businesses and the indifferent attitude that most Greek farmers, consumers, businesses and the government have toward sustainability issues may consist the major challenges. The objective of this research is to locate the restrictions and to suggest ways that will help Greek agricultural businesses to overcome these challenges. By achieving that, and through the implementation of the FAB Principles, Greece may have the chance to lead towards economic, social and environmental sustainability.

**1.3 Research questions**

From the literature review of the topic, there are some research questions that occurred. First, an analysis is required on what kind of agriculture do the 6 FAB principles
constitute. How do they help food and agriculture businesses realize the sustainable development goals and how do they empower these businesses to make a positive contribution? Afterwards, in order to understand the implementation challenges that Greece may face, it is necessary to clarify the 'as is' situation of the Greek agriculture, regarding the contribution of the agricultural sector in the economy, expressed in terms of participation in the Gross Domestic Product (GDP) and employment in agriculture, both in Greek and on a European scale.

Subsequently, studying the current situation and comparing it with the principles proposed by the UN, there is an analysis of which requirements have to be fulfilled in order to come to a ‘to be’ situation that is in line with these six FAB Principles. Finally, the essential research question that is tried to be answered in this dissertation is which challenges Greece will face when trying to implement the FAB principles. Is Greek agricultural sector willing and able to agree in a commitment? In order to have commitment, not only food and agriculture businesses are obligated to implement the principles, but also the stakeholders and other societal factors must contribute. The last research question that is attempted to be answered is the contribution that could be made by the different societal factors, such as the consumers, Greek government, scientists and media in the adoption of the principles.

**1.4 Research design and methodology**

After the review of the literature, there follows the methodological approach which consists of a primary data collection. Interviews with questionnaires have been conducted in order to collect data surrounding the topic of the research. The interviewees that participated in the research are agricultural experts. In this case, agricultural experts are considered those who work in the agricultural sector, whether it be an employee of a food and agricultural company, or a farmer, or an academician.

For this research 26 food and agriculture experts have been chosen in order to collect the needed information. Some of the questions were close-ended and some open-ended. Of the 26 experts who participated in the survey, 16 attended personal interviews. The remaining 10 due to physical distance, received a questionnaire by e-
mail. Those are some of the academics of the Agricultural University of Athens and from the Environmental Department of Aegean University.

The processing of the data has been completed partly through the SPSS programming. Those are the data from the closed-ended questions. The open-ended questions have been examined separately and individually, in order to take into account the personal assessments and opinions of respondents. One of the objectives is also to investigate whether Greek food and agriculture experts are aware of sustainability issues and whether they would propound the Greek businesses to adopt the FAB Principles. The results of the research are distributed and discussed in depth in the seventh chapter of this work. Supplementary, some few secondary data is collected through statistical services, in order to display the current situation in Greek agriculture.
2. Agriculture in consensus with the FAB Principles

Sustainable food production and consumption is significantly affected by the food and agriculture businesses. That is the reason that the United Nations Global Compact has promote the development of the Food and Agriculture Business Principles.

2.1 Global food production and the climate change

Agriculture is responsible for almost 25% of human-induced greenhouse gas emissions (FAO, 2014). It is estimated that the exceeded demand of food in the next decades will lead to increase in the greenhouse gas emissions, not only for the production of that food, but also for the processing, packaging, transportation, consumption and disposal. This is expected to result a 30 percent increase in GHG emissions just from the agricultural sector (FAO, 2014). But on the other hand, it is a fact that agricultural production contributes to climate change, since it is responsible for deforestation, biodiversity loss, accelerated soil erosion, loss of soil organic matter, salinization of soils, costal water pollution and, acidification of the oceans.

Climate change is already having a measurable effect on the quality and quantity of food produced globally. But this is not noteworthy when contrasted to the significant increase in global food production that has been achieved over the last decades (The Guardian, 2015).

In the chart below it is observed that per capita food consumption is predicted to increase in all of the continents, by 2050. That indicates the worldwide increase of demand, and thus the increase of production of food. At the same time, world production of agricultural products is expected to grow faster than the world population, due to the increase in average world per capita consumption. (Johansson, 2015). Even after 2050, that world population is forecasted to stop growing at a rapid pace, the total world demand of food (mainly meat) will continue to increase.
Figure 1: Per capita food consumption (kcal/person/day) (Alexandratos and Bruinsma, 2012)

Although developed countries generally achieved to provide their population with food, some areas in Africa are experiencing famine conditions, even nowadays. This is not only due to the downturn in the market. Climate changes reinforce the pressures on food security. In certain regions there are stronger pressures than others. Droughts, fires or floods pose direct obstacles to productive capacity. Unluckily, climate change often affects countries that are more vulnerable and likely to have more limited adaptation means.

Climate change brings major shifts in the world’s food production. There are areas where temperature arises and rainfalls become rarer, and other areas where rainfalls increase. It is a fact that food crops are sensitive to climate change. Changes to soil temperature and moisture affect the viability and activity of both beneficial organisms and pests. Furthermore, flooding in many coastal areas reduce the amount of land accessible for agriculture, thus the amount of production (Pimentel, 1993). How will the global food production be progressed depends on how well societies and countries can adapt to the climatic changes, as well as the progress of other influencing factors, such as the competition for land from biofuel production (The Guardian, 2015).

The vision of 2030 is expressed in the Sustainable Development Goals (SDGs), which are adopted by the United Nations. The achievement of these goals depends
crucially on agricultural development. Most of the world’s hungry and very poor live in rural areas, and among them millions of smallholder farmers who are confronted with the recent global changes: growing socio-economic inequality, unsparing degradation of the Earth’s ecosystem on which food production depends, and the adverse effects of climate change (FAO, 2016).

Those that suffer most from the climate change are the small farmers and stock breeders, those that provide the greater amount of planet’s food. Adaptation to climate change means that world’s poorest will ensure food security (FAO, 2015). In order to ensure food safety and conservation of ecosystem the SDGs are required to be addressed now not only to the developing countries, but to the developed ones as well.

2.2 The FAB Principles in respect to the three pillars of sustainability

In 1713, Carl von Carlowitz was the first one who clearly discussed about the concept of sustainability, but without mentioning it as a term, yet. The quote that remained through the years claims that, “One should harvest only the same amount of wood which achieves a conservation and cultivation of timber, that there would be a continuous, steady and sustained use” (Lindner et al., 2010). That phrase became influential and actually invented the idea of sustainable development, dealing with the challenge of the shortage of timber, the main natural resource of the time.

A few years later in 1798, Thomas Malthus wrote the book "An Essay on the Principle of Population" in which he pointed out that the population of our planet is not sustainable, because it increases exponentially relative to the available resources (Berry, 2013).

The term sustainability in the context of the protection of nature and biosphere was first used in the 1980s in the International Union for Conservation of Nature (IUCN) and the World Wildlife Fund (WWF). The importance and the motive was that when an existing biological system is being used, there must not be any changing in its essential characteristics. The meaning of this principle was further extended by the use of the term "Sustainable Development" in the Brundtland Report where
the ecological and social aspects and economic scenarios for sustainable development were added (Brundtland, 1987).

The three pillars of sustainability are an authoritative tool for defining the entire sustainability problem. This consists of the economic, social, and environmental pillars. If any of these pillars is weak then the whole system is not sustainable. The three pillars and their coexistence are shown in the pictures below:

![Picture 1: The three pillars of Sustainability (Thwink.org)](image1)

![Picture 2: Coexistence of the three pillars of Sustainability (Thwink.org)](image2)

A further milestone was set by the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992. About 170 nations signed the Agenda 21 as a global goal of "sustainable development", advocating the Declaration of the United Nations Conference on the Human Environment, adopted at Stockholm on 16 June 1972, and seeking to go one step further. Given the global scope of the Agenda 21, some of its aspects are not completely clear. It describes only the general goals but not the ways to achieve them. So, this shows that the "spirit" of the Agen-
da 21 is more important than the words of the document. The most important ecological and social problems shall be solved in a global community and cooperation among all nations of the world (Lafferty and Eckerberg, 2013).

A decade later, in February 2005 the Kyoto Protocol was signed. It had been an ambitious and complex agreement between 141 countries, with binding force, which aims to address global warming and climate change (Protocol Kyoto, 1997). It took its name from the old capital of Kyoto in Japan, which was signed in and resulted from the International Convention on Climate Change.

In December 2015, the 21st meeting of the Conference of the Parties (COP 21) to the UN Framework Convention on Climate Change (UNFCCC) took place in Paris and the 11th session of the Conference of the Parties to the Kyoto Protocol (CMP 11). At the end of the conference the countries came to a new global agreement on climate change. The agreement reached by the participating countries was the implementation of actions to prevent the increase of global temperature above 2 degrees Celsius, and to continue efforts of a long-term goal to restrict it to 1,5 degrees Celsius (Consilium, 2016).

2.3 The need of delivering the FAB Principles

The United Nations Global Compact has been established in 2000. It is both a policy platform and a reasonable framework for associations that are committed to sustainability and responsible business methods. As a multi-stakeholder leadership initiative, it seeks to align business operations and strategies with some globally accepted principles in the areas of human rights, environment, labor and transparency. It aims to activate actions in favor of the UN goals. “With 8,000 corporate signatories in 145 countries, it is the world’s largest voluntary corporate sustainability initiative” (UN Global Compact, 2016).

Businesses, along with other stakeholders such as customers and government, play a significant role in planning and delivering possible and effective solutions for sustainable food production and consumption, and for improved food quality, as well. In order for these consequences to be positive, the United Nations Global Compact has promoted the development of the Food and Agriculture Business Prin-
ciples (FAB Principles). The FAB Principles were set by the United Nations Global Compact in the 13th of May, 2014 in Rome. The purpose of these principles, which are voluntary, is to serve as a framework for collaboration of companies with the UN, governments, the society and other stakeholders.

It is, however, necessary to clarify the concept of sustainable development at this stage of the analysis. As mentioned in the Brundtland Report, humanity has the possibility to make “development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland et al, 1987). It does not designate absolute limits, but limitations on natural resources exploitation established by present orientation of technological developments and environmental organizations, and by the earth’s capacity to support the contemporary human lifestyle. This definition of sustainable development is close to that of Choucri (1999), which mentions that “Sustainable development means meeting the needs and demands of human populations without undermining the resilience of life-supporting properties”.

It is necessary to clarify the concepts of sustainable development and the green economy. Green Economy is the economy in which an increase in income is a result of investments that serves the conservation of ecosystems by reducing carbon dioxide emissions, decreasing pollution, and enhancing biodiversity. It includes the two of the three pillars of sustainability: economy and environment. It does not include the societal factor (UNEP, 2011).

With the objective of promoting sustainable development, the FAB Principles provide companies with strategic guidance in order to achieve the UN goals set in the United Nations Conference on Sustainable Development, and formulated with precision at Rio +20 final document, “The Future We Want” (UN, 2012). As cited in the document, commitments must be undertaken, regarding the right of everyone to have access to safe, sufficient and nutritious food. It is a fact that food safety and nutrition has become a pressing universal challenge, and it is necessary to enhance food security and access to sufficient, safe and healthful food for present and future generations.
To determine these six principles, many stakeholders have contributed to the attempt. More than 20 deliberations took place at a global level, including representatives of the UN, more than 1,000 businesses and organizations that are involved in food, nutrition and farming sectors (UN Global Compact, 2016). The FAB Principles respond to the call from Rio+20 for sustainable food production by encouraging local and regional investments, connection of local and global markets, and minimizing waste in supply chains. They establish the characteristics of sustainable and well-operating food and agriculture systems. They also provide common understanding of the natural resources and the social and economic impacts of the agribusiness sector (Coco, 2014).

United Nations Global Compact encourages the food and agriculture businesses to commit to the FAB principles by annually informing about their progress through their Communication on the Progress (COP) Reports. The FAB principles have voluntary framework, thus it is not necessary for the companies to sign on a commitment. Although, through the COP reporting, firms may indicate their progress and achievements that contribute to meeting the sustainable development goals of food security and sustainable agriculture.
3. Greek agriculture nowadays

The rural sector in Greece plays a significant role to the development of the country. The position of the food and agricultural sector in the Greek economy remains considerable even nowadays.

3.1 Agriculture as a primary sector of Greece

By 2008, Greece recorded substantial growth, even greater than the average of other European Union countries. As an outcome of the Community support packages, low interest rates facilitated the implementation of major investments to upgrade the country's infrastructure, while held successful restructuring efforts and extroversions of certain business sectors. The main pillar of growth trajectory was the strong domestic demand, especially private consumption, and not exports as it is in most developed countries.

Since 2009 the Greek economy is in recession, with the main problem the decline competitiveness. But in today's situation, where the country needs to change the development model, improving the competitiveness of Greek products and services are among the most important determinants of long-term viability (Mardas, 2005). The recovery of the Greek economy is considered to result from the investment and evaluation of economic activity sectors which can develop comparative advantages.

The comparative advantages of Greek agriculture among others can be mentioned as the worldwide acceptance of several Greek agricultural products regarding the quality and high nutritional value, and the natural environment of the country which is characterized by biodiversity and uniqueness, combined with the excellent climate of the Greek geographical space, offers the opportunity of production of wide range of high quality products (Mardas, 2005).

The agricultural sector in Greece accounts for 5.7% of GDP in 2014 compared with the average 1.6% in the European Union (Eurostat, 2015). The participation rate in total employment reached 11.3% compared to 4.7% on average in other European
countries (ELSTAT, 2015). In the table below, the output of the agricultural industry (% of GDP) of some European countries is listed.

<table>
<thead>
<tr>
<th>Country</th>
<th>Level (% of GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Romania</td>
<td>11.3%</td>
</tr>
<tr>
<td>Greece</td>
<td>5.7%</td>
</tr>
<tr>
<td>Poland</td>
<td>5.4%</td>
</tr>
<tr>
<td>Denmark</td>
<td>4.1%</td>
</tr>
<tr>
<td>Spain</td>
<td>4%</td>
</tr>
<tr>
<td>France</td>
<td>3.4%</td>
</tr>
<tr>
<td>Italy</td>
<td>3.1%</td>
</tr>
<tr>
<td>Germany</td>
<td>1.8%</td>
</tr>
<tr>
<td>UK</td>
<td>1.4%</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>0.9%</td>
</tr>
</tbody>
</table>

Table 1: Output of the agricultural industry per country, 2013 (http://ec.europa.eu)

According to EUROSTAT (2015), 99% of all agricultural holdings in Greece are family farms. As FAO defines, the term "family farm" is used for any farm which is under family management and the 50% or more of the standard labor force is provided by family workers. It is worth mentioning that the agricultural sector in Greece is characterized by a large number of small farms. The number of farms in Greece is about 800,000 and the average size of 40 acres (ELSTAT, 2015). This feature is due to historical and social reasons.

The graph below depicts the sizes of agricultural holdings as part of the total. It is obvious that almost 80 percent of the agricultural holdings in Greece are smaller than 5 acres, while only 9 percent of farms are bigger than 10 acres. One of the key characteristics and most serious structural problems the Greek agriculture is facing, which even dramatically exacerbated in the highlands, is the fragmentation and the great dispersion of farmlands. These problems are the result of both the particularities of the Greek natural environment, and the social, political, cultural and economic conditions which determined specific periods of Greek history.
3.2 The role of the FAB Principles

The private sector possesses an important part of global economies. Developed, as well as developing, countries depend on private enterprises for their progress (Federighi, 2014). In Greece, a country where the rural sector contributes significantly to GDP, rural enterprises play an imperative role in the economic prosperity of the country. Even more in recent years, when the financial crisis has made private investments even more important.

Businesses that choose to comply with authorities, conquer multiple targets. Initially, they offer healthy and nutritious food which can be consumed safely. In addition to that, sustainable means are used for the production, thus they help to meet global environmental needs. Also, the efficient and sufficient use of resources, with the proper governance, results sharing value across the entire value chain (Federighi, 2014). The biggest challenge most countries face is corruption. As presented in the results of this dissertation, lack of transparency is one of the main challenges Greece has to overcome, as well.

“The Food and Agriculture Business Principles establish a set of values for companies in this sector wanting to act responsibly, by bridging between their practices and the public good outcomes sought by policymakers,” mentions Puvan Selvanathan, Head of Food and Agriculture at the UN Global Compact. “We welcome all farmers and agribusinesses – regardless of size, crop or location – to make this principle-based commitment and show their overall orientation toward corporate sustainability”, he adds. (Coco, 2014).
According to Federighi (2014), those that comply with the FAB Principles, advance those that do not comply. High nutritional quality products, the production of which has been based on specific sustainable methods, are easier to gain the trust and confidence of the consumers. Thus, the company benefits in respect to competitors. Those firms that are conscious in sustainable issues and committed to principles, can achieve competitive advantage that will differentiate them from their competitors. As a result, they may become leaders of the sector, if they communicate it well. In Greece, a country that has many small agricultural enterprises, becoming leader of the agricultural sector is ambition for many food and agriculture companies.

At the beginning of the interviews for the dissertation research, the interviewees were asked whether they are familiar with some terms, in order to investigate the awareness of agricultural experts on sustainability terms. The first question they had to answer is whether they have heard about sustainable food production and consumption before. Only 2 answered that they have not heard about sustainable development. One is farmer and the other one is unemployed. Those who are academicians or work in the agricultural sector have heard about the concept of sustainability. But in the following questions, which are more specialized, only a few knew about the FAB principles, and about some sustainable farming and trade techniques. The results are shown in the graphs below.
Investigating the awareness of agricultural experts on some concepts, it is worth mentioning that those that have at least a bachelor's degree are familiar with sustainable farming and trading concepts.

When they were asked if they agree that conventional farming has a remarkable impact on the environment, only two of them answered that they neither agree, nor disagree. All the rest replied that they agree and strongly agree. Similarly, only three agreed that Greek agricultural businesses do promote sustainable production. Almost half of them had no opinion and the rest twelve disagree.

As about respecting human life and decent work, most of them agree that there are agriculture businesses in Greece that do not respect human life but on the contrary they do provide equal opportunities.
Of great interest is the fact that all participants agreed on the fact that there are agriculture businesses in Greece which offer working without insurance (Figure 7). Most of the cases this means working in the fields, where some days of the year there is a greater labor demand, such as the harvesting period. But it does not mean that working without insurance is not taking place in agricultural enterprises as well.

As about good governance and promotion of knowledge and technology, it seems that there is no informed opinion. Most of the interviewees replied that they neither agree nor disagree. That shows that there are gaps in information about transparency and that probably agriculture businesses are not engaged in knowledge and new technology transfer.

The last questions of the first part of the questionnaire are about Corporate Social Responsibility (CSR) of the agriculture businesses. At this point it is worth mentioning the meaning and purpose of CSR.

From the interviewees, 20 out of 26 know what Corporate Social Responsibility is, but only 6 of them have read a CSR report of an agriculture company. Two of them agreed that the report was relevant but incomplete. There were sections that were
not mentioned at all. One of them claimed that the CSR report he read was misleading.
4. Change requirements for implementing the FAB Principles in Greece

The FAB Principles, as developed by the United Nations Global Compact, include six directions for the food and agricultural businesses sustainable operation. These are the aim for food security, health and nutrition, the environmental responsibility of the corporation, the economic viability and share value in all activities, the respect of human rights and decent work, good governance, and finally the promotion of knowledge and technology.

4.1 Change requirements for food security, health and nutrition

Conscious choices of food security and nutrition are crucial, as they are sovereign stimuli for the entire supply chain. Quality and food safety can be achieved, for example by developing new regimes for food quality and animal health systems.

In the question about which characteristics Greek agriculture businesses must improve in order to provide healthier food with higher nutritional value, they agreed that certifications from international quality standardizations would be a helpful tool, combined with the improved storage and packaging. Biological food, which is produced by local farming seems to be a more healthy option (Figure 8). Currently, due to the economic crisis Greek consumers tend to buy bulk, cheaper products which are not certified by any official organisation.

Figure 8: Change requirements for food security, health and nutrition
Packaging and labeling improvements can be considered as one of the tools with significant impact on the food security. Packaging extends the life duration of the product, it offers protection from wear and tear; it increases transportability of food products and provides information to the consumers (Leal Filho & Kovaleva 2015). By contributing with different kinds of information, labels influence the attitude of consumers and purchasers. Many experts suggest firms to add to the label information about the environmental footprint, carbon values and waste rates related with each food product, so consumers will be aware of the environmental costs of the products they purchase.

Some interviewees emphasized that they are expecting from the food and agriculture businesses to respect the consumer and not to misinform him (mainly about the biological products). Finally, the firms must consider a good quality of raw materials, and not to have the economic profit as the only aim.

4.2 Change requirements for environmental responsibility

To increase the productivity and competitiveness in agricultural sector should, above all, be achieved by improving resource efficiency, by producing products with less water, energy, fertilizers (especially phosphorus and nitrogen) and pesticides. It also requires the increased use of renewable energy sources and the reduction of waste, based on lines set out by the European Commission Roadmap to a Resource Efficient Europe (2011). Sustainability requires pollution abatement, protection of water quality and soil functionality, the preservation of biodiversity and ecosystems, and the reduction of greenhouse gases emissions.

In the figure 9 we can see that the interviewees agreed that educating staff about the environmental footprint of their actions and the environmental responsibility they and the company have, is one of the most important characteristics Greek agriculture businesses must improve in order to become more environmentally responsible. The production of biological food, which is performed without the use of fertilizers and chemical pesticides, in addition to the recycling, reusing and reducing of wasted, could be a solution as well. Some other suggestions that were made are the technological upgrading of the equipment, with new, more eco-friendly.
4.3 Change requirements for economic viability

Correa and Looty (2010) presented the results of their survey on the impact of the financial crisis on 1,686 enterprises in 2008-2009. The enterprises that participated in the survey were from the following six Eastern European countries: Bulgaria, Belarus, Lithuania, Hungary, Romania, and Turkey. The results showed that about 75% of the businesses considered the decline in demand as the most important impact of the financial crisis. As might be expected, the fall in demand led to lower sales, hence lower revenues for businesses. Regarding the sectors affected, the largest decrease occurred in the metal industry (52.3% decrease) and in construction (50.1% decrease).

On the other hand, the smallest decline in sales was recorded in the food sector (27% reduction). Also, the drop in sales occurred equally to all businesses, regardless of size. The research shows that food industry is not one of the sectors that is easily affected by economic crisis, because it serves a basic need, which cannot be disregarded.

The figure 10 shows that all experts agree to the fact that exports play a significant role in the economic performance of a business. Greece is a country which exports numerous agricultural products, but it also imports many. The balance is not in favour of the exports, that is why it has to be improved. In order to achieve that Greek agricultural businesses could invest in advertisements, by branding the local products.
Figure 10: Change requirements for economic viability

In the FAB Principles, by economic viability and share value we mean fair distribution of the funds throughout the food chain. Producers should not be amenable to low prices for their products. Consumers, also, should be able to purchase products in affordable prices. At this point, the question that arises is whether the substitution of the natural and social capital to economic and human capital is socially acceptable, now and in the future, and whether it contributes to the sustainable development of the country.

4.4 Change requirements for human rights and decent work

Currently, the fields of agriculture and food together account for 17 million jobs (7.6% of total employment) and 3.5% of total added gross value in the European Union (Eurostat, 2016).

The issue of underage workers in Greece at first thought seem to be a minor problem. But the reality is far from this assumption. More than 100,000 minors work in Greece and the crisis is "encouraging" them to quit school to help financially their families. The exact number of minors working in Greece is hard to be calculate because of undeclared employment. The Greek Labor Ministry reports 1,500 child labor booklets while the Greek Statistical Authority estimates the number of workers aged 15-18 in 2011 were almost 9.000 people. In Greece the number of children working in agriculture is high. Limperis Illias (2015), the chief executive of UNICEF mentions that working in agriculture is not appropriate for the health of children as they are vulnerable to fertilizers not taken precautions and can be injured by the machinery that is used.

As mentioned in the previous chapter, decent working conditions is one of the most important facts that Greece must improve. In the Figure 11 it is obvious
that agricultural experts believe that a Greek agriculture enterprise in order to create decent work and to respect human rights, the most important action is to make fair economic transactions with the employees and the producers from which the raw material is being obtained.

![Figure 11: Change requirements for human rights and decent work](image)

### 4.5 Change requirements for good governance

The concept of transparency is often used in Community language and means the clarity in the functioning of the institutions. It is linked to a variety of applications involving wider access of citizens to information and EU documents, greater participation in decision making and greater clarity of legislation documents. In rural development policy it means the clarity in training and management of programs through a simplified and more accessible legislation. In the FAB Principles it means the clarity to the company's management policy and easier access of third parties to the operating conditions, production practices, and working conditions of employees.

As mentioned above, the respect in the rights of workers is one of the most significant parts where Greek agriculture industries must swivel. Good governance also means respecting the land and its natural resources, the exploitation of which must be founded on a production plan which is based on the current standards and best practices. In order to achieve that the suitable managers must be employed (Figure 12).
4.6 Change requirements for knowledge and technology transfer

Increased and sustainable agricultural production will only be possible with broader research and innovation efforts at all levels. Researchers and stakeholders have repeatedly pointed out the gap between the availability of the results of research and the implementation of innovative approaches in agricultural practices. It takes a long time to reach the new approaches in their application area and, on the other hand, the needs of new practices are not adequately communicated to the scientific community. Thus, important innovations are not implemented on the required scale, while not always the relevant research areas are given the attention they need.

According to the food and agriculture experts, Greek agriculture businesses in order to promote knowledge and technology, must motivate the employees for training and gaining new skills. Also, renewing the technological equipment may help in promoting technology (Figure 13).
5. Challenges for implementing the FAB Principles in Greece

The big question that occurs is how to produce more by polluting less and using fewer resources. And this, while taking into account economic and social aspects of each parameter. All this translates to the need for more innovation, more research and better technology.

Conducting in-depth interviews in order to examine topics on challenges for implementing the FAB Principles in Greece, a series of key issues have been identified. Among the various implementation barriers with which food and agriculture businesses are confronted, the most frequently are cited by the interviewees.

During the research, interviewees were questioned about the way that Greek food and agriculture businesses could take advantage of the economic crisis in order to become more efficient. The answers vary, but they agreed that it is needed to establish and participate in Producers Groups and generally to adopt cooperative logic in order to make a team effort with common goals. The economic viability of Greek agriculture will be achieved through the cooperation of small businesses of the sector in order to enhance their competitiveness and to reduce production costs, by having a uniform marketing policy. The aim must be the diversification of the final product with an objective of placing it in the market in sufficient prices.

One other challenge that Greece has to overcome is to reduce production costs (wherever it is possible without influencing the quality), to produce locally and to promote the high quality of Greek food products. The emphasis that the majority of Greek agribusinesses give on the subsidies rather than on the promotion of competitive products is the one of the main problems. The shift to the production of quality products is a precondition for improving the competitiveness of their products and to shape at least in the internal markets, such as those associated with tourism sector.

It is important to understand that agribusinesses must take advantage of the comparative advantages that are related to qualified agricultural Greek products. To strengthen the export sector preceded the organization of internal production system is needed. According to the experts, Greece must emphasize the quality of its products and then to move into new markets.
The UN FAB principles advice responsibility and transparency. Transparency conduces to the right environment for the company to be competitive and to promote cooperations which will realise the sustainable conversion of food and agricultural organizations. Knowledge sharing is key to sustain the three pillars of sustainability in a mutual support. Extension and advisory services are a fundamental knowledge sharing institution: protecting the ecosystem, productive operations, marketing and entrepreneurial skills and nutritional values (Federighi, 2014).

Corporate sustainability has not penetrated the larger part of corporations that are engaged in markets around the world. It has not gained international recognition yet. Federighi (2014) mentions that “Advanced performance by leading companies, also leading small and medium enterprises (SMEs), that anchor the principles in their business strategy, and not just isolated good practices, offers crucial inspiration”. It is about how is the business operating and the means it is using to generate the income and not about how the income is handled.

One more challenge is that Greek companies prove to be at least reluctant to adopt and endorse voluntary CSR initiatives. Legislative insufficiency, including the activities of food and agriculture enterprises, also can be found in Greece. Although efforts are being made to change this, and to comply with the European prototype, no environmental legislation has been established that is respected widely by the Greek industries.
6. Contributions of different societal factors

Different societal factors, such as the consumers, scientific communities, government, and the businesses themselves can contribute to the implementation of the FAB Principles. Each one has a different, but equally important influence.

In the graph below the opinion of experts about the contribution of societal factors is depicted. It can be observed that experts claim that government and scientific communities can have the largest influence on implementing sustainability in Greek agriculture and food businesses.

![Figure 14: Contribution of societal factors](image)

6.1 Consumers

Sustainable production must implement the restoration of inputs and outputs to the smart use and to the recycling of biomass. By that approach also post-harvest losses will be reduced. The challenge extends to the entire supply chain, from the primary producer to the consumer. Consumers can alleviate pressures for increased primary
production by changing their consumption patterns. That can be achieved only through knowledge. Education and training offer huge potentials for enhancing nutrition, healthy lifestyle and reduction of food waste. The sustainability criteria applied at critical points throughout the supply chain will help to increase transparency, trust, and knowledge.

6.2 Scientific Communities

Knowledge and education are important factors determining the behavior of a person. When developing strategies about waste management and waste decrease, it should be taken into consideration that awareness and education have an impact on every stage of the product life cycle, from the very beginning of the design of the product to waste and waste disposal.

The influence and effectiveness of direct communication can raise the awareness among consumers in order to consume sustainably (Leal Filho & Kovaleva 2015), and among producers in order to produce sustainably. Therefore, one of the priorities of the scientific communities should be building awareness. That can be achieved through campaigns, advertisements, initiatives for education or training.

Businesses have the obligation to inform public through campaigns, with the help of scientific communities. For example, consumers should be able to recognize and distinguish the signs the expiry dates. "Expiry date" means that the product can be consumed safely up to the date showed (e.g. for meat or fish). The date referred to "Best before" relates to the time during which the product retains all of its quality features, and it can be consumed safely even days after the date indicated, so it still meets the conditions for sale (Leal Filho & Kovaleva 2015).

When asked, the interviewees claimed that they would like to see more scientific researches on the food and agriculture sector.

6.3 Government

There are lots of barriers that make it harder for the economic potential for carbon sequestration to be reached. These barriers that belong into five categories – economic, risk-related, political/bureaucratic, logistical and educational/societal barriers may prevent even the best management practices from being implemented. "Smart-
er governments have to promote and leverage business, and good business performance, especially for SMEs that have less resources”. They can reward and give visibility to those good practices and business models (Federighi, 2014).

The most significant barriers to implementation of mitigation measures in the developing countries are economic (Winter & Lobley, 2009). These are mostly caused by poverty and in some areas they are inflamed by a growing population. “To begin to overcome these barriers, global sharing of innovative technologies for efficient use of land resources and agricultural chemicals, to eliminate poverty and malnutrition, will significantly help to remove barriers that currently prevent implementation of mitigation measures in agriculture, as Winter & Lobley (2009) remark. Education concerning the use of innovative technologies and better administrative practices could also help to reduce barriers. Successful examples of regulatory action include taxes on landfill, incentives for renewable energy, and standards (Leal Filho & Kovaleva 2015).

The “polluter pays” principle is another instrument for sustainable development. This legislation is not aiming to raise the awareness or to educate, but it still is an effective measure, due to the fact that no one is willing to pay when that can be avoided.
7. Conclusions and outlook

In the last years, both European and Greek agriculture suffer the consequences of the economic crisis, which is expressed mainly by the decline of trade, demand reduction and limitation of available resources to development. At the same time, there are severe consequences of climate change which exacerbate the frequency and severity of extreme weather conditions, thus reducing crop yield, loss of production and lower agricultural income.

The small size and the familiar form of farms (instead of business development), the maximization of subsidies as an objective of exploitation and indifference to the cost of production, low level of education of farmers and the uneven distribution between plant and animal production (3: 1 over 1: 1.5 in the EU) are the main reasons for the formation of new conditions, on both the internal and global markets of agricultural products. That has led to a decline of the Greek agricultural income and increase in the trade deficit in agricultural products.

On the other hand, European operators of farmers indicate emphasizing the need to strengthen the position of farmers and their businesses in the supply chains. It is worth noting that the environmental dimension of the most rural policy programs remains problematic. The inclusion of agricultural products in a framework of environmentally friendly production is necessary to ensure consumers that the product is safe for their diet, but also that their production process does not have impacts on the environment. Unfortunately, in many agricultural products the environmental dimension in their production is not taken into consideration.

All the above reasons made the United Nations to bring forward the “Food and Agriculture Business Principles”, which aim not only on the economic growth of the food and agriculture businesses, but also on the environmental protection, food security, and the human rights.

From the research that took place during this dissertation, the general conclusion that accrues is that Greece must overcome many obstacles in order to successfully implement the Principles. To that, not only food and agriculture businesses are responsible, but also other societal factors such as the consumers, media, government, and science.
The consumer probably is the most determining actor of an economy. He has a dominant, strong and decisive economic power since he defines the market with his choices. Greek consumers have not realized that they own this power, probably due to their lack of awareness. To that lack of awareness, a large share of responsibility have the Media. Media is influenced by the government. Government does not have sufficient budget to support and subsidy such agricultural policies.

Just like, one cannot build Rome in a day, similarly one cannot “green” Rome in a single day either. Implementing the sustainability in a business operation there needs to be long-term investment and commitment. Right from every macro policy-level, to each micro farmer interference.

Further research is recommended, when economic crisis will be attenuated and Greek food and agriculture businesses will be in a position to invest in sustainable practices. It would be of particular interest to investigate the extent of the United Nations Food and Agriculture Principles application in Greek food and agriculture businesses a few years later. In addition, further research is recommended which will be conducted in the agricultural enterprises.

8. Bibliography


FAO. (2014). *Food and Nutrition in Numbers*. Food and Agriculture Organization.


Appendix

International Hellenic University
School of Economics and Business Administration
MSc in Sustainable Development programme

QUESTIONNAIRE

Dear Sir/Madam

My name is Liana Sargsyan and I am a MSc student of the International Hellenic University. The following questionnaire is a part of my dissertation and it aims to investigate the implementation requirements and challenges Greece may face when attempting to adopt the UN Global Compact Food and Agriculture Business Principles.

These principles are developed by the United Nations Global Compact, and encourage agribusinesses to aim for sustainability through food security, environmental and economic viability, respect in human rights, good governance and accountability, and access of knowledge and technology.

I would like to assure you that the questionnaire is strictly anonymous and will only be used for scientific research.

Please make sure that your answers are sincere and clear.

For any further information or clarification please contact via e-mail at: l.sargsyan@ihu.edu.gr

Thank you for your collaboration.

N° of questionnaire: ........................................ (to be completed by the researcher)

Date: ........................................
PART A: The situation of Greek agriculture businesses nowadays

1. Have you heard about sustainable food production and consumption before?
   - Yes ☐
   - No ☐
   - I have heard only as a concept ☐

2. Have you heard about the UN Food and Agriculture Businesses Principles before?
   - Yes ☐
   - No ☐
   - I have heard only as a concept ☐

3. Which of the following concepts are familiar to you?
   (You may select more than one)
   - Precision farming ☐
   - Smart farming ☐
   - Organic farming ☐
   - Contract farming ☐
   - Sustainable farming ☐
   - Fair trade ☐

4. What is your opinion about the following statements?

<table>
<thead>
<tr>
<th>Statement</th>
<th>strongly disagree</th>
<th>disagree</th>
<th>neither agree nor disagree</th>
<th>agree</th>
<th>strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greek agriculture businesses promote sustainable production.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crisis has affected the quality of food Greece produces.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conventional farming has a remarkable impact on the environment.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic crisis has made Greek agriculture businesses to care less about the environment.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greek agriculture businesses ensure economic viability across the entire food and agriculture chain (from farmers to consumers)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are agriculture businesses in Greece that do not respect human life.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are agriculture businesses in Greece that offer working without insurance.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are agriculture businesses promote and provide equal opportunities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greek agriculture businesses are transparent concerning their procedures.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greek agriculture businesses promote access to information, knowledge and skills for sustainable food and agricultural systems.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5. Have you heard about Corporate Social Responsibility?
   Yes ☐  No ☐  I have heard only as a concept ☐

6. Have you read any Corporate Social Responsibility report of an agriculture company?
   Yes ☐  No ☐

7. If yes, what was your opinion on that? (You may select more than one)
   - It was credible ☐
   - It was misleading ☐
   - It was relevant ☐
   - It was incomplete ☐
   - It was indifferent ☐
   - Other (please specify) ………………………………

PART B: Changes of implementing the Principles

8. Which of the following characteristics Greek agriculture businesses must improve in order to provide healthier food with higher nutritional value? (You may choose more than one)
   - By supporting the production of biological food ☐
   - By improving storage and packaging ☐
   - By encouraging local farming ☐
   - By using certifications from international quality standardizations e.g. ISO 22000 ☐
   - Other (please specify) ……………………………………………………………………………………

9. Which of the following characteristics Greek agriculture businesses must improve in order to become more environmentally aware? (You may choose more than one)
   - By encouraging local farming ☐
   - By supporting the production of biological food ☐
   - By educating and training staff ☐
   - By recycling, reusing or reducing their wastes ☐
   - Other (please specify) ……………………………………………………………………………………

10. Which of the following characteristics Greek agriculture businesses must improve in order to ensure economic viability? (You may choose more than one)
    - By improving exports ☐
    - By decreasing wages of employees ☐
    - By advertising the products ☐
    - Other (please specify) ……………………………………………………………………………………

11. Which of the following characteristics Greek agriculture businesses must improve in order to create decent work? (You may choose more than one)
To provide equal working opportunities to everyone   ☐
To confront working without insurance   ☐
Fair economic transactions with producers and with employees   ☐
In case of imports, to check the conditions of production   ☐
Other (please specify) .................................................................
........................................................................................................

12. Which of the following characteristics Greek agriculture businesses must improve in order to ensure good governance and transparency?
(You may choose more than one)
   By respecting land and natural resources   ☐
   By respecting the rights of workers and consumers   ☐
   By being legal in all of its procedures   ☐
   By publishing a truthful Corporate Social Responsibility report   ☐
   Publicizing annual balance sheets of the company   ☐
   Other (please specify) .................................................................
........................................................................................................

13. How could a Greek agriculture business promote knowledge and technology?
(You may choose more than one)
   By training and educating employees   ☐
   By sponsoring scientific researches   ☐
   By renewing its technological equipment   ☐
   Other (please specify) .................................................................
........................................................................................................

14. How do you think that Greek food and agriculture businesses could take advantage of the economic crisis in order to become more efficient?

..................................................................................................................................................................................................................................................................................................................................................................................

15. How do you think that Greek agriculture businesses could support food and agriculture systems that optimize production and minimize wastage?

..................................................................................................................................................................................................................................................................................................................................................................................
PART C: Contributions of societal factors

16. How much do you believe that the following factors could influence the improvement of sustainability of Greek agriculture and food businesses?

<table>
<thead>
<tr>
<th>Factor</th>
<th>Not at all</th>
<th>A little</th>
<th>Moderate</th>
<th>A lot</th>
<th>Very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>The business itself</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scientific communities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

17. Would you like to see more scientific researches on the food and agriculture sector?

- Yes, we need more evidence [ ]
- No, there is enough evidence [ ]
- I don’t know [ ]

18. How could Greek consumers contribute to the implementation of the UN Food and Agriculture Business Principles?

- By being informed and aware of the global developments [ ]
- By increasing demand on sustainably produced products [ ]
- By buying local products [ ]
- By buying certified products [ ]
- Other (please specify) …………………………………………………………………
  ………………………………………………………………………………………………………

19. How could the Greek government contribute to the implementation of the UN Food and Agriculture Business Principles?

- By providing economic incentives to businesses [ ]
- With the legal status of environmental responsibility of the businesses [ ]
- By amending legislation barriers [ ]
- By ensuring fair prices for whole chain from producers to customers [ ]
- By strengthening governmental control to ensure legality [ ]
- Other (please specify) …………………………………………………………………
  ………………………………………………………………………………………………………

20. How could Greek media contribute to the implementation of the UN Food and Agriculture Business Principles?

- By promoting transparency [ ]
- By displaying all views [ ]
- By notifying the public about sustainability [ ]
- Other (please specify) …………………………………………………………………
  ………………………………………………………………………………………………………
PART D: Socio-demographics

21. Please indicate your gender.
   Male ☐   Female ☐

22. Please indicate your age range.
   Below 25 ☐
   25-35 ☐
   36-45 ☐
   46-55 ☐
   56-65 ☐
   66 and over ☐

23. Please indicate your level of education.
   Elementary school graduate ☐
   High school graduate ☐
   Bachelor's degree ☐
   Master's degree ☐
   Doctorate degree ☐
   Post-doctorate degree / lecturer/ professor ☐

24. Please indicate your occupation.
   Academician ☐
   Farmer ☐
   Startup businesses ☐
   Small/medium businesses ☐
   Large/multinational corporations ☐
   Civil servant ☐
   Student ☐
   Unemployed ☐
   Retired ☐

25. Please indicate your connection with the agricultural sector.
   Academic background ☐
   Preoccupation with agriculture or livestock breeding ☐
   Working in agribusiness ☐
   I have no connection with the agricultural sector ☐
   Other .................................................................
29. Please indicate your annual household income range.

- Less than 10.000€  □
- 10.001€ – 20.000€  □
- 20.001€ – 30.000€  □
- 30.001€ - 40.000€  □
- 40.001€ - 50.000€  □
- More than 50.000€  □

30. General comments or clarifications

........................................................................................................................................................................
........................................................................................................................................................................
........................................................................................................................................................................
........................................................................................................................................................................
........................................................................................................................................................................

End of the survey. Thank you for your participation!