



The sustainable supply chain governance (SSCG) system performance

'A longitudinal analysis'

Master Thesis by J.A. Metselaar

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List of Abbreviations

ATOs	= Alternative Trading Organizations
BLG	= Annex parliamentary document
BRF	= Letter from the minister or secretary
C	= Coverage
CC	= Compliance Control
CCcontrol	= Compliance Control – control frequency
CCsanctions	= Compliance Control – sanctions
Cecon	= Coverage economic sphere
Cenv	= Coverage environmental sphere
Csoc	= Coverage social sphere
CSR report	= Corporate Social Responsibility Report
D/V	= Debate or parliamentary question
ECF	= European Coffee Federation
FAO	= Food and Agricultural Organization of the United Nations
FLO	= Fairtrade Labeling Organization
FLO-Cert	= Fairtrade Labeling Organization Certification
GDP	= Gross Domestic Product
GNP	= Gross National Product
GRI	= Global Reporting Initiative
GSIP	= Governance System Impact Potential
ICA	= International Coffee Agreement
ICO	= International Coffee Organization
ILO	= International Labour Organisation
KST	= Parliamentary Documentation
KVNKT	= Royal Dutch Branch organisation for the coffee and tea industry
MNC	= Multinational Corporation
MP	= Member of Parliament
MSI	= Multistakeholder Initiative
NGOs	= Non Governmental Organisations
NYCE	= New York Coffee Exchange
P	= Precision
Pecon	= Precision economic sphere
Penv	= Precision environmental sphere
Psoc	= Precision social sphere
Utz	= Utz Certified
SLDE	= Sara Lee / Douwe Egberts
SSCG system	= Sustainable Supply Chain Governance System
TCC	= Tropical Commodity Coalition

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Executive Summary

Due to processes of globalisation, the current world economy has become international in scope and organisation. Firms have become linked together in 'commodity' or 'supply chains', whereby the leading firms are predominantly located in developed countries and production takes place in developing countries. The production in these developing nations has led towards situations which have become socially, economically and environmentally unsustainable. To improve the impact of production, initiatives were made by firms with 'sustainable supply chain governance (SSCG) systems. These systems differ from the regular supply chains in their focus on environmental and social ethical goals, NGO involvement and third party compliance control (Vermeulen, 2008). These systems are complex by nature and it is difficult to determine and analyze their *final* impact made upon sustainable development. This study therefore makes the hypothesis that a system can have a *potential* impact reduction: the governance system impact potential (GSIP).

The GSIP is the reproduction of the market share and governance system performance (GSP) and may vary over the years. It is hypothesized that this variation can be influenced by long term dynamics of various actors – the market, government and civil society - and their activities and instruments. This study focuses upon gaining insights and creates a method to measure the influences of actor related variables within a SSCG system upon the GSIP by analyzing the performance components. This will be done with the application of various successive cases of coffee SSCG systems – the Fairtrade and Utz Certified standards - as the coffee market has a history in diverse sustainability problems as well as attempts to create a sustainable supply chain.

In the first part of this study the GSP by analyzing the three performance components. Coverage stands for the degree in which the links of the supply chain are covered in terms of the sustainability aspects of society, the economy and the environment. A method was created with different indicators covering the sustainability in the three spheres. Precision uses these indicators as well, but looks at the level of detail. By indicating whether the requirements were high, low or recommended, a score could be defined. Compliance Control looks at to which extend the decisions and approaches of the standard are supported and implemented within the chain. It consists out of the amount of controls and the sanctions given when non compliance occurs. The reproduction of these results showed the GSP. With Fairtrade, the most increase was made between 2003-2004 and 2008-2009. Utz Certified increased most with the new 2009 standard, while the 2006 standard results in a lower GSP than 2003, a result of a lower precision score. The GSP however could not be multiplied by the market share as correct data could not be found.

As hypothesized, the governance system impact potential could be explained by the different actor activities and instruments. For the firms, CSR reports and year reports and for the government parliamentary negotiations and questions as well as government regulations were analyzed. For the civil society, the newspaper and scientific articles as well as NGO (year) reports were analyzed. All results show a similar trend: from the second half of the first decade there were more activities related to sustainability, sustainable coffee and sustainable supply chains.

These activities are most likely related to dynamics surrounding the new emerging initiatives on sustainable coffee production, focusing upon environmental development. This left Fairtrade without a monopoly position. A correlation therefore is that the dynamics resulting from these initiatives influenced the actor activities and the already existing initiatives and their GSP, especially of Fairtrade. Before 2002, the Fairtrade standard had very little environmental requirements, but this increased from 2005 onwards. It is hypothesized that this is a result of Fairtrade's attempt to compete with the other emerging systems. In conclusion, the method created in this study proves to be able to measure the potential outcome of a system, but explaining the variation of the GSIP by using different actors and activities was difficult. The original hypotheses are therefore not valid. Instead, the competition between the SSCG systems itself has probably led towards a higher, better and precise focus upon sustainability.

Keywords: *sustainable development, coffee, supply chain, Fairtrade, Utz Certified*

1. Introduction

1.1 Introduction

Due to processes of globalisation, the current world economy has become export oriented. Developed and developing countries have become interdependent upon one another through the trade flows of products, services and finances. Besides being international in scope, the economy is also international in its organisation. Over the years, different firms have become linked together on the basis of sourcing and contracting agreements, in so called 'commodity or supply chains', whereby the leading firms are predominantly located in developed countries.

Though it is believed by liberal economic theories that this increase in trade would result into better economic positions and development for the developing countries, practice does not always reflect this positive relation: production in developing countries has led towards situations which have become socially, economically and environmentally unsustainable. But even though these situations have been recognised, development paradigms and strategies dealing with development have shifted (from economic to human development, see e.g. de Jong, 2006), it remains difficult to change the unsustainable production within these supply chains due to the powerful position of the lead firms. However, awareness has risen among some firms and small initiatives on improving the impact of production have been made. With these small initiatives, the start was made for sustainable supply chain governance systems (SSCG-systems). These systems differ from the regular supply chains in their focus on environmental and social ethical goals, NGO involvement and third party compliance control (Vermeulen, 2008). For different products, there are different SSCG systems, as within the coffee market where production has led towards different social, economic and environmental sustainability issues.

These SSCG-systems are complex by nature and it is difficult to study the exact *final* impact the system has made upon sustainable development. The hypothesis therefore is made that a system can have a *potential* impact reduction (*governance system impact potential*), to be defined, as explained below, as the market share of a system multiplied by the system's performance of the supply chain. This will be used as a proxy, describing the chance of having a final impact reduction. The larger the market share and the better the system's performance of a supply chain, the higher the system's potential and the chance of potential improvements. The key question then is: what explains this system potential? Possible explanations are the long term dynamics of various actors, applied activities and instruments within a supply chain influencing the performance of the supply chain. This in turn influences the overall potential impact of the supply chain. Currently there is no insight into the influence of various societal actors on the governance system impact potential yet. With the application of various successive cases of coffee SSCG-systems – the coffee market has a history in diverse sustainability problems as well as attempts towards creating a sustainable supply chain. This study focuses upon gaining insights into the influences of actor related variables within a SSCG-system upon the governance system impact potential by analyzing the actors' activities and instruments throughout the years. Besides these outcomes, the study can also be used to gain more insights into the role of actors involved within these systems and how their role can be better recognised and improved thereby increasing the governance performance of the SSCG-system.

1.2 Performance of a sustainable governance system: really addressing sustainability?

Introducing sustainability within a supply chain is difficult, but not as difficult as determining the final impact of such a system upon the existing environment. Measuring this final impact of supply chains has not been done yet and this study therefore aims to take a deeper look into the impact of sustainable supply chain governance (SSCG) systems and its explanatory variables.

But what is a sustainable supply chain governance system? As explained above, environmental impact (ecological and community impacts) of a supply chain is often allocated to developing countries. However, jurisdictional limits often disable governments from preventing these shifts in the allocation of impacts. Becoming sustainable on the production side on the other hand, might also not be effective. Within world wide supply chains, like coffee, communication on improving the production conditions often requires the

cooperation and commitment of the major players in the market (Vermeulen, 2008). Initiatives for sustainability are therefore often made by small individual firms, whom started to bypass the large mainstream supply chains, thereby providing a basis for SSCG systems. These systems distinguish themselves from regular supply chains. The SSCG system consists out of buyers and suppliers, whereby the buyers often have an impact upon the supply side of the production, thereby affecting the social and environmental sustainability. If changes therefore have to be made, both buyers and suppliers within the SSCG system need to work together to create improvements. See figure 1.1 for a schematic outline.

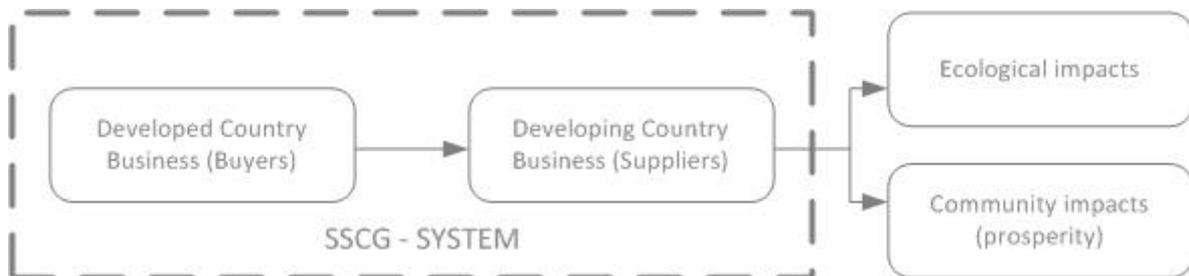


Figure 1.1: schematic outline of the SSCG-system

As mentioned before and is implied by its name, a SSCG system is a form of governance which governs a chain and can take place on three different levels. Being either a single firm, joint sector or cross sectoral approach; respectively first, second and third generation governance systems. With single firm approaches, actions and decisions take place on the level of an individual firm. Joint sector approaches on the other hand cover the supply chain wide governance system, whereby third parties often initiate a new direction of production. This direction is eventually taken over by other firms. Furthermore, independent parties take care of the auditing of the firms, thereby covering the issue of reliability (Vermeulen, 2008). Last, the cross sector approach goes beyond specific products and sectors. Decisions which are made here have been designed in such a way that they can be applicable in a uniform way (Vermeulen, 2008). But how sustainable is a SSCG system actually?

Even though SSCG systems claim to be sustainable, the question always remains what the final impact of these systems is upon the existing ecology and community. This, however, is difficult to determine due to a lack of data and the difficulty of determining the impacts of other systems and factors and filtering these out. A second best option would therefore be to measure the potential impact upon the ecology and community, which is being called the *governance system impact potential*. This governance system impact potential consists out of the market share of a system multiplied by the performance of a chain.

As described by Vermeulen (2008), the performance of a SSCG system determines the amount to which one single SSCG system is addressing sustainability, the 'environmental performance' opposite to the 'economic performance' of the regular supply chain. This performance is called the governance system performance (GSP) and consists out of the following components: coverage and precision, the goal setting performance, the compliance control of the system upon the support and implementation, knowledge transfer within the chain, the support towards the suppliers, the openness and inclusiveness of the system and the complexity of the transactions. However, not all these components determine how sustainable the system is, but merely determine the focus upon sustainability. Therefore this research will only include the three components which have a direct influence upon the sustainability of the system, which are coverage, precision and the compliance control.

The variation of these components within a chain differs depending on different strategies and instruments of actors involved such as their behaviour, capacity and motivation (Vermeulen, 2008). Thus, the firms themselves, but also civil society, governments and their related activities and instruments influence the GSP of the supply chain and thereby also the governance system impact potential. As the governance system impact potential of a SSCG system varies over time, it is assumed that the different actor instruments and activities can explain these variations. The question therefore remains, how can they explain the (assumed) different variations in governance system impact potentials over time?

Knowing that more insights are needed on the influence of the actors involved upon the governance system impact potential and the chance of a final impact improvement, the question now is *how* this should be measured. In order to come up with the requested results, this study aimed at using a quantitative method of analysis [a time series regression analysis], by using coffee SSCG systems as a case study for results. Due to difficulties in obtaining information, the amount of data was not sufficient for using this method of analysis. Instead, a comparison will be made between the actor activities and instruments in relation to the government system impact potential.

1.3 Relevance of studying the governance system impact potential of a SSCG system

Studying an SSCG system and the governance system impact potential is interesting and useful for several reasons. First of all, this study fits into the overall research aim of the faculty of Geosciences. The objective of the research programme on ‘environmental governance for sustainable development’ is that they want to understand “how and why different – often co-existing – modes of governance either do or do not result in (environmental) sustainable outcomes” (Faculty of Geosciences, 2009). This study will fit in this research objective since it makes an attempt to understand on a long term basis what influences the (environmental) sustainable outcomes, and how this can be explained.

Secondly, articles have been written on the greening of the supply chain and how to incorporate sustainability within the supply chain. See e.g. Vermeulen and Ras (2006) on the challenges and barriers on both sides of the supply chain when it comes to make it more sustainable or Seuring (2004), his researches integrated chain management and supply chain management in order to see how it addresses sustainable development. However, further research into the SSCG-system as described by Vermeulen (2008) and the influence of actors as well as their related activities and instruments onto the performance components and related potential impact has not been done yet.

Third, as explained, various coffee systems will serve as case studies for this analysis. This choice is innovating as the coffee supply chain has not been studied as an SSCG-system yet. This furthermore implies that the performance of the coffee supply chain has not been studied yet, which makes this study renewing in that perspective as well.

Last, this study also has a social relevance. For actors involved within the SSCG-systems, such as the government, the market and the civil society (NGOs), the relative influence of the actors and factors involved will be indicated. When the relative influence of the actors involved is known, it will be easier for these actors to see what they have to be aware of within new round table meetings within the SSCG-system. It can provide them with new insights within the decision making procedures and might possibly help them to increase the sustainability performance of the chain when they are aware to what and whom they have to pay attention to.

1.4 Research

1.4.1 Research Objective

The objective of this research is linked to the research objective, which is the governance system impact potential and aims to develop a method for measuring and explaining this potential which is argued to consist out of various governance system performance components and the market share of the system. This study also aims to establish a method and trying to use this method to explain the variation in time of the governance system impact potential.

1.4.2 Research Question

In order to attain to the research objective, a research question has been formulated which will serve as the main question for this study. This question is:

“To what extend do variables related to the different actors, activities and instruments (government, market, civil society) explain the variation in time of the governance system impact potential (as the reproduction of the market share and governance system performance of SSCG-systems)?”

This question has two underlying assumptions. The first assumption is that there is a variation in time of the governance system impact potential and the second is that this variation can be explained by different actors involved. The first part of the assumption addresses the part of paragraph 1.2 where it is assumed that the market share influences the governance system potential impact when it descends or ascends. Secondly, it is based on the assumption that long time SSCG systems will continue to improve their certification standards, as new information on sustainable development will continue to grow, upon which these standards have to adapt. The second assumption is based on information presented in paragraph 1.2, and the hypotheses that either the market, government and/or civil societies activities and/or instruments influence the government system impact potential (see also paragraph 3.3.2). A comparison between the three different actors is made in order to come up with an appropriate answer.

1.4.3 Sub Questions

A central part within the main question is the governance system impact potential and its variation. Before the variation in time of the governance system impact potential can be measured, the governance system impact potential will have to be defined. As explained in paragraph 1.2, the governance system impact potential consists out of the governance system performance components though it is not clear how the governance system performance components is defined. The first research question therefore is:

RQ1 Which aspects can be used to indicate the level of (1) coverage, (2) precision and (3) compliance control, within the coffee SSCG-system and what is the variation of these governance system performance components within the different coffee SSCG- systems studied, set out over the last (X) years?

The data collected with the first question can be multiplied to determine the governance system impact potential. After determining of the governance system impact potential, the next step is to identify how this potential could have been influenced. The second question therefore is:

RQ2 Which actors, activities and instruments influencing the performance of the coffee SSCG-system can be distinguished?

Having established the governance system impact potential is not enough. The governance system impact potential is influenced by actors and their related activities and instruments, as implied in paragraph 1.2. The third research question is therefore:

RQ3 Which variations in time of the governance system impact potential can be distinguished?

If all goes well, all variables should have been determined. Next step is to find correlations between the defined variables and explaining these variables in time:

RQ4 What is the correlation between the distinguished actors, activities and instruments of RQ2 and the variation time of the governance system impact potential of each coffee SSCG-system studied?

When all data is collected, it could be possible to draw some future lessons out of these results:

RQ5 What are the implications of the outcomes of RQ1-RQ4 for the actors involved within the coffee SSCG-system and which learning opportunities are there for these actors?

1.4.4 Outline

This thesis consists out of seven chapters, and can broadly be divided in to four major parts. The first part can be perceived as the background information. It consists out of this first chapter providing the introduction to the topic and the research questions. Chapter 2 tells the story of coffee: how it is produced, the agreements on production which have been made, the effects of coffee and the initiatives which have been made. Chapter 3 is the last chapter of this first part and provides the theoretical concepts necessary to understand the second part of this thesis. Different theoretical concepts will be explained such as sustainable development, governance and influence.

Part two of this thesis will provide the answer to the first and second research question and is about the analytical framework and operationalisation of the variables. The fourth chapter describes the method of

analysis used within this study and the operationalisation of the different components and variables used within this analysis.

The third part of the thesis is the results and answers the third and fourth research question. In chapter 5 the results (governance system impact potential) of subsequently two different coffee SSCG systems - Fairtrade and Utz Certified – will be given. In the sixth chapter, the variation of the different actor influences in terms of activities and instruments is provided as well as the correlation between the governance system impact potential distinguished in chapter 5 and the actor influences found in chapter 6 is given.

The fourth and final part of this thesis is the conclusion (chapter 7) and will provide an answer to the fifth research question and the main question as distinguished in paragraph 1.4.3. This part also contains a discussion on the entire thesis process and methods used.

2. Coffee: from bean to cup

2.1 Introduction

For most people, coffee is a part of their everyday life. Around 2.25 billion cups of coffee are being consumed in the world every day (Dicum and Luttinger, 1999, ix). The image of coffee has undergone a 'latte revolution': whereas coffee first was consumed as a simple cup of black coffee, the consumer can now choose from a wide variety of origin, brewing, grinding methods, flavours, et cetera.

Despite an increase in the consuming market, the producing countries are facing a coffee crisis. There is too much production and the farmers receive too little money to cover their production. Within the fifty developing countries producing coffee, the governance of the coffee supply chain is mainly in hands of the consuming countries in the North, in particular roasters (Daviron and Ponte, 2005). The problem therefore is not that the producing countries are not trading; the problem is that they are not gaining much from this trading.

Besides the social and economical problems caused by the coffee paradox and 'latte revolution', coffee production also causes environmental problems such as loss of forests and biodiversity. This chapter will therefore also focus upon these sustainability problems.

After this short introduction, this chapter will continue with an explanation on the production of coffee, followed by the export and product geography of coffee. Next, the different agreements and 'governance' of the coffee chain will be explained. This paragraph will end with an elucidation on the effects of coffee production as well as an introduction on the rise of sustainable coffee initiatives.

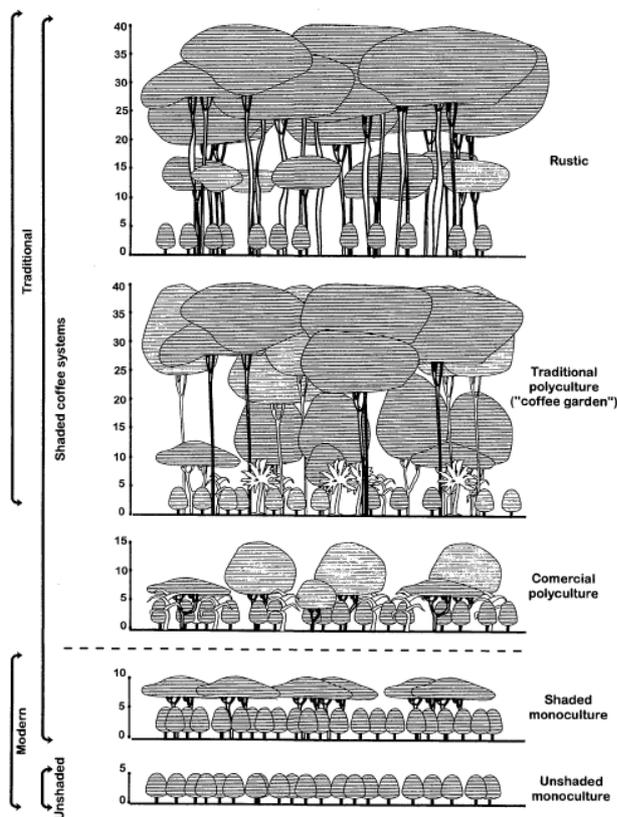


Figure 2.1: examples of five coffee growing systems, showing vegetational complexity, height of canopy and variety of components (Moguel and Toledo, 1999).

2.2 Coffee Production

Coffee is produced from cherries growing on trees. The coffee trees require a warm climate without sudden temperature shifts, frosts and need plenty of seasonal rain. These conditions are met between the tropics of Cancer and Capricorn (Daviron and Ponte, 2005).

It takes about three to five years before coffee trees can grow a full yield, but will continue yielding coffee for at least 20 years (Consumers International and IIED, 2005). Though the trees require a warm climate, they can be either grown with shade cover or in full sunlight exposure. Five types of coffee production can be seen in figure 2.1. With the traditional *rustic* polyculture plants growing on the floor of the forest are substituted by coffee trees, thereby only removing the lower part of the forest (Moguel and Toledo, 1999). In addition to the substitution, useful plant species are planted alongside coffee trees with the *traditional polyculture* system, resulting in maximum vegetation and enough diversity (Moguel and Toledo, 1999). In a *commercial polyculture* system, large parts of the original forest (canope) are removed and replaced by shade trees which are appropriate for coffee cultivation. The use of agrochemicals is not uncommon either (Moguel and Toledo, 1999).

The *shaded monoculture* and *unshaded monoculture* are both part of the modern cultivation system. With the shaded system, different tree species are planted to provide shade for the coffee trees. With this system, the agrochemical use is obligatory (Moguel and Toledo, 1999). In a unshaded system, as implied by its name, the coffee trees do not grow underneath a tree cover. This system is comparable to the regular agricultural system. This way of producing coffee is very intensive and requires a high input of chemical fertilizers and pesticides (Moguel and Toledo, 1999).

Though the quality of the coffee can be affected by the type of cultivation and temperature shifts, the main factor affecting quality is the tree specie, either arabica (*Coffea arabica*) or robusta (*Coffea canephora*). From both species of coffee, Arabica is the most common used version. At the beginning of this millennium, arabica coffee accounted for 64 % of the global coffee production (Daviron and Ponte, 2005). Both species produce a similar kind of bean. The difference between the two species is the vulnerability to diseases and growing conditions. Arabica coffee is more susceptible to attacks from pests and diseases and its best growing conditions are found in warm areas or tropical or highland zones. Robusta is less vulnerable to diseases and grows between sea level and altitudes of 800 metres (Daviron and Ponte, 2005). The altitude at which the coffee is grown is the final factor affecting the quality of the coffee. A higher altitude usually results in a higher quality (Consumers International and IIED, 2005).

Before the coffee cherries become grinded coffee and ready to be consumed, several steps are taken (figure 2.2). After waiting for three to five years the first harvesting takes place. After harvesting, the cherries can be either (primary) processed on the estate, or by other local farmers. This primary processing is necessary to remove the bean from the skin and pulp from the cherry. This can be done by either using a wet or a dry method. With the wet method, the beans are pulped, fermented, washed and dried (in the sun or in a machine). With the dry method, the cherries are divided into three groups: unripe, overripe or damaged. Next, the beans are being dried in the sun until the beans can be separated from the skin and pulp of the cherries.

The secondary process of the production is removing the hull, resulting in green coffee (Consumers International and IISD, 2005). After the hulling, the coffee beans are placed into 60 kilogram (kg) bags and being transported to the export harbour, ready being transported to a import harbour in a consuming country. The most important harbours are located in Antwerpen, Amsterdam and Hamburg in Europe, New York, New Orleans and San Francisco in the United States (Daviron and Ponte, 2005). The coffee is stored in the harbours before being relocated to other storage facilities and being roasted. During roasting, the coffee beans are usually placed in a large rotating drum, which has a heath source underneath (Daviron and Ponte, 2005). In order to create a specific taste or type of coffee, different types

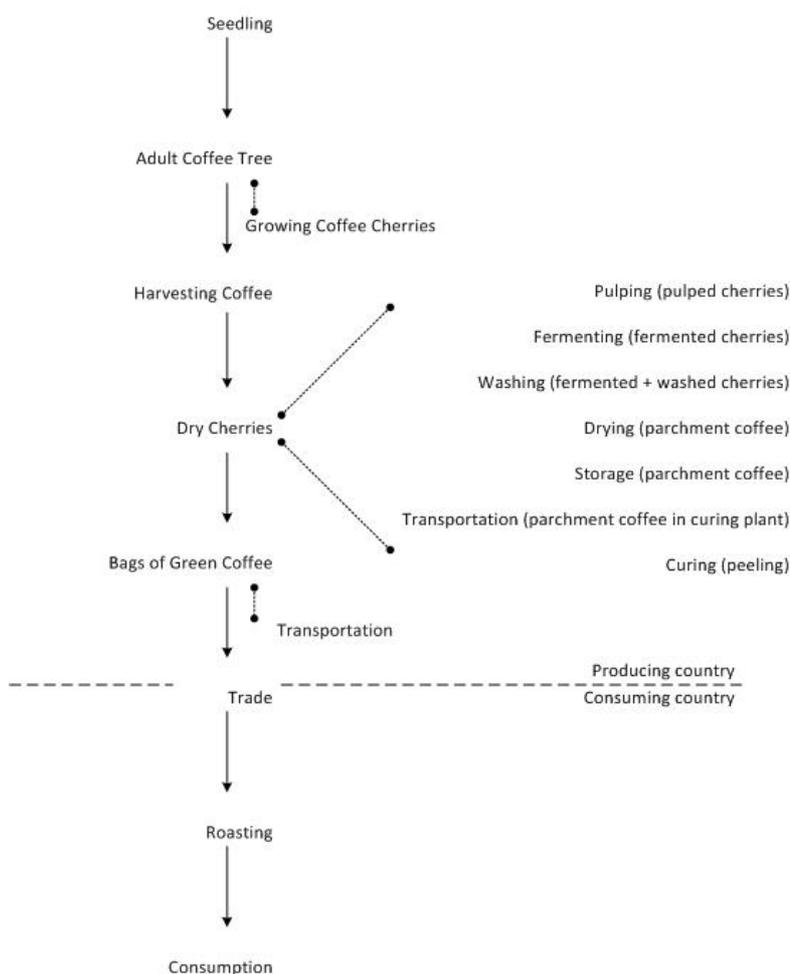


figure 2.2: coffee from seedling to consumption (based on: Daviron and Ponte, 2005)

of beans are usually blended during the roasting process. After this roasting process, the coffee is e.g. sold to retailers, catering outlets or coffee houses before it is consumed.

2.3 *Product and export geography*

While the production process of coffee was explained in the previous paragraph, the product and export geography was not. In the beginning of the nineteenth century, coffee was primarily produced on islands, before it was spread to the American nations, including Latin America. Soon after spreading, Brazil became the first exporting country within Latin America. Coffee production in the rest of Latin America did not emerge until after the 1920s, with Columbia as Brazil's main competitor. In the same period, British African colonies such as Uganda and Kenya also began producing coffee. French African nations did not start producing coffee until after the Second World War (Daviron and Ponte, 2005). In Asia, coffee cultivation is relatively young: it started around the 1980s and 1990s with a rapid development in Indonesia, followed by Vietnam in an even more rapid pace.

Within each producing nation, different coffee species are used for production. Numbers from the year 2007-2008 show that the Arabica coffee with 59% takes up the main share of the production, in contrast to the 41% of Robusta. The share of Arabica coffee declined compared to 2006, where the share of Arabica coffee was 62%. The overall largest producer of Arabica coffee are still Latin America countries with 42 million bags (of 60 kg), which is 58% of the total production. Latin America is followed by Central and North America, with 18,3 million bags. Asia and Australia are the main producers of Robusta coffee, together producing 31,3 million bags, representing 62 % of world production. With 11,8 million bags, Latin America is responsible for 23 % of the total Robusta production (KVNKT, 2008).

The labour process surrounding coffee production changed over the decades. In the beginning, coffee used to be produced by slaves, before it became prohibited. Hereafter, the labour model transformed from slavery to coerced (forced) labour either on large plantations or smallholders. Though most of the labourers worked on the large plantations, an increasing amount of farmers became smallholders. The emergence of these smallholder farmers was accompanied by a vertical integration of the chain: farmers sold their cherries to the mills which make sure that they were exported to consuming countries.

2.4 *Coffee Agreements*

Similar to the shift of the production centre, the centre of coffee trade also made a shift from Amsterdam to France and London. In addition, the New York Coffee Exchange (NYCE) was created in the United States in 1881. The NYCE is a futures market operating on grades and prices. New York became the centre of the market and the driving force behind several changes in production countries in the forthcoming sixty years. Besides New York, other coffee futures markets were created as well. Le Havre (France) opened in 1881, followed by London (England) and Hamburg (Germany) in 1888 (Daviron and Ponte, 2005). Nowadays, the NYCE is the reference market for Arabica coffee, while the London market is leading for Robusta coffee.

Despite these established futures markets, Brazil implemented defence coffee policies against the European markets at the end of 19th century in order to gain self control of the market. While this policy proved to be stimulating for the Brazilian coffee production, it also decreased the Brazilian market share in the world due to its prices.

Due to the Second World War and the closing of the European market, the conditions of coffee trade changed. The United States became the only buyers of Latin American coffee. Despite United States attempts to stimulate the Latin American coffee production by the establishment of the inter American coffee arrangement in 1940s, the Second World War interfered within this trading relationship. By the end of the war, the coffee market entered a period of overproduction between 1954 and 1956, resulting in a drop in the international prices. In order to stabilize these prices, the Latin American nations decided to draw up another agreement, the Mexico Agreement, which was renewed into the Latin American Agreement. Beside this Latin American agreement, the African countries also drew up an agreement in the years 1959 and 1960/1961.

Box 2.1: International Coffee Organisation (ICO)

The International Coffee Organisation, or ICO, is the main intergovernmental organization for coffee. The ICO was established in 1963 with support of the United Nations as a reaction to the economic importance of coffee (ICO, 2009). The ICO counts 77 member countries, of which 45 countries are exporting coffee and 32 countries are consuming coffee. The goal of the ICO is to establish a platform where government representatives of both producing and consuming countries can exchange their views on coffee and can create regulations. These regulations are being established within the International Coffee Agreement (ICA).

Also, sustainability issues regarding coffee have been recognized within the ICO and projects have been established to create a more sustainable coffee economy (ICO, 2009).

Both these agreements eventually led towards the establishment of the International Coffee Agreement (ICA) in 1962. All producing and consuming countries were involved with the establishment of the ICA, which included a regulatory system setting target prices and export quotas for coffee. Indicator prices and quotas were changed by the International Coffee Organisation (ICO, see box 2.1) accordingly to the changes in the market (Daviron and Ponte, 2005). Though the system might not have been perfect, it functioned well. The ICA regime fell in 1989 as a result of several factors. On the one hand there was rigidity among the roasters whom feared that competitors could get access to cheaper coffee from non

member countries. On the other hand there were cold war policies of the United States in relation to Latin America.

After the crashing of the ICA regime, the ICA quota system was set aside for two years (Sprang et al., 1989) before a new system was taken in place. Coffee trade was now based on the market situation, resulting in a decline in prices. For the first five years after the breakdown of the ICA, prices dropped from US\$ (dollar) 1.34 in the years 1984-1989 to US\$ 0,77 per pound of coffee (average) in 1990-1994 (Daviron and Ponte, 2005). Another result of the end of the ICA regime was the absence of export quotas, resulting in a chronic oversupply which was further enhanced by technical innovations and new planting systems. In the year 2004, the export products were exceeded by 100 million 60kg bags. In 2005, the coffee export reached about 111 million bags, which was lower than the demand of coffee which reached about 117 million bags in 2005. As a result, coffee prices were rising (KVNKT, 2006). In 2006, the prices of coffee continued to rise with about 7%. Coffee production however, exceeded the demand with 4 million 60kg bags in 2006 (KVNKT, 2007). In 2007, coffee prices continued to rise with 12,5%, while the production of coffee decreased. Coffee consumption also increased and in general there was a minor production excess in 2007 (KVNKT, 2008). In 2008, compared to 2007, prices were still rising, with an average of 15%. While production increased, there was no oversupply as a result of the increased consumption demand in 2008 (KVNKT, 2009). An overview in of the average ICO indicator price from 1988 onwards can be found figure 2.3.

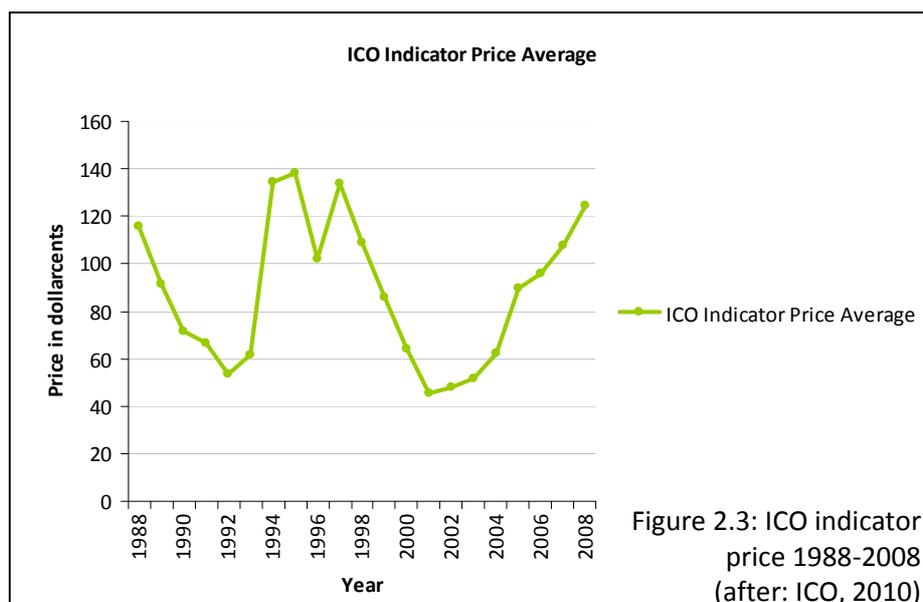
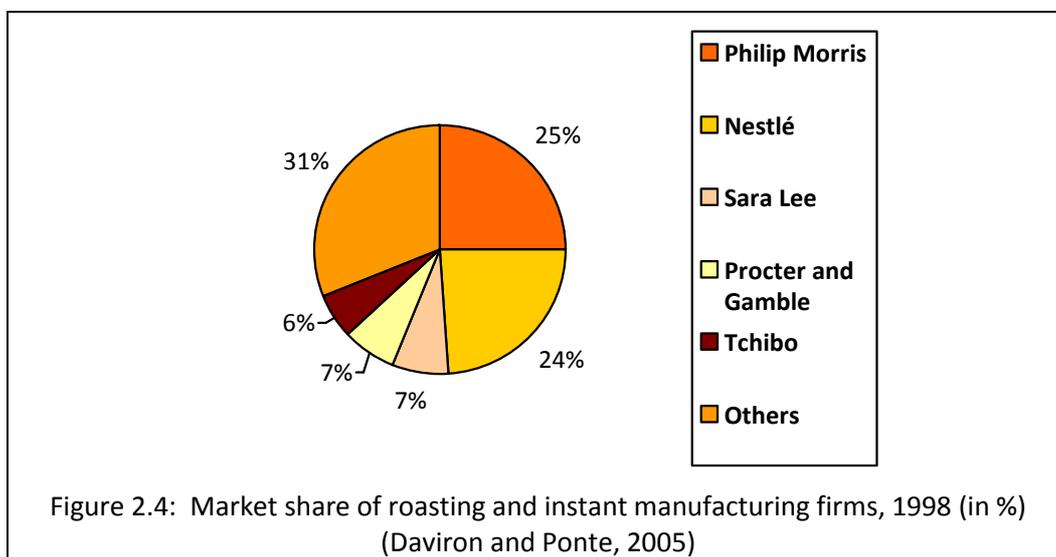


Figure 2.3: ICO indicator price 1988-2008 (after: ICO, 2010)

After the breakdown of the ICA regime, corporate strategies of the roasters became dominant in the coffee market. The current coffee market is 'buyer driven' and is for the majority organized and governed by a few large (roasting) firms (Verdonk et al., 2007; Ponte, 2004). In general, the coffee market can be seen as a heavily concentrated market, with a few major roasters. A reason for this is that it is relatively hard for small roasting firms to exist since they are too small to compete. In 1998, the two largest groups, Philip Morris and Nestlé, controlled 49% of the market share for roasted and instant coffees (Figure 2.4). Coffee roasters are also able to maintain and increase their powerful position, as they have taken advantage of the current oversupply as a result of the end of the ICA regime.



Overall, coffee is perceived as a stable and inelastic product. The growth of consumption is relatively low and the coffee demand does not vary much unless there is a large variation in coffee prices (Daviron and Ponte, 2005). Despite the fact that most coffee is bought at supermarkets and the powerful position of the food retail sector, coffee roasters have been able to maintain control over the supply chain. This resulted in lower retail margins of coffee for the supermarkets in comparison to other food portfolios (Daviron and Ponte, 2005). The powerful position of the roasters in relation to coffee however, is crumbling due to the emergence of new consumption patterns. There is an increase in the demand for specialty (sustainable coffee), resulting in a rise of specialty coffee shops and chains accompanied by a decline in the market share of the roasters. In the year 2000, the specialty coffee industry accounted for 17 % of the total green coffee imports in the United States by volume (Giovanucci, 2001). One of the most well known examples of the specialty coffee market is Starbucks.



Figure 2.5: Starbucks coffee

Instead of only selling coffee, Starbucks sells an ambience and a social positioning, thereby creating an experience for the consumer (Ponte, 2002; Daviron and Ponte, 2005), resulting in a worldwide increase of Starbucks' market share, as well as the market share of specialty coffee in general. This is illustrated by the fact that Starbucks managed to 'steal' 12% market share from the major roasters, whom formerly owned almost ninety % of the market, within six years of time (Daviron and Ponte, 2005). Despite this development, it remains unclear whether this decoupling of the regular coffee commodity chain will continue, since it has little to do with coffee and more with the flavours, a so called 'latte revolution'.

2.5 Effects of Coffee Production

The production of coffee is associated with a number of concerns related to the environment, the society and the economy. Though it is relatively hard to find studies on the negative effects of coffee production, it is assumed that the declining coffee prices as a result of the breakdown of the ICA resulted in a decreased social welfare, caused by declining revenues. Also the breakdown of the ICA might have increased environmental impacts as a result of increased production. Moreover, the powerful position of

the roasters has resulted in economic uncertainties for the farmers and a declining share of revenues for producer countries and farms (Consumers International and IIED, 2005; Griswold, 2000). The income for the producer countries is important, since at least 14 developing countries depend on the coffee production for more than 10% of their export earnings. In the three least developed countries – Burundi, Ethiopia and Uganda - coffee accounts even for more than 50% of their export earnings (FAO, 2005). Overall, it is estimated that approximately 25 million people depend on coffee production for their income. The production circumstances are often very poor for the farmers and workers on the coffee farms. This results in social and economic inequities. An example is the use of chemical pesticides, exposing the workers to a high amount of pesticides (Reynolds et al., 2007). Finally, the production of coffee has resulted in a deterioration of the local environment. This is partly caused by the monocropping of the coffee farms (Consumers International and IIED, 2005; Reynolds et al., 2007).

2.5.1 Biodiversity

Coffee production tends to take place in areas which have been marked as biodiversity hotspots. According to an IISD report (2004), coffee cultivation takes place in almost half of the 34 locations that have been identified as extremely vulnerable biodiversity hotspots. How does coffee cultivation affect biodiversity exact? Before that question can be answered, it is useful to define biodiversity. Biodiversity is short for 'biological diversity' and covers 'the total variability among all living plants and animals on earth', including 'terrestrial, marine and other aquatic ecosystems and ecological complexes of which they are part' (PBL, 2008; CHM, 2009). This includes the amount of species, the diversity within species, as well as the amount of species required to maintain those species. Biodiversity can therefore also be expressed in quantity and quality: the diversity of species within a large enough area (PBL, 2008). Biodiversity hotspots are areas with an exceptional concentration of endemic species which are suffering loss of habitat (Myers et al., 2000). In order to maintain biodiversity, conservation is necessary. However, the ideas on where priority must be with conservation differ, as can be seen an article written by Brooks et al. (2006). Within this article, nine different models are distinguished. These models all place the emphasis upon 'irreplaceability' of the species but have a different idea on the priority of vulnerability. Some prioritize high vulnerability, others low vulnerability (Brooks et al., 2006). Within this study, the map of biodiversity hotspots is used with the emphasis on high irreplaceability and low vulnerability.

How is coffee cultivation related to biodiversity? Though coffee is an under story shade plant, the cultivation of coffee increasingly takes place on (huge) monoculture plantations (IISD, 2004). The agricultural areas where coffee is grown have been expanded over the years due to population growth and fire, as well as the creation of additional arable land (Bray et al., 2002). This expansion often takes place as a result of deforestation. Besides this threat, farms are also using different and many chemicals and pesticides (IISD, 2004; Conservation International and IIED, 2005). These chemicals do not only affect the farmers, but also pose a threat to the natural environment, ground and surface water and wildlife. These surrounding areas can also be affected by coffee husks dumped into nearby streams, as a result of the drying methods.

Besides these side effects of production, the cultivation system itself also affects the biodiversity. According to a study by Gillison et al. (2004) on the effects of biodiversity in Indonesia, the traditional coffee cultivation systems result in a higher amount of biodiversity due to the amount of shade, in contrast to the modern cultivation systems. A study by Moguel and Toledo (1999) on biodiversity conservation in Mexico show similar results. The traditional polyspecific shaded coffee systems remains having a diverse plant variety. The study furthermore state that the bird diversity in shade grown coffee plantations is much higher, both in number of residents and migratory birds. What is seen is that coffee might be grown in a large part of the biodiversity hotspots; the biodiversity is also related to the way the coffee is being cultivated.

2.5.2 Social and Economic Effects

Besides the effects on the biodiversity and the environment, the production of coffee also causes social effects. Since these social effects are closely related to the economic effects both will be explained together.

Since the break down of the ICA regime in the eighties, the price of coffee was set by the market and dropped, thereby creating an insecure situation for coffee farmers. The share of the final retail price received by the farmers dropped from 20% in 1989-1990, to 13% in 1994-1995 to less than 10% in the early 2000s (Mendoza and Bastiaensen, 2003, p.37-38; Talbot 1997, p.65-67). Furthermore, as set in the ICA quotas, the coffee market was facing overproduction. This resulted in insecure positions for the producers, not knowing whether they could sell all of their products. Both smallholders and large estates faced direct consequences of the breakdown of the ICA.

Declining prices can not only result into social and economic problems for smallholders, but also affect the plantations and their employees: an increase in households under poverty line, loss of employment for agricultural workers, increased migration to urban areas or abroad and difficulty for the farmers/employees in paying for their children's education (Consumers International and IIED, 2005). The increase in the household poverty is a direct result of declining revenues for the producers. Employees are unable to provide their families with necessary supplies, including education, thereby decreasing the literacy rate of the country. Related to the poverty and declining revenues is the loss of employment since the employers have less money for wages and will hire less people. Due to rural poverty, large scale movement towards the city takes place (Drakakis-Smith, 1996). Though increased migration to urban areas might not seem to be a problem at first sight it should be considered as such. Besides the effect of migration upon the rural area, the migration towards the urban area may increase the poverty ratio of the country. In developing countries, urban unemployment is not uncommon to many developing countries, as a result of continuous urban population growth and an excess of job creation (Drakakis-Smith, 1996). The lack of jobs can subsequently lead to a lack in income and to poverty. Even if someone has a job, poverty still lurks around the corner since living in an urban region is more expensive than living in the rural area, leaving less money for other purposes.

In addition these socio economic effects are social effects related to issues such as health. In many regular producing farms or plantation, there are very few social benefits. Employees do not receive health care, credit, emergency food and their children won't receive education provided by the estate. Furthermore, employees and farmers are exposed to the use of chemicals and pesticides on site, thereby exposing themselves into serious health risks.

2.6 Sustainability Initiatives

As a result of the unsustainable situation within the coffee industry described above, sustainability has become a hot topic within the coffee industry. In order to increase the sustainability of the coffee production, firms have been trying to incorporate aspects of economic viability for the farmers, environmental conservation and more social responsibility (Daviron and Ponte, 2005). Some producers have incorporated rules regarding sustainability; others have created a certification label selling their coffee as certified such as organic, Fairtrade, eco friendly and shade grown coffee. Sustainable *production*, as stated in Giovanucci and Koekoek (2003) 'meets long term environmental and social goals while being able to compete effectively with other market participants and achieve prices that cover production costs and allows producers to earn an acceptable business margin'. The sustainable coffee initiatives (organic, fair-trade and eco friendly coffee) are expected to create better ecological, social and economic circumstances for circa 1 million coffee producers, but will not be able to help the approximately 25 million other coffee producers around the world. Fairtrade coffee was first introduced in the Netherlands with Max Havelaar coffee, in 1988. Currently, the production of sustainable coffee involves around '32 producer countries, hundreds of producer organisations, dozens of specialized traders, more than 20 consuming countries, hundreds of roasters and brand-owners and thousands of retailers' (Giovanucci, Koekoek, 2003).

One of the main characteristics of the sustainability initiatives is that the producers get a guaranteed price premium for their coffee, varying for the diverse certification systems, as can be seen in table 2.1. The premium prices remain stable, in contrast to the market prices which vary on a daily basis. These market prices also influence the premium prices. If the market price rises, it would negatively affect the premium prices. A drop in market prices on the other hand, would increase the premium prices. Besides the

economic benefits producers gain from the premium prices, there are other benefits as well, such as better resource management, biodiversity conservation, less use of agrochemicals minimizing health risks and community development for the labourers involved (Giovanucci and Koekoek, 2003).

	2003 Market price (\$/lb green)	Utz Certified premium (\$/lb green)	Organic premium (\$/lb green)	Fairtrade premium (\$/lb green)	Eco friendly premium (\$/lb green)
Mild Arabica	0.67	0.07	0.16	0.59	ca.0.05-0.18
Natural Robusta	0.31	0.00	0.10	0.785	n/a

Table 2.1: Premium levels for certified sustainable coffees

Sources: Ponte and Kawuma (2003) and Giovanucci and Ponte (2005) in: Daviron and Ponte (2005).

To see what the impact of sustainability certification is on income, the extra costs spend on complying with the standards need to be compared to the extra income earned from the premium price. According to Daviron and Ponte (2005) this impact is usually positive, but this might be changing due to the fact that farmers sometimes have to pay contribution before entering the certification system. The question remains whether these sustainability initiatives are actually addressing overall sustainability (see e.g. Daviron and Ponte (2005); Ponte (2004); Giovanucci and Koekoek (2004) and Bitzer et al. (2008)). Even if a certification system addresses the economic sustainability of creating fair prices, does this imply that the social and environmental sustainability is addressed? The output and the input of the sustainability of certification initiatives of the coffee market therefore have to be studied in order to really answer the question of sustainability. Moreover, according to a study by Consumers International and IIED (2005), it has been observed that the certified producers were often already practising standards close to those required within certification. Certification would thus allow good performers to distinguish themselves from poor performers, thereby having a limited impact on the poor performers' behaviour (Consumers International and IIED, 2005).

The volume of certified coffee was estimated to be around 272.000 bags with a retail value of 490 million US\$ in the year 2000, which is 1% of the global market as seen in table 2.2 (Daviron and Ponte, 2005). When non certified coffee sold as sustainable coffee is included this number is even higher, 318.000 bags. The assumed market share for sustainable coffee globally is similar to the European market share, which was estimated around 1,1% in 2001 (Giovanucci and Koekoek, 2003).

	Thousand 60kg bags	% of total coffee market	Million US\$	% of total coffee market
Total coffee market	111,546		49.257	
Total sustainable coffee (including non certified)	318	0.3	565	1.2
Certified sustainable coffee	273	0.2	490	1.0
Total organic coffee (including non certified)	161	0.1	286	0.6
Certified organic coffee	125	0.1	223	0.5
Certified Fairtrade	221	0.2	393	0.8
Total shade grown (including non certified)	17	0.0	31	0.1
Certified shade grown	9	0.0	16	0.0

Table 2.2: Size and value of global sustainable coffee markets, 2000

Source: Daviron and Ponte, 2005, p.165

In the Netherlands, current coffee consumption is about 3 cups per day (Coffee Coalition, 2007). While a little over 115.000 tonnes of coffee are consumed (table 2.3), almost 140.000 tonnes of coffee are imported in the Netherlands. The excess numbers of coffee are roasted again for export. The share of sustainable coffee is relatively high compared to the share of sustainable coffee on the world market. From 1989 onwards, this share has grown rapidly, as seen in table 2.4. Sustainable coffee in the

Netherlands started in 1989 with Max Havelaar (Fairtrade) coffee. Throughout the years, Fairtrade maintained a low market share in the Netherlands. In 2001, about 2,9% of all coffee sold in the Netherlands was either Fairtrade or organic. The share of sustainable coffee started rising rapidly when Utz Certified entered the market in 2002 in blends of Perla Coffee (Albert Heijn). It is also Utz Certified coffee which can be held responsible for the increase of the sustainable coffee market share in the Netherlands. After Perla Coffee started blending Utz Certified coffee, other roasters followed such as Sara Lee (Douwe Egberts) and supermarket (house) blends. The increase can also be explained as a result of more roasters deciding to blend certified coffee into their blends (Coffee Coalition, 2007).

Year	Tonnes Coffee
1985	114.704
1990	124.974
1995	121.527
2000	116.405
2004	115.233
2005	113.335
2006	115.125
2007	113.580

Table 2.3: Tonnes of Coffee consumed in the Netherlands
Source: Coffee Coalition, 2007; TCC, 2009

Year	% Sustainable Coffee
1989	0.0
2001	2.9
2002	6.4
2003	13.6
2004	15.6
2005	20.8
2006	27.8
2008	25.0

Table 2.4: Share of sustainable coffee in the Netherlands
Source: Coffee Coalition, 2007; TCC, 2009

Even if coffee production was not always sustainable, and perhaps still is not in some parts of the world, sustainable production is emerging. Overall, sustainability has seen an increase in its market share over the years, as reflected in the numbers presented in this chapter. Though the attempts have been made to create a more sustainable coffee production method, the real question is whether the sustainability of producing countries has truly increased. Besides this impact shift, another question is to see what has caused this shift in sustainability of the different certification systems. The following chapters will focus upon the different supply chains and their sustainability impact as well as what has influenced this sustainability impact.

3. Theoretical Concepts

3.1 Introduction

This chapter will elaborate on the theoretical concepts used in this study. First, an elucidation on the concept of sustainable development will be given, since this concept plays a significant role throughout this study (paragraph 3.2). In paragraph 3.3, the concept of governance and supply chains will be explained. These concepts of sustainable supply chains will be linked to the concept of the sustainable supply chain governance system (SSCG system). Paragraph 3.4 explains the concept of influence.

3.2 Sustainable Development

What is sustainable development? Sustainable development, as defined by the Brundtland commission (1989), is about development meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. Sustainable development consists out of three spheres: the society, the market and the state, also being referred to as people, planet and profit (prosperity). Within sustainable development, it is believed that social equity, economic growth and environmental maintenance are simultaneously possible, thereby optimizing the ability of the three different spheres.

This definition of sustainable development can be translated into a model as seen in figure 3.1. This model displays an intersection the three spheres of the market, the civil society and the environment displaying them as being equally important and interdependent on one another.

Besides this definition of sustainable development, other definitions, ideas and perceptions on sustainable development exist in an ever ongoing debate. One of these perceptions is described by Levett (1998) in the so called Russian doll model (figure 3.2). Levett argues that instead of the three spheres being equally important ('weak sustainability'), the environment as the outer circle should be considered as a precondition for the society and the economy ('strong sustainability'). He argues that if there was no environment, and thus no life support system, it would be impossible for the economy and the society to exist. The economy should also be considered as a social construct as it functions due to the values the society attaches to it. The economy therefore is made. This is why Levett has placed the economy in the inner circle.

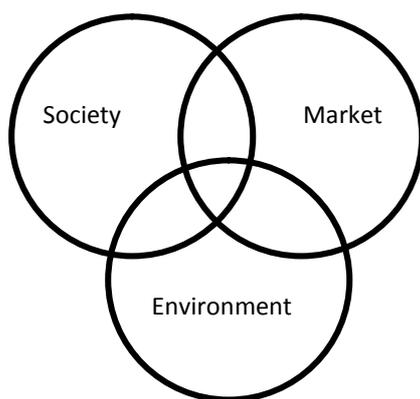


figure 3.1: Sustainable Development

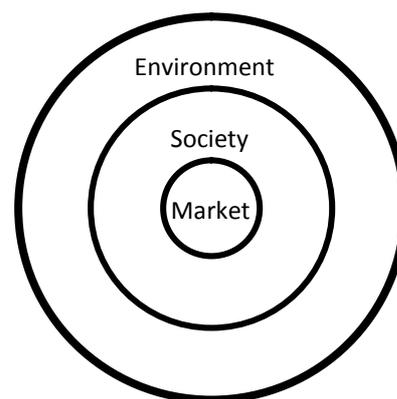


Figure 3.2: Russian Doll Model (Levett, 1998)

Even though placing the environment as the most important sphere sounds feasible, it is not in light of this study since the focus is on *governance* for sustainable development. Governance is not only the (national/supranational) government, but it also encompasses informal, non governmental institutions and market parties, collaborating with one another. An important characteristic of governance is that it will not function unless accepted by a majority of the actors involved. This differs from a government,

which might be able to function even in the face of widespread opposition to their policies (Rosenau, Czempiel, 1992, p.4). This characteristic shows us that partners collaborate with one another each representing a particular interest, instead of facing some form of a hierarchy. This is in line with the definition of sustainable development as shown in figure 3.1. Due to the central position of governance within this study, i.e. the equality of all three spheres, the decision therefore is made to use this definition of sustainable development instead of the Russian doll model as described by Levett (1998) which focuses too much upon a hierarchical system.

3.2.1 Society

Now sustainable development is defined, the three spheres of society, market and the environment need to be further specified, starting with the societal sphere. When speaking of social and human sustainability, one definition which has become increasingly important is quality of life. Quality of life can be broadly interpreted, and a specific definition therefore is required. The definition used within this study is that quality of life is welfare (economic terms), as well as wellbeing, such as human rights, or health (Petersen et al., 2006). Quality of Life can be measured with the human development index (HDI). This index combines the measurements of the life expectancy, level of education and the gross domestic product (GDP) per inhabitant of a country (EEA, 2008, p.4). Social sustainability is more than quality of life. Another approach for the describing social sustainability is Maslow’s Holistic Dynamic Needs Hierarchy. Maslow’s theory says that one person does not strive for other or higher needs unless the current need is satisfied. This theory is visualised as a pyramid with a sequential order of layers (figure 3.3) (Hilderink, 2005).

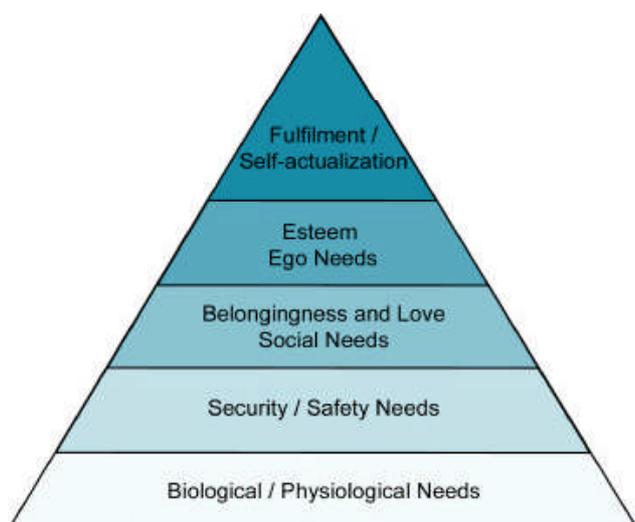


Figure 3.3: Maslow’s hierarchy of Needs (In: Hilderink (2005))

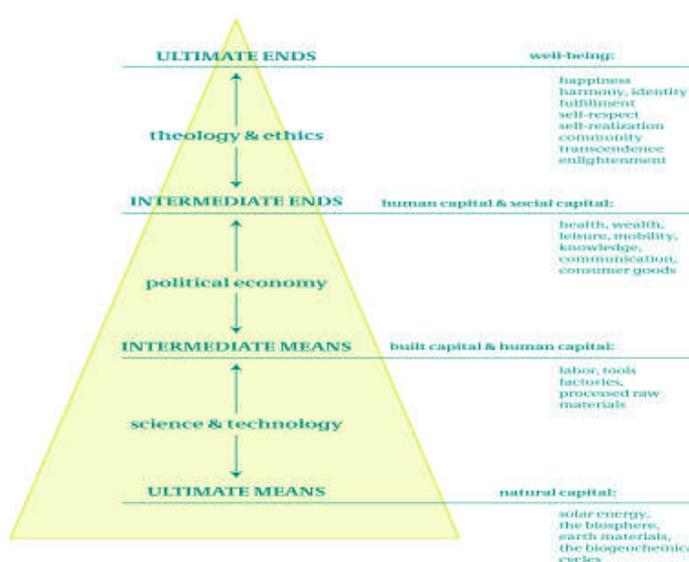


Figure 3.4: Daly Triangle (Daly, 1990; In: Hilderink (2005)).

The pyramid ranges from biological/physiological needs up to fulfilment and self-actualisation. Between these two levels, there are stepwise layers, enabling humans to focus more on the associated needs. The requirements per level of needs vary. Whereas in the lower bottom food, water and shelter may be required, the upper level represents a broad spectrum of requirements to fulfil the needs (Hilderink, 2005).

A similar approach is created by Daly (1990), the Daly Triangle (figure 3.4). As with Maslow, there is a hierarchical pyramid, distinguishing different ends and means. Different from Maslow’s pyramid is that Daly links different capitals to the ends and means. The pyramid begins with the natural (physical) capital and ends with well being (quality of life). Note that a distinction is made between human and social capital. Human capital refers to the ‘valuation of characteristics and capabilities embedded in an individual or a homogeneous group of individuals’ (Hilderink, 2005), such as e.g. education. It is about the individual capabilities of a country or region. Social capital ‘refers to the characteristics between (groups

of) persons. It is the valuation of the connections between and cohesion of individuals that enable all kinds of (individual) activities' (Hilderink, 2005), i.e. the social infrastructure of the world. However, both are interconnected and can not function properly without the other.

3.2.2 Environment

This paragraph describes the environmental sustainability and indicators. Before an answer can be found on what environmental sustainability is, it is useful to take a closer look at the definition of sustainable development, as defined in paragraph 3.2. It is stated there that with sustainable development 'social equity, economic growth and *environmental maintenance* are simultaneously possible'. This implies that environmental maintenance is central with sustainable development, thereby implying that environmental maintenance is equal to environmental sustainability. This would imply that the environment should be maintained in such a way that the forthcoming generations are able to benefit from the natural resources. But what defines the environment?

In search of an answer, the theories of Maslow and Daly, as explained within paragraph 3.2.1, provide some valuable insights. Though these theories have been used to define the social sphere, the bottom of both pyramids focus on the biological needs, to which Daly added natural capital. Within the pyramid of Daly, the natural capital consists out of 'solar energy, the biosphere, earth materials and the biochemical cycles' (Daly, 1990). But what is natural capital?

Natural capital is derived from the capital approach as defined by ecological economists. Within this approach, the national wealth is calculated by not only financial goods and services, but also by including natural, human, social and built capital. The calculations within this approach are usually expressed in monetary terms (UNSD, 2007). Constanza and Daly (1992) furthermore add to this definition that capital is 'a stock that yields a flow of valuable goods or services into the future' and is derived from natural resources. Important is that a stock can maintain its flow year after year, such as for example fish. The sustainable flow of fish (catch or flow) is the natural income, while the fish population (the stock) itself is the natural capital. However, what should be noted is that natural capital and income are more than just products and goods which can be 'harvested', it can also be recycling waste materials or erosion control (Constanza, Daly, 1992).

In the natural capital theory, two types of capital can be distinguished: renewable natural capitals and non-renewable natural capitals. Renewable natural capitals can be seen as self maintaining, using solar energy, whereas non-renewable natural capital does not use anything until they are extracted (Constanza, Daly, 1992). An example of non renewable natural capital is fossil fuels, which have a larger depletion than regeneration rate.

Even though this theory provides useful information, it remains an economic theory not including all varieties of natural resources capital, such as air quality (atmosphere). What furthermore distinguishes the natural capital theory as an economic theory is the fact that the issue of substitutability is present. This means that different types of capital can substitute one another. For example, in theory it would be possible that human made physical capital could substitute natural capital. Furthermore, the valuation of nature's assets is not what this study is emphasizing.

However, this theory does show us the value of the economy on the environment. It shows that human scale activities need to be levelled to the extent where at least the carrying capacity of a system is remaining and thereby becomes sustainable (Constanza, Daly, 1992). Harvesting and regeneration rates therefore have to be considered to make sure that renewable resources are not going to be exploited and that the physical limit of the environment are not reached. An example of a way to model and manage the different stocks and flows in order to become sustainable is the systems dynamics approach.

3.2.3 Economy

Economic growth is necessary within a sustainable world and absence may have serious consequences. Economic growth can cause wealth as well as poverty, both causal factors in practices of unsustainable resource use (De Vries, Petersen, 2009). Economic growth determines an important part of quality of life,

as it consists out of welfare and wellbeing. Welfare describes the part of the ultimate ends and needs (or preferences and values) of people. This is the basis of traditional welfare economic theories. These theories focus upon the valuation of produced or consumed commodities expressed in the GNP or GDP (gross national/domestic product). The valuation of these commodities has resulted in a strong emphasis on values, ends and means (Sen, 1995).

Welfare economic theories seem to contrast with theories on wellbeing, though this contrast is a point of debate among welfare economic theorists. Criticism has risen on the limited focus of welfare economic theories and attempts have been made to include other human assets within the welfare economic theories instead of focusing only on the valuation of commodities. Though not all welfare economic theories maintained existence, one that did was the theory on the Pareto optimality. A situation is Pareto optimal if there is 'no other feasible alternative arrangement that would result in everyone having at least as much utility and someone having strictly more utility' (Sen, 1995). The reason for its survival is that the theory does not speak of (in) equality or deprivation but keeps a neutral position.

Economic growth however, displays only one of the many relationships between the economy and sustainable development. As defined, sustainable development is social equity, economic growth and environmental maintenance. Thus, the relationship between the economy and the environment is broader and the relation between the economy and the society and the environment needs to be explained on a higher level. In order to find this, it is needed to look beyond economic theories, into the principles of the market. The main principle of the market is trade in goods, services and finances. A characteristic is that it is based upon comparative advantages. This refers to the production of specific commodities in countries where production factors are the cheapest (Faber, 1996). This focus upon comparative advantages explains one relation between the economy (market) and the environment. One of the problems related to comparative advantages is the possible shift in the allocation of impacts since production might not take place in the country of the leading firm, as is the case with SSCG systems. Effects resulting from production are being allocated to the producer country and will only be visible here. Furthermore, comparative advantages and competitiveness might result into a 'race to the bottom' in producer countries. These countries are more likely to compete with one another by loosening environmental standards, resulting in more environmental depletion and pollution (Alpay, 1999). In other words: increase of economic growth and production equals environmental pollution.

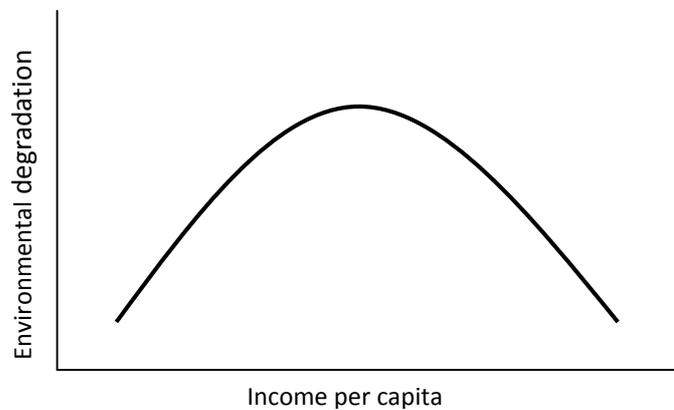


Figure 3.5: Environmental Kuznetz Curve

Others however disagree, by claiming that trade can have beneficial effects for the environment. One of the hypotheses is the 'inverted U-Hypothesis' or environmental Kuznets curve. Within this hypothesis, it is believed that positive technological changes as well as changes in the produced goods, will exceed the size of economic activities and income, creating an inverted U (figure 3.5) (Alpay, 1999). The environment and the economic growth are decoupled, a result of the increased ability to invest in environmental production and often a shift in their (export) products (Gupta, 2001/02).

Besides the relationship between economic growth, market and the environment, there is also a connection between the economic growth, the market and the society. This connection reflects not only the GDP or economic growth, but also the economic development, i.e. the standards of living.

Due to processes of globalisation, the world economy has become international in scale. Though the intensity of production and industrialisation might have risen in developing countries, the income and social security system of the inhabitants often have not. One of the problems of developing countries is that their economy is based upon a limited variety in products. This result in a high level of dependency: if market prices fail, these countries will notice the effects almost instantly. Production in these countries

often concerns primary products such as agriculture and wood, and is resource intensive by nature (Faber, 1996). As of this characteristic, it is not inconsiderable that natural resources will be damaged, such as overgrazing, depletion or deforestation. Besides the environmental aspects attached to these effects, there is a social side as well: the source of income from a lot of people will disappear.

What can be seen is that considering sustainable economic growth, the focus is not merely on the GDP/GNP, but other aspects have to be included as well. When creating indicators for the market/economy it is therefore important that the environmental and social-economic aspects are included as well. What should be considered is that there should be no overlap with the environment and the society.

3.3 Governance

This study focuses upon sustainable supply chain governance system. The sustainability already has been addressed within the previous paragraphs. In order to completely understand what a sustainable supply chain governance system is, the definitions of governance and supply chains need further explanation as provided in the following paragraphs.

3.3.1 (Supply Chain) Governance

The SSCG system is a form of governance in particularly focusing upon sustainable development. Then what is governance? Therefore we have to start at the basis, with the definition of governing. Though the words governing and governance show resemblance (both 'govern') they have a different meaning. Governing relates to the actions of the government. With governing, two classical models can be distinguished: the regulatory and economic control model. With the regulatory control model, the government sets standards and rules based on a expected outcome, which have to be implemented and enforced by the government. Implementation and enforcement usual takes place by means of an administrative apparatus using specific deadlines for compliance (Salamon et al., 2002). The instrument used for this enforcement is often law. Though the law is usually binding, the problem is that not everything can be controlled by law. Another problem with the regulatory control model is that it usually takes a long time before a law can be enforced, due to the required amount of support from the parliament. When supported, the implementation time of a law is a third problem encountered with the regulatory control model.

With the economic control model, the government sets standards and mechanisms to bring change by using financial rewards and punishments. The government wants individuals (or firms) to change their behavior in a way that reduces social harms or they need to secure benefits for society at large (Salamon et al., 2002). A problem is that not everything can be valued. For example, it is difficult to value the environment thereby making it hard to regulate environmental problems from an economic control model point of view. Another problem with the economic control model is efficiency. Despite positive results, not all behavior can be influenced by a financial incentive (Salamon et al., 2002).

While these two control models are able to stimulate and regulate behavior, they tend to ignore institutional fragmentation. Furthermore, support and commitment from the target groups is needed in order to change their behavioral attitude. This is relevant for our contemporary society, with an increasing amount of cultural differences and property rights. Such societal problems are characterized by their cross scale nature and span different jurisdictions, delineating governmental institutions (Carlsson and Sandström, 2008, p.34). Besides these problems, there is an ongoing process of globalization of production and trade which has led towards the growth of industrial capabilities within developing countries. This globalization has led towards the vertical integration and redefinition of transnational corporations and global supply chains, highlighting the jurisdictional problems the government faces (Gereffi et al., 2005).

In contrast to these government initiated control models, governance emphasizes the multi-actor structures, requiring collaboration between public and private actors on the basis of an informal hierarchy. Governance is able to bring the different institutions together in order to solve problems. What should be considered is that governance does not solve other problems than the government, but differ

in the problem solving process. Also, governance does not imply that the government is not involved, but merely implies that the government can be, but does not necessarily has to be, the most important actor involved (Stoker, 1998; Carlsson and Sandström, 2008, p.34). Instead, the responsibility of decision making is now shared.

Next step would be to combine the concept of governance with the supply chain as it is the emphasis of this study. But what is a supply chain and what is the role of governance within these supply chains? According to Hanfield and Nicols (1999), a supply chain ‘encompasses all activities associated with the flow and transformation of goods from the raw materials stage (extraction), through the end user, as well as the associated information flows. Material and information flow both up and down the supply chain’. Supply chains are thus (large) global chains involving production, distribution and consumption. Due to the economic nature of the supply chain, the management of the supply chain usually focuses upon economic efficiency or economic performance (Hanfield and Nicols, 1999). The network in which the chain operates is vulnerable, and positive or negative changes alongside the supply chain can affect the entire supply chain (Nagumey, 2006).

These definitions show us a rather commercialized network of firms which do not seem to match with the initial concept of governance. To understand the role of governance in supply chains, the theory on global commodity chains as studied by Gereffi is essential. In his theory on global commodity chains the emphasis is placed on the internal governance structure of the supply chain, either producer or buyer driven (Gereffi et al, 2001, p.3). A buyer driven chain implies that global buyers are the main coordinators of the chain. The focus is upon the creation of high profits through a system of global scale production and distribution. Low profit functions are externalized to the network of suppliers which mainly consist out of developing countries (Gereffi, 2001; Bitzer et al., 2008). In producer driven chains, large manufacturers of capital and technology intensive goods (i.e. producer) are the major players in the coordination of the network (Bitzer et al., 2008, p.274).

The theory on buyer and producer driven supply chains are two broad types of governance. More recent work by Gereffi et al. (2005), distinguishes five types of value chain (supply chain) governance on a theoretical basis: markets, modular value chains, relational value chains, captive value chains and hierarchy. With this distinction the market based relationships (buyer driven) and vertically integrated value chains (hierarchy, producer driven) remain the same, but the centre field is extended with three additional types of governance.

The distinctions between these different types of value chains are based on three factors: complexity, codification and capabilities (Gereffi et al., 2005). Complexity refers to the information and knowledge required in order to sustain the transactions. Codification is the extent in which the information can be easily codified without too much trouble to smooth up transaction. The last factor is the capability of the suppliers in relation to the requirements of the transaction (Gereffi et al., 2005, p.85). When these three factors are scored with high (+) or low (-) values, the five types of governance as described will appear as a result. An overview is provided in table 3.1.

Type of Value Chain Governance	Complexity	Codification	Capabilities
Markets (Buyer driven)	-	+	+
Modular Value Chain	+	+	+
Relational Value Chain	+	-	+
Captive Value Chain	+	+	-
Hierarchy (Producer driven)	+	-	-

+ = High amount of complexity, ability to codify or capabilities

- = Low amount of complexity, no ability to codify or low capabilities

Table 3.1: Types of value chain governance (Gereffi et al., 2005)

In ‘markets’, the complexity of the product is low, it is easy to codify the transactions and the suppliers have sufficient capabilities to create products in question. The buyers will respond to the specification (codification) set by the producers, which in turn will determine the price.

In 'modular value chains', the complexity of the product is higher, which can be ascribed to the (new) modular character of the product. Modular implies that subsystems of a product are created to function as 'independent building blocks'. This would make it easier to codify the product by computer. This easy codification process in turn increases the capabilities of the suppliers when they are creating the product (Gereffi et al., 2005). When there is a high amount of complexity and supplier capabilities but no ability to codify the information, 'relational value chains' occur. With these types of value chains, the information is mostly exchanged face to face (Gereffi et al., 2005). 'Captive value chains' have a high level of complexity and ability to codify information, but lack capabilities on the supplier side. The lead firm often takes control with arranging production such as logistics (Gereffi et al., 2005). In a 'hierarchy', the lead firms are often forced to create their own products, a result of a high level of complexity of the product, but have no or very low abilities to codify the information and have low supplier capabilities (Gereffi et al., 2005).

It is important to consider that a value or supply chain in practice does not stick with one type of value chain governance. It may for example be likely that a certain value chain has shifted from a market towards a modular type of value chain.

3.3.2 Sustainable Supply Chain Governance Systems

Regular supply chains focus upon economic performance, are engaged with trade from the raw material stage to end user and operate in a globalizing world with North-South trade relationships. The lead firms are often located in developed, Northern, countries while the production often takes place within developing, Southern, countries. One of the key problems with these North-South supply chains is the allocation of impacts. Due to the import of products or resources from the developing countries, a large share of environmental impacts of the (e.g.) Dutch consumers is allocated to these other (Southern) countries (Nijdam and Wilting, 2003). This has led towards social, economic and environmental unsustainable situations and change is required. This may be easier said than done. Since these problems span different jurisdictions it is difficult for national governments to prevent the shift in the allocation of impact in the other countries. The solution would be to take steps via supranational institutions such as the United Nations. These institutions however, are often lacking efficiency and effectiveness due to the long period of implementation of rules and legislation (Vermeulen, 2008).

Actors in the market and civil society have become aware of the environmental issues resulting from supply chain activities and the lack of effectiveness and effectiveness of institutions. As a response, they have taken the initiative to diminish the impact on the production side of the supply chain. This initiative led to the rising of a new variety in supply chain governance systems: sustainable supply chain governance (SSCG) systems. These systems differ from regular supply chains in their focus on environmental and social ethical goals, NGO involvement and third party compliance control (Vermeulen, 2008). They focus upon creating certification systems in order to make the supply chain more sustainable, thereby trying to influence the impacts of the chain upon the environment and society (see also Figure 1.1 in chapter 1). Besides being a economic and economic-geographic phenomenon focusing upon economic performance, the supply chain now has become ecologically and logistically challenging as well (Vermeulen, 2008).

As implied by its name, a SSCG system is a governance system. Four types of the value chain governance systems, out of the five types as described by Gereffi et al. (2005), can be distinguished within the SSCG systems. Hierarchical value chains (producer driven) need to be excluded due to their single firm approach. Becoming sustainable in a supply chain requires inter organizational activities which is not possible with a single firm (Vermeulen, 2008). Besides these four types of governance, three different levels (generations) of sustainable supply chain governance can be distinguished: single firm approaches, joint sector approaches and cross sectoral approaches.

With single firm approaches or first generation SSCG systems, actions and decisions take place on the level of the individual firm. One firm takes the lead with the identification of the relevant issues and the possible improvements and forms of implementation regarding social and environmental conditions within the chain (Vermeulen, 2008). The compliance control is controlled by the lead firm as well and

usually takes place on a business to business scale. A disadvantage of this type of compliance control is that the reliability of the sustainability of the supply chain can be disregarded (Vermeulen, 2008).

Second generation SSCG systems, or joint sector approaches, cover the supply chain wide governance system. Initiatives are often made by third parties represented by the state, environmental organizations and the market. Directions taken by these pioneer firms are often taken over by other firms. Compliance control within this level SSCG system is performed by third, independent, parties, thereby increasing the reliability of the chain (Vermeulen, 2008).

The cross sectoral approaches, or third generation SSCG systems, go beyond specific products and sectors. Decisions and standards developed within these systems are designed to be uniformly applicable (Vermeulen, 2008). These systems operate on a global level and emphasize system competition between various SSCG systems (Vermeulen, 2008). Figure 3.6 shows a visualization of the three levels and generations of SSCG systems.

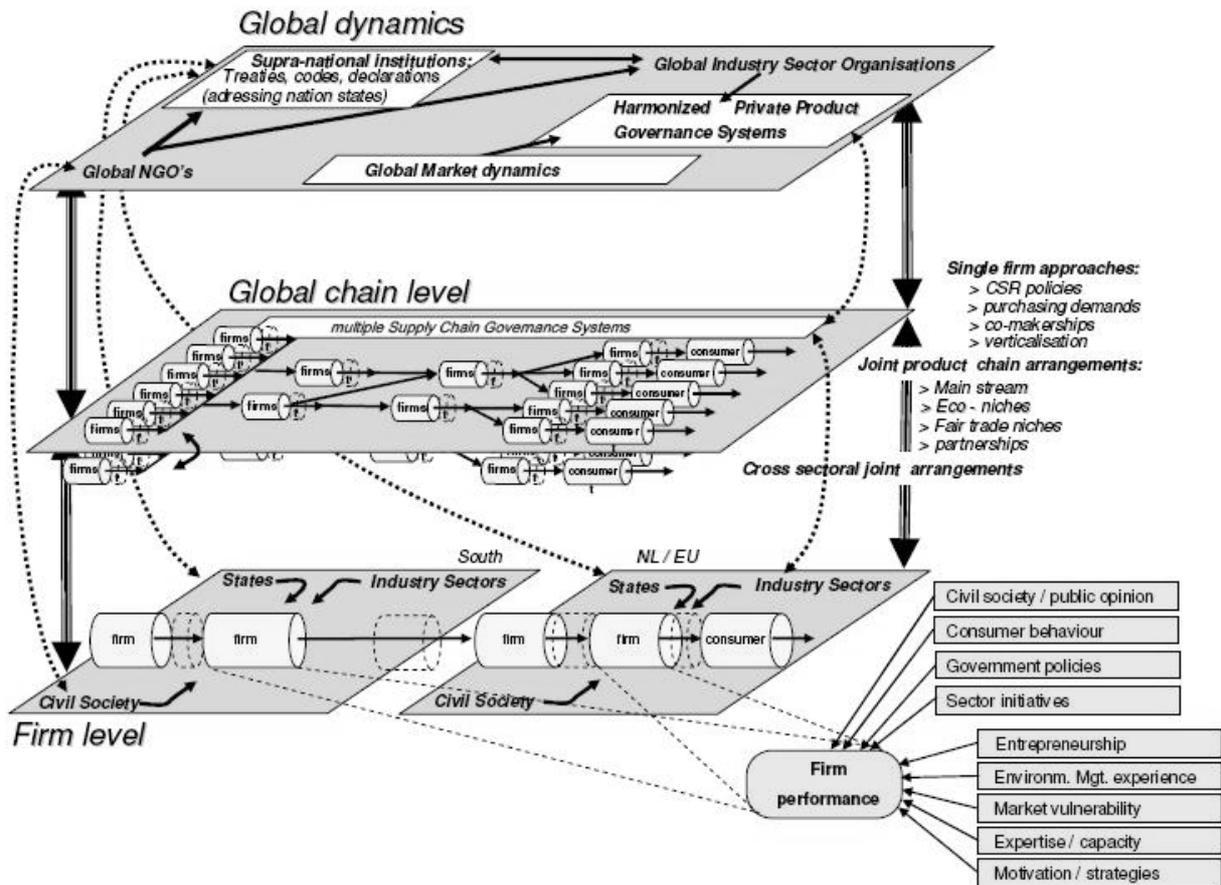


Figure 3.6: three levels of analysis (Vermeulen, 2008)

The functioning and the final impact in practice of an SSCG system is based on several factors. On the one hand there is the performance of the system, determining the focus upon sustainability. This performance consists out of several components: coverage, precision, goal setting performance, compliance control, transfer of knowledge, support towards the suppliers, an open and inclusive network and complexity of the transaction (Figure 3.7). On the other hand there are other factors influencing the SSCG system and the performance components, such as the firm behavior on the supplier (developing county) and the buyer (developed country) side. The behavior on the supplier side depends on several factors such as the market dependency, which refers to the power balances between supplier-buyer relations (Vermeulen, 2008). Other import factors are the motivation from the business, support, but also the capacity changing production. This capacity is the same as described by Gereffi et al. (2005) where firms need to have the capacity within the chain to become and stay sustainable.

Behavior on the buyer side to improve the SSCG system depends on factors such as the opportunities provided by the market and the motivation of the buyers. Also influencing the buyer's

behavior are different pressures from the society calling for change, such as civil societal or governmental pressure. With the buyers behavior capacity is important. The behavior of the buyer and supplier do not only influence the buyer or supplier motivation to improve oneself, but also affect the performance of the system by addressing sustainability. Furthermore there are other SSCG systems or the global market itself influencing both the performance of the SSCG system and the behavior of the buyers and suppliers. High standards in one system can motivate the buyers and/or suppliers from one system to improve their production methods.

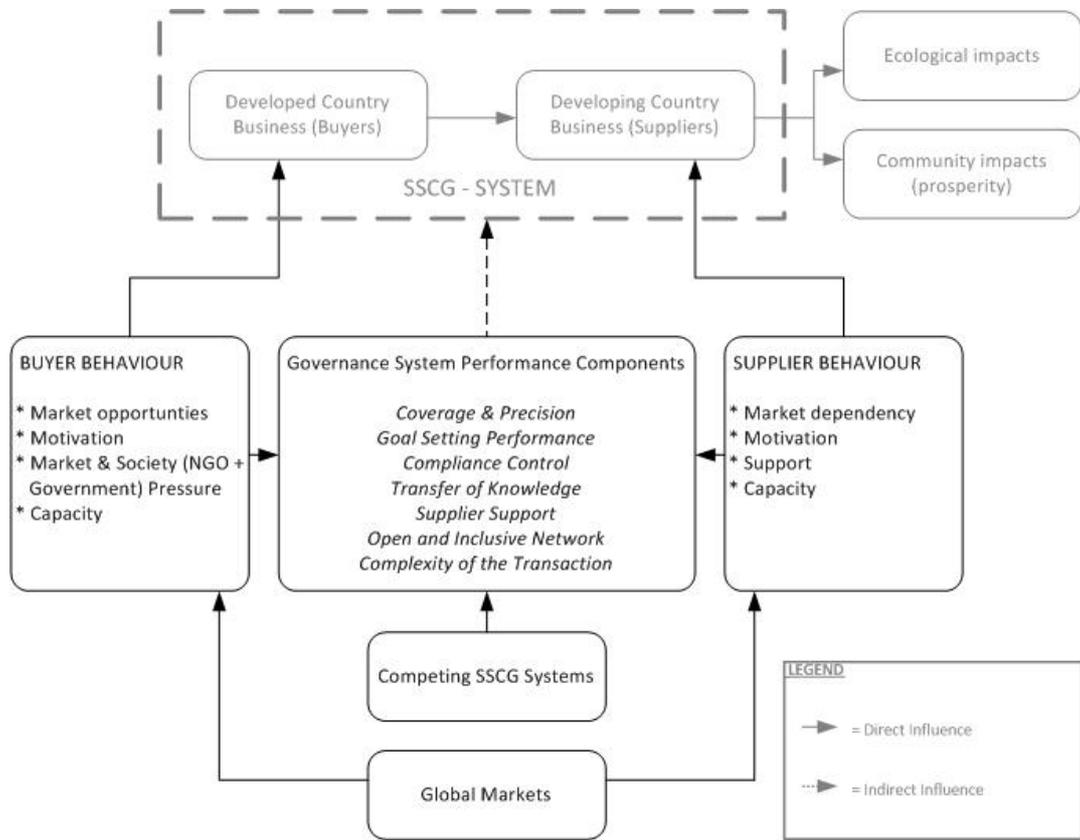


Figure 3.7: Main sets of conditions for the effectiveness of SSCG – systems (adapted from Vermeulen 2008)

The story outlined above shows that the final impact potential in practice of an SSCG system depends on more than just the performance of a SSCG system and is influenced by other factors. In theory, the impact could be explained by only looking at the different performance components. This study will therefore focus only upon this theoretical impact potential (the governance system impact potential), which can be found by multiplying the market share by the governance performance components. But what is the meaning of these different governance performance components?

Coverage stands for the degree in which the links of the supply chain are covered in terms of the sustainability aspects of society, the economy and the environment. Precision looks at the level of detail in the prescribed actions of the coverage (Vermeulen, 2008) as well as to the mandatory level of the prescribed actions. The goal setting performance is linked to coverage and precision. While coverage and precision only look at the different aspects addressed, the goal setting performance is about the long term requirements which have been set and how they are linked to short stepwise approaches. Thus, a system could be having a focus upon the agriculture in one part of the chain, but the strictness of the rules within the system may vary. The ambition level of the standard might have shifted over the years and more stringent regulations could have been introduced. This is what goal setting performance is looking at. Linked to this goal setting performance is the compliance control. With the compliance control, the goals which have been set are being checked to see to which extent they are being supported and implemented within the chain (Vermeulen, 2008). The compliance control is about checking to which extent the decision and approaches of the certification system are being supported and implemented

within the chain. Though it might seem obvious that the chain is implementing the decisions of the certification system, it does not have to be. While the previous governance system component (goal setting performance) was in theory whether the supply chain was creating short term steps to attain to the long term requirements, this step looks at the fact whether they are actually attaining to these long term and short term requirements.

In order to create compliance and understanding in the system, transfer of knowledge is required. When there is a knowledge transfer it is more likely that there is support from the suppliers towards the new direction the chain is taking in order to become more sustainable. Furthermore, an open and inclusive network enhances the performance as it might result in a better problem perception and objective (Vermeulen, 2008). This can enhance the compliance control. The last performance component of the SSCG system, but not the least, is the reduction of complexity. This complexity is the same as described by Gereffi et al. (2005): the more complex a product is, the more difficult to codify the transaction. Reduction of complexity is particularly important within SSCG systems, as the concept of sustainable development is complex and difficult to handle (Vermeulen, 2008). Though all performance components are required for a sustainable operating system and maximum impact reduction, only the coverage, precision and compliance control are chosen to study.

Performance of an SSCG system thus consists out of eight performance components. The variation, in which the components emerge, differs per system and period of time. The variation of the performance components is influenced by several factors as described above such as the opportunities provided by the market, the firm's capacities, motivation and societal pressures. Thus firms, but also civil society, governments and their related activities and instruments are influencing the performance, thereby influencing the governance system impact potential of the supply chain. It is assumed that this influence varies over time and the question therefore is not only what the relative share of these actors and their related activities and instruments on the governance system impact potential is, but also what can explain the (assumed) different variation in governance system impact potential over a series of time?

Based on this question, the following hypotheses (H) have been formulated and used in this study:

- H1 Motivation from the market itself explains the variation in time of the governance system impact potential.*
- H2 Pressures from the civil society (actors, activities, instruments) explain the variation in time of the governance impact potential.*
- H3 Pressures from the government (actors, activities, instruments) explain the variation in time of the governance system impact potential.*

Knowing that more insights are needed on the influence of the actors involved upon the governance system impact potential and the chance of a final impact improvement, the question now is *how* this should be measured. In order to come up with the requested results, this study wants to create a new method of analysis. In order to see the working of the method, this study will use coffee SSCG systems as case studies.

3.4 Influence (upon the governance system impact potential)

One of the main aspects in this study is to explain the different variations in the governance system impact potential (GSIP). As assumed within paragraph 3.3.2, this could be market motivation, civil society or governmental pressure. Instead of using the definitions motivation and pressure, the definition on influence will be used (or power) as it covers both motivation and pressure in order to determine the relative influence of all three actors.

But what is power and what is influence? According to Boulding (1990), the widest meaning of power is that it is a potential for change. Influence is sometimes considered as a part or aspect of power. This is understandable since power can also be seen as a person's ability to get what one wants (Boulding, 1990). Influence and power can be seen as two words having a different and yet interrelated definition. Within an article written by Willer, Lovalia and Morovsky (1997), power is defined as 'the structurally determined potential for obtaining favored payoffs in relations where interests are opposed' but also complementary. The power one actor has, is furthermore determined by the payoffs of the different actors involved.

When actor A can demand more from actor B without fearing for their own demands and actor B has no alternative, the 'profit' of actor A will be greater than actor B's (Willer et al., 1997).

Influence on the other hand, as defined by Willer, Lovalia and Morovsky (1997), is 'the socially induced modification of a belief, attitude, or expectation effected without recourse to sanctions'. It occurs when an actor changes its behaviour in the belief that that change will benefit them or the group they are participating in. With influence, actors are trying to persuade one another on their point of view or they are providing information or advice to gain results. With power, the actors are negotiating more aggressively and use power, coercion and sanctions (Mokken, Stokmans, 1976).

But *how* do these different actors *use* their power or their influence? What is their strategy? Strategies are important, as it defines the relationship between the firm and the involved actor or stakeholder. For instance, an increase in the power of the buyer (or firm) can reduce the profits the supplier extracts from negotiations. This in turn can be negative for consumers since it might increase the price of the product (Batigalli et al., 2007).

3.4.1 Firm strategies

On the use of power and influences different theories exist, such as the (stakeholder) influence strategies theory. With theories regarding (stakeholder) influence strategies the exact strategies of the stakeholders are identified and explained. Though it is not the intention of this study find these exact strategies as it will turn this study into a network analysis, there are some interesting concepts in these theories which seem useful.

The stakeholder influence strategy theory is 'about groups and individuals who can affect or are affected by the organization and the managerial behavior taken in response to those groups and individuals (Freeman, 1984). In an article by Frooman (1999) on these theories, the resource dependence theory is introduced as a theory able to explain the importance of resources within influence strategies. Resources are important because they can be desired by specific firms, which in turn provides opportunities for others to gain control over these firms. Two resource control strategies can be identified: withholding and usage strategies. With a withholding strategy, discretion over allocation is translated to the resource: the stakeholder will discontinue providing resources to the firm with the intention to change the firms behaviour. With usage strategies on the other hand, the resource supply to the firm continues with certain pre conditions (Frooman, 1999).

Firm dependent on stakeholder?	Stakeholder dependent on firm?	
	No	Yes
No	Indirect/Withholding (low interdependence)	Indirect/Usage (firm power)
Yes	Direct/Withholding (stakeholder power)	Direct/ Usage (high interdependence)

Table 3.2: Influence Strategies (Frooman, 1999)

These strategies could either be direct or indirectly performed. This depends on the relationship between the stakeholders. Frooman (1999) distinguishes four types of relationships: firm power, stakeholder power, low interdependence and high interdependence. Firm power occurs when a stakeholder is dependent on the firm, while stakeholder power is the exact opposite and occurs when the stakeholder is less dependent on the firm. With interdependency however, there is symmetry in the stakeholder relationship. The stakeholder and firm are either highly dependent upon one another, or not. In table 3.2, an overview of the different strategies and relationships is being provided.

The stakeholder influence theory shows how the dependency ratio between the firm (certification agency) and the other stakeholders (in case of this study: the government, NGO's and market parties) is divided. What should be considered is that this theory is based upon an economic, commercial, situation where the firms and stakeholders involved all have economic benefits at stake. Nevertheless this theory can be useful when identifying the different strategies in respect to the firm and the different market stakeholders, but does not explain anything about governmental and civil society behaviour.

3.4.2 Government strategies

To gain more insights into governmental strategies, policy theories provide useful information. In relation to governmental steering, three general governmental steering models can be distinguished: the legal steering model, the economic steering model and the communicative steering model (Nelissen, 1998). Corresponding with these three steering models, three different sets of policy instruments can be distinguished:

- administrative instruments – e.g. bans, laws, policies, market based-instruments, market-based standards
- economic instruments – economic incentives
- informative instruments – increasing consumer awareness by education, media channels, labelling.

(Mont and Dalhammar, 2005).

According to Mont and Dalhammar (2005), the different policy instruments can be divided into instruments and tools. The difference is that the first aims at steering and incentives, while the latter is about achieving purposes. These policy instruments can furthermore be divided into voluntary and mandatory instruments. Examples of mandatory instruments aiming at sustainable production and consumption are bans and licenses (administrative), taxes and charges (economic), chemical regulations and marketing regulations (informative). Voluntary instrument examples are agreements between the government and the industry (administrative), technology procurements (economic) and eco labelling (informative) (Mont and Dalhammar, 2005).

In addition to the three (general) different instruments and tools as described above, the steering models of the Dutch government in relation to sustainable production, can be divided into three models: central steering model, interactive steering model and the self regulation steering model (Vermeulen, 2002).

From the eighties onwards, the Dutch government has been trying to modernise the central steering model, by including more environmental regulations and by strengthening the administrative office. The government also has tried to simplify license procedures. Besides such administrative instruments, the government has implemented various economic instruments such as new incentives and taxes on environmentally unfriendly actions (Vermeulen, 2002).

The interactive steering model has come into practice in the eighties, alongside the central steering model. Within this steering model, the government started a dialogue with the firms. One of the main goals of creating this dialogue was to gain more support and compliance in relation to the regulations set within the central steering model. Firms needed to make a corporate interpretation of the national regulations and management practices in order to make sure the goals as set in the national regulations were met. (Vermeulen, 2002).

Whereas with the interactive steering model the government and businesses compose arrangements and agreements, the self regulating steering model of the government is about stimulating the self regulating capacity of businesses and other private organisations. With the interactive steering model, the government arranges a lot, whereas the self regulating steering model is not strict in whom arranges the settings. This can either be the government or one of the other stakeholders participating within the decision making process.

3.4.3 Civil Society strategies

Nongovernmental organisations or NGOs have become increasingly important within environmental decision making procedures. NGOs differ from governments in the sense that they 'cannot legally require that entities living in a particular territory follow their laws and rules' (Johnson and Prakash, 2007). Another distinction between an NGO and a firm is that 'they do not distribute profits to their residual claimants' (Johnson and Prakash, 2007). NGOs emphasize to influence both public and firm policies, but most of all NGOs pursue normative goals. This is in contrast to the instrumental goals pursued by firms (Johnson and Prakash, 2007). In this study not only NGOs are taken into account, but newspapers, the scientific community and societal (public/consumer) opinions will be taken into account as well.

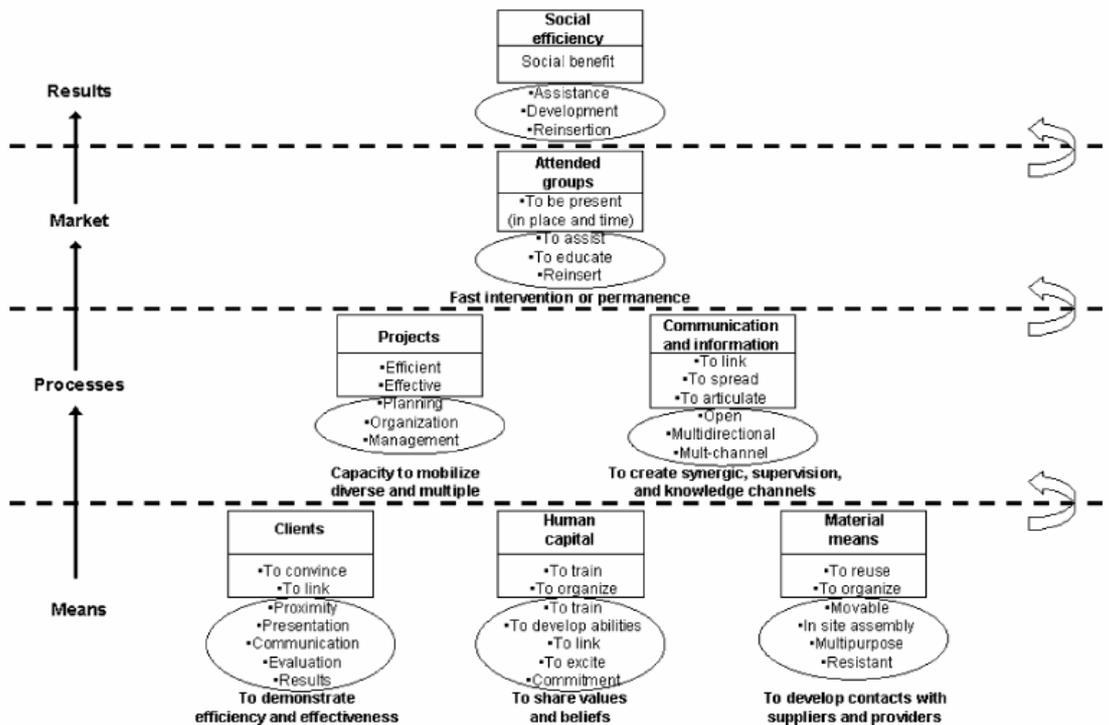


Figure 3.8: Possible strategic map of goals and critical actions for a NGO
(De Los Angeles Gil Estallo et al., 2006)

In an article written by de Los Angeles Gil Estallo et al. (2006), a strategic social map has been made on NGO strategies and activities, as can be seen in figure 3.8. The top square boxes represent the dimensions or critical areas which have to be present in order to develop a strategy, while the oval boxes represent possible goals linked to each dimension or critical area (De Los Angeles Gil Estallo, 2006). It is visible in this figure that NGOs are trying to reach social efficiency. They try to achieve this result by mobilisation, either by building networks (clients), organising and training people or using different kinds of materials. In turn this creates different projects and information which is given to the target group (e.g. a firm or a large group of consumers) they are trying to convince. In the end, this possibly results into the social efficiency and the social benefit they intended to reach when they begun mobilisation.

4. Analytical Framework and Operationalisation

4.1 Introduction

In this second part of the study, the research design is explained. The study itself consists out of two parts, as can be seen in the research framework as shown in figure 4.1. The first part (left part figure 4.1) constructs a model determining the governance system impact potential of the sustainability of the supply chain (paragraph 4.2 and 4.4), and results in the dependent variable for the second part of the study: the governance system impact potential (middle part figure 4.1). In this second part, the variation in time of the governance system impact potential will be explained by the relative influence of the actors involved within the supply chain (paragraph 4.3 and 4.5). In paragraph 4.4, the method and source for the data collection method is explained.

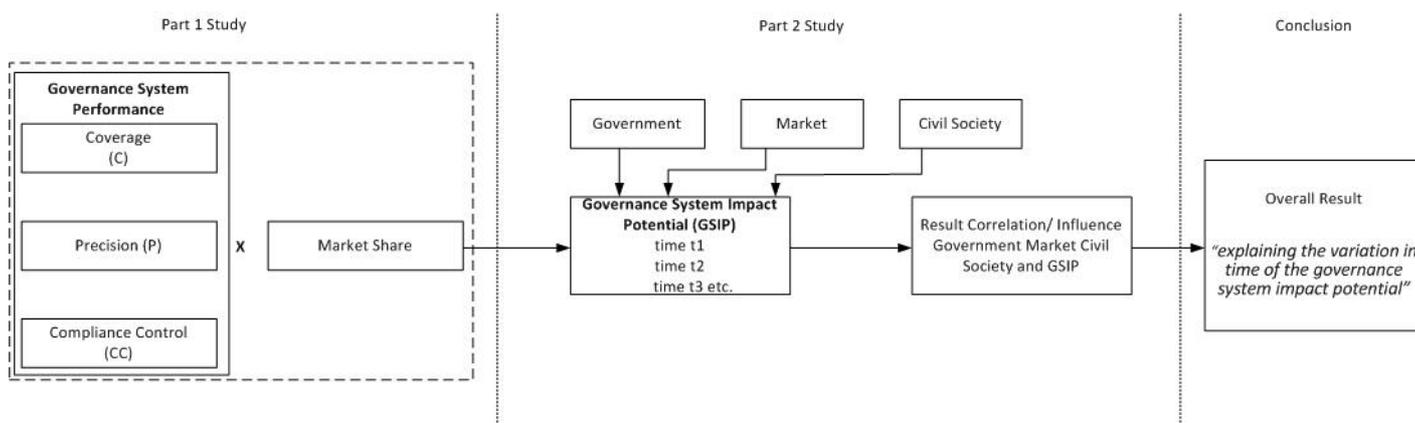


Figure 4.1: Research Framework

4.2 Part 1: the sustainability of a supply chain

The first part of the study determines the governance system impact potential by multiplying the market share with the governance system performance (GSP). The governance system performance consists out of the performance components coverage, precision and compliance control). These components are the *dependent* variables. The variation of the variables is determined by *independent* variables (the indicators).

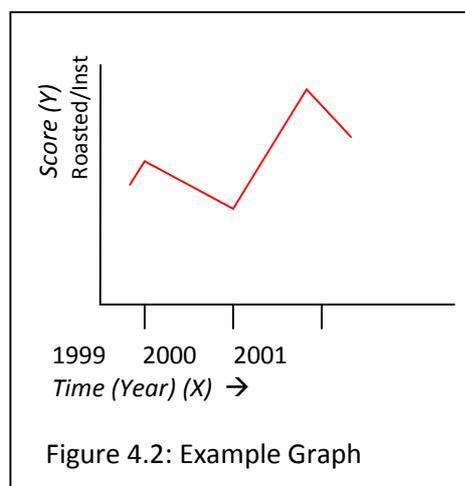
In order to determine the score of the GSP – coverage, precision and compliance control – three different methods are used, due to the different characteristics of the three components. For the components coverage and precision, a scoring matrix is used. For the compliance control, scoring based on regular intervals will be used. Goal setting performance will not be measured. Goal setting performance appeared to be difficult to measure based upon the certification standards. Instead, a description of the goal setting performance will be given. Goal setting performance is therefore not included in the governance system impact potential multiplication.

The scoring for the components at the different intervals (the *governance system performance*) will be *multiplied* by the market share. This reproduction is the *governance system impact potential* (GSIP), and represents the relative share of the supply chain upon the final impact.

4.3 Part 2: the sustainability of a supply chain explained

The governance system impact potential determined in the first part of the study serves as input for the second part of the study serving the dependent variable. It is assumed that the GSIP will fluctuate at different time intervals and can be explained by different independent variables. These independent variables are, as implied by the hypothesis show in paragraph 3.3.2, the motivation of the market, civil society pressure and governmental pressure. The motivation and pressure from these three actors is represented in different activities and instruments. The activities and instruments will be measured at the same time intervals as the first part of the study, in order to make sure the results are comparable and

the variation in time can be measured. The different activities and instruments can be found in paragraph 4.5.



To explain the variation of the GSIP over time on a (semi) quantitative basis, the intention was to perform a time series regression analysis. Using the time series analysis, the correlation between the dependent and independent variables could have become clear and the underlying process perhaps could have been explained. One of the requirements for a time series analysis is that it gives an adequate representation of the true social process (McCleary, Hay, 1980). While the data collected in this study are valid and represent the social process, it was not enough to perform a time series analysis. It was therefore not a matter of quality but of quantity. The intention was to find standard from the period 1988-2009. However, it appeared possible to gain information from the period 2003 onwards only. This small dataset would have decreased the time series analysis validity even further since a time series is more

interpretable when the timeframe is narrow (McCleary, Hay, 1980). A time frame of 2 years is therefore too wide for a precise interpretation. The same goes for obtaining information on the actor processes involved. Not all databases contained information from 1988 onwards. Instead only limited data was available, which is a matter of quantity as well.

Instead, the decision was made to continue to use of the data found and create 'trends': graphs and charts displaying the activities and instruments throughout the years. These graphs will be compared with the GSIP and the related performance components on a qualitative basis. These peaks could explain the GSIP. This will be done with all actor activities and instrument for all GSIPs distinguished to gain a complete overview. An example of such a graph is shown in figure 4.2: the X axes show the time in years, while the Y axes show the score of the activity or instrument measured.

When all the data is compared and described, it is possible to see to what extent the government, market and civil society explain the variations in GSIP. When all results are determined it should be possible to draw future lessons and implications for the actors involved within the SSCG system. This would make it easier for the actors involved within the SSCG system to anticipate upon existing and forthcoming situations. This could also help to enhance the overall performance of the system.

4.4 Governance System Performance

In the previous two paragraphs, an outline was presented on the type of model used within this study. This paragraph will continue where the previous two paragraphs stopped, by introducing the operationalisation of the variables and method used in the model, thereby showing how the results are going to be obtained. The first part of the study is about determining the dependent variables which are defined by measuring different independent variables. The dependent variables form the governance system performance (coverage, precision and compliance control) and are determined by using three different methods due to the different characteristics of the three components.

4.4.1 Coverage

Coverage stands for the degree in which the links of the supply chain are covered in terms of the sustainability aspects of society, the economy and the environment. To measure the coverage and precision, a scoring matrix is used. An example of the scoring matrix is shown in figure 4.3. This matrix shows the links of the coffee supply chain in the columns (*chain coverage*), as described in chapter 3. In this analysis, only the phases from seedlings to storage are taken into account as most standards only cover these steps. The matrix' rows are the different sustainability subjects (*subject coverage*). The total coverage is based on the presence of these subjects covered throughout the phases of the supply chain. For example in case of poverty, the model indicates in which parts of the chain poverty (in any form) is addressed within the certification standards. This is done for every single sustainability subject.

Measuring the subject coverage is done for each individual sphere – social, environmental and economical. When the subject coverage is measured for each sphere, the scores will be added together and will display the subject coverage.

The final score for each sphere is obtained by looking at the presence of sustainability subjects. For each subject present, a maximum score of 1 can be acquired, while no presence is a score of 0 (zero). The scores within one sphere are added together and are divided by the maximum score for that sphere. This maximum score is obtained by multiplying the subject coverage with the chain coverage. Multiplied by 100 it will give the final outcome in percentages of coverage, i.e. the percentage of the sphere covered in terms of sustainability. See box 4.1 for a summarized overview.

Since this explanation is still rather abstract, to illustrate how the subject coverage for the social sphere should be measured (C_{soc}) an example is given. In figure 4.3 fictional scores for the social sustainability sphere are filled in to serve as an example. A score of 1 is given in each box if the sustainability subject is addressed within the standard. When a subject is not addressed, a score of 0 can be given in the boxes. Next step is to add these scores together, resulting in a total score of 9 ($C_{soc\ fact}$). This score is divided by the maximum score for that sphere, 25 ($C_{sub1} \times C_c \rightarrow 5 \times 5 = 25$). This outcome is multiplied by 100 to find the percentage of social sustainability covered within the standard. In the case of this example, 36% of the social sphere is covered.

These steps are repeated for each single subject and sphere. The next step is to calculate the total coverage (C_{total}). This score is obtained by adding the scores (in fractions) for each single sustainability sphere coverage together (C_{soc} , C_{env} , C_{econ}), and divide this outcome by 3 (number of spheres). This will display the final percentage of the percentage of the chain covered in terms of sustainability. To illustrate this with another (hypothetical) example: when C_{soc} is 0.34 (34%) C_{env} is 0.53 (53%) and C_{econ} is 0.12 (12%). Together this makes the score of $0.9999/3 = 0.33 \times 100$ is 33%, implying that the standard covers 33% of the entire chain in terms of sustainable development.

Now the general outline of the method is explained, the definition of coverage needs to be further specified, i.e. *what* is going to be measured. From the specification, different indicators can be identified in order to determine the final coverage score. The indicators used for coverage are based on the different theories on sustainability which were presented in the third chapter of this study. These theories however, are mainly applicable on a macro scale and the indicators operate on a micro scale (the scale of production) and a translation from macro theories to micro indicators is required.

Based on these general theories on social sustainable development presented in paragraph 3.2, the social sphere can be defined in a more precise way. Looking at the Daly triangle, only the two upper layers (intermediate and ultimate ends) of the pyramid are addressing social sustainability. These lower layers do not involve any social content and are therefore not included. In total, five groups addressing social sustainability can be identified: poverty, health, safety, governance and education. Poverty, health and education can be derived from the Daly Triangle intermediate ends level. This level addresses both health and wealth by issues such as the HDI and HPI (poverty), as well as the physical wellbeing of people

Box 4.1: Model Summary - Coverage

C_{total}	= Coverage
C_{sub}	= Subject Coverage
C_{ch}	= Chain Coverage
C_{soc}	= Social Sphere Coverage
C_{env}	= Env. Sphere Coverage
C_{econ}	= Econ. Sphere Coverage
$C_{subX\ fact}$	= Sum Score (...) Sphere Coverage
$C_{subX\ max}$	= Maximum Score (...) Sphere $\rightarrow (C_{subX} \times C_{ch})$

Presence sustainability subject = max. 1

No presence sustainability subject = 0

Formulas:

$$C_{sub\ X} = \sum C_{subX\ fact} / \sum C_{subX\ max}$$

$$C_{total} = ((C_{soc} + C_{env} + C_{econ}) / 3) \times 100$$

Example:

What is the score of C_{sub1} when:

$$\sum C_{sub1\ fact} = 9 \text{ and } \sum C_{sub1\ max} = 25$$

$$C_{sub1} = \sum C_{sub1\ fact} / \sum C_{sub1\ max}$$

Thus:

$$9/25 = 0.36 \times 100 = 36\%$$

(health). Since this level also addressed knowledge, the education subject is included as knowledge can be gained by education.

In the ultimate ends level, both safety and governance can be identified as subjects. Safety is about including safety from both ends of the supply chain, meaning the employees working on the farm should be safe as well as the consumer drinking the coffee. Governance implies the way the supply chain is managed: is this done in an honest way incorporating everyone in the decision making process?

All these distinguished sustainability subjects are still addressing a macro or meso level, while they should be addressing a micro, local, level. More specific indicators are therefore required to delimit the five distinguished categories on a micro level. These indicators only address an agro commodity supply chain.

Indicator Group	Indicators
Poverty	<ul style="list-style-type: none"> • Housing (availability) • Human Rights • (Fair) Income
Health	<ul style="list-style-type: none"> • Sanitation (availability) • Drink water (availability) • Health care (access)
Education	<ul style="list-style-type: none"> • Schooling (provision)
Safety	<ul style="list-style-type: none"> • Employee safety • Product Quality
Governance	<ul style="list-style-type: none"> • Employee (discrimination) • Reciprocity • (no) Corruption

Table 4.1: Coverage Indicators - Social Sustainability

With poverty, three indicators are identified: housing availability, human rights and income. The housing of employees can decrease poverty in the sense that when good housing is provided, the living standards of the employees rise and poverty decreases. Human rights have to be addressed since it enables a set of entitlements for the employees. The income of the employees is the final indicator. With a proper income, for instance based on the ILO (Convention of the International Labour Organisation), the poverty of an employee may decrease when employees receive fair wages. For the subject of health, sanitation, drink water (availability/quality) and health care (access) are distinguished. Sanitation implies proper sanitation facilities such as a toilet available to the employee. Drink water needs to be available to the employee on the premises and needs to be in good quality. Health care includes the availability of a first aid kit, a doctor or a small hospital on site. For safety, employee safety and product quality safety are identified as indicators. As previously mentioned, safety needs to be incorporated on a chain wide basis, including both employees (employee safety) and consumers (product quality). Governance is defined by reciprocity (full stakeholder participation) to ensure a fair decision making process. It also includes (lack of employee) discrimination to ensure that everyone is able to work at the production site, as well as (the lack of) corruption to make sure that the decision making process is actually fair.

The environmental indicators are based on the natural capital theory. This theory provides the basis to create a set of indicators covering both issues of stock/capital and flow/income, as well as indicators which are a part of a larger non human system. In relation to the main subject of this study, the coffee SSCG system, five relevant indicator groups can be identified: atmosphere, terrestrial, water, waste, resources and biodiversity. These five categories fit into the natural capital described by Daly (1990), as well as the natural capital theory as described by Constanza and Daly (1992). These theories have described several kinds of natural capital. Atmosphere refers to the gaseous envelope covering the earth, consisting out of different layers. In relation to this study, indicators have been chosen indicating atmospheric damaging practices or substances, being carbon dioxide (emissions), green house gas (emissions) and other type of air pollutants and ozone depleting substances. The terrestrial category refers to the use of land or terrestrial areas for human purposes as well as the depleting and damaging practices related to this. In relation to the subject of this study, soil, deforestation, the use of fertilizers

and chemical and agrochemical use have been chosen as relevant indicators to represent the terrestrial group. The group of water refers to fresh water instead of sea water, since the latter is not required for coffee or agro commodity production. In this category two indicators could be distinguished: the quantity of water (use) and the quality of the water referring to the properties of water. Waste refers to materials which are not prime products (produced for the market) and are not further being used for production or consumption or are willingly being disposed (United Nations Statistical Division, 1997). This category is included since coffee production deals with a lot of waste, for instance the shells of the coffee cherry. The first indicator distinguished is the waste generation, referring to the prevention and generation of waste. The second waste management refers to the collection, transport, treatment and disposal of waste and the control, monitoring or regulation upon it (United Nations Statistical Division). Last group distinguished is biodiversity referring to the variety and variation among species. The indicators determining this group are species (preservation) as well as habitat (preservation). Management practices have also been included within this group since the preservation of species is also important as well as impact prevention. Resources refer to natural resources being used for human purposes. Since a lot of the natural resources were already addressed in the other indicator groups, this indicator group only refers to energy use and availability. The energy in this case refers to power gained from electricity or (fuel) wood.

Indicator Group	Indicators
Atmosphere	<ul style="list-style-type: none"> • CO2 Emissions • Greenhouse gas emissions • Air Pollutants (other) • Ozone Layer Depleting Substances
Terrestrial	<ul style="list-style-type: none"> • Chemical Use • Agrochemical use • Fertilizers • Deforestation • Soil
Water	<ul style="list-style-type: none"> • Water Quality • Water Quantity (use)
Biodiversity	<ul style="list-style-type: none"> • Species (preservation) • Habitat (preservation) • Preservation management • Impact prevention
Waste	<ul style="list-style-type: none"> • Waste Generation • Waste Management
Resources	<ul style="list-style-type: none"> • Energy Use • Energy Availability (infrastructure)

Table 4.2: Coverage Indicators - Environmental Sustainability

From the theories presented in chapter 3 on the relation between economic growth and sustainable development five different indicator groups are distinguished: employment, labour conditions, social security and income and finances. In the employment group, different indicators are included to measure employment, such as community employment, female employment and child labour. Though it is recognised that child labour also could have been included in the social sphere, the decision has been made to include them in this indicator group as it refers to employment related issues. Labour conditions include the freedom of associations or speech for the employees as well as the work load per day, referring to the amount of hours the employees have to work. Third is social security, including retirement arrangements, sick days (insurances) and maternity leave. Finally, income and finances include credit provisions for the producers in order to become sustainable as well as fair price arrangements for the price of coffee the producer receive.

Indicator Group	Indicators
Employment	<ul style="list-style-type: none"> • Community employment • Female employment • Child Labour
Labour conditions	<ul style="list-style-type: none"> • Freedom of association (speech) • Work load per day
Social Security	<ul style="list-style-type: none"> • Retirement arrangement • Sick days (insurance) • Maternity leave
Income and finances	<ul style="list-style-type: none"> • Credit provisions • Fair price arrangements

Table 4.3: Coverage Indicators - Economic Sustainability

4.4.2 Precision

Though it is possible that each of the distinguished indicators could be present in the standards of the SSCG system, the precision of the standards (and thereby the indicators) could be either high or low. Precision looks at the level of detail in the prescribed actions of subjects being addressed in the coverage (Vermeulen, 2008) as well as to the level of requirement demanded of the prescribed actions. Within this study, different levels are being identified. Each of these levels are determined by different keywords to make sure that the different requirements within the certification are being analyzed on a proper basis.

For each box of subject coverage, precision looks at the precision and requirement level of that subject. For each box, a maximum score of 1 can be obtained. No precision gets a score of 0 (zero). The score of the different requirement levels is an equal share of 1. Thus, with three different levels identified, the score will be 0,33; 0,66 and 1. Although it is arguable why these scores are used, the counterargument is that in fact almost any score could have been used. The most important thing is that this score needs to represent a variation between the three levels and this is being indicated with a score. The precision is specified by using three different levels: a high requirement level (score 1), a low requirement level (score 0,66) and a recommended level (score 0,33). A high requirement level implies that the indicators for sustainability all have to be implemented by the farmer. A low requirement level means that not all indicators have to be implemented. A recommended level implies that nothing needs to be implemented, but it may be useful if the producer decide to do so.

The score of the precision of these requirement levels is added together creating score P_{total} . An example is used to illustrate this rather abstract explanation. In this case, the fictional precision of poverty is calculated. The coverage score indicated 5 indicators. Out of these five indicators, two had a high requirement level (score 1); one had a low requirement level (score 0,66) and two were recommended

Box 4.2: Model Summary - Precision

- P_{total} = Precision
- P_{sub} = Subject Precision
- P_{ch} = Chain Precision
- P_{soc} = Social Sphere Precision
- = P_{pov} (poverty) + P_{health} (health) + Etc.
- P_{env} = Env. Sphere Precision
- P_{econ} = Econ. Sphere Precision
- $P_{subX fact}$ = Sum Score (..) Sphere Precision
- $P_{subX max}$ = Maximum Score (...)
- Sphere \rightarrow ($P_{subX} \times P_{ch}$)
- High (H) = 1
- Low (L) = 0.66
- Recommended (R) = 0.33
- N = amount H, L or R counted
- N_{total} = total N (H + L + R)

$$P_{total} = ((P_{soc} + P_{env} + P_{econ}) / 3) \times 100$$

Example:

$$P_{pov} = ((H \times N) + (L \times N) \times (R \times N)) / N_{total}$$

$$P_{subX} = ((P_{pov}) + (P_{health}) + P_{econ} + etc...) P_{subX max}$$

(score 0,33). This is $((2 \times 1) + (1 \times 0,66) + (2 \times 0,33)) = 3,32$. This needs to be divided by 5 to find the average: $3,32/5 = 0,664$: P_{poor} . This is the average score for precision for poverty.

These steps are repeated for each single sphere. Next, the total coverage needs to be calculated, by adding the scores (in fractions) for each single sustainability sphere precision together (P_{soc} , P_{env} , P_{econ}), and divide this outcome by 3 (number of spheres). This will display the final percentage of the chain coverage in terms of precision. To illustrate this with another (fictional) example: when P_{soc} is 0.50 (50%) P_{env} is 0.63 (63%) and P_{econ} is 0.24 (24%). Together this is the score of $1.37/3 = 0.4567 \times 100$ is 45.67%, implying that the standard covers 46% of the entire chain in terms of precision.

However, the different requirement levels still need to be specified, i.e. how do you determine when a indicator either has a low, high or recommended requirement level? For each level (high, low and recommended), different keywords are identified to make sure that the different requirements in the certification are analyzed on a proper basis. For the high requirement level, the key words are must, have (ought) to, ought to and obliged (to). Beside these keywords, there could also be a very precise time indication or specific numbers which are required. For the low requirement level, an important key word is should, but it is more important that the high requirement level keywords are not used within the requirement, numbers are not given and timeframe is not specifically mentioned. For the recommended level, the key words of the high and low requirement level are not present, words as if, could and recommended are included within the certificate standards, and the precision of the description is very vague.

4.4.3 Compliance Control

The compliance control is about checking to which extent the decision and approaches of the certification system are supported and implemented in the chain. Though it might seem obvious that the chain implements the decisions of the certification system, it does not have to be. Compliance control consists out of two parts: control and sanctions. The first part, control, is about how much control takes place. Sanctions are about whether there are sanctions when producers are non complying and the time a producer/grower gets from the certification body to fix the faults within the certification scheme.

The control can either be on a half year, year, two year, or two year – plus basis, whereby half year basis is more positive than the two year or two year plus basis for the reason that more control can imply that a better performance of the supply chain could be expected. The sanction is about if there are sanctions upon non compliance and the time a producer/grower gets from the certification body to fix the faults within the certification scheme.

The score is based upon the time between two control points. The more frequent control takes place, the higher the score is, with a maximum score of 1 when control takes place on a regular and frequent basis. When the control takes place every half a year up to a year the score is 1, when the control takes place on a two year basis, the score is 0,66 and when the control takes place on a 2+ year basis, the score will be 0,33. This will be called CC_{control} .

Second, a maximum score of 1 can be obtained when there are sanctions upon non complying to the standards. No sanctions will be getting a score of 0 (zero). When there are minor sanctions, but they have a time span of over 2 years, they will be getting a score of 0,33; a score of 0,66 will be given to a little

Box 4.3: Model Summary - Compliance Control

CC_{control} = Compliance Control – Control Frequency

$CC_{\text{sanctions}}$ = Compliance Control - Sanctions

CC_{total} = Compliance Control total score

$$CC_{\text{total}} = ((CC_{\text{control}} + CC_{\text{sanctions}})/2) \times 100$$

Compliance Control – Control Frequency:

½ - 1 year basis = 1

2 year basis = 0,66

2+ year basis = 0,33

Compliance Control – Sanctions:

None = 0

+2 years = 0,33

One year = 0,66

½ year = 1

stricter sanctions where non compliance need to be solved within one year. A score of 1 will be given when non compliance needs to be solved within half a year. This outcome will be called CC_{sanction} . The two outcomes of the control and the sanctions will be added together and divided by two another to get the score of CC_{total} . When the score is multiplied by 100, the percentage of the compliance can be found.

4.4.4 Governance System Impact Potential

When all the variables are measured, the overall government system impact potential (GSIP) can be retrieved. The GSIP is a multiplication of the governance system performance (coverage, precision and compliance control) and the market share of the selected SSCG system.

The GSIP displays the relative share of the supply chain upon the final impact. It is thereby a proxy variable of which it is assumed what the impact potential might be of a supply chain. This impact potential is determined by the governance system performance and the market share. For each of the performance components a final score is calculated, expressed in fractions. These scores will be multiplied with one another to get the government system impact potential. The maximum score 1, when all the components scored the maximum of 1 as well. However, the actual score will possibly be low, since not all the components will have a maximum score. This low score will represent a true GSIP, as the performance and thereby the impact potential of a system depends on all the different components. The coverage may be high, but if there is not a lot of precision the value of coverage will not count for anything. The same goes for the compliance control. If all the three other components are valued high, but there is no control or no sanctions, it is not sure whether there actually is performance to talk about, since there is no control upon the other components.

For example, if C_{total} is 0,34, P_{total} is 0,40, and CC_{total} is 0,7. The total score will then be $0,34 \times 0,40 \times 0,7 = 0,0952$. When this outcome is multiplied by 100, the percentage outcome will appear: $0,0952 \times 100 = 9,52 \%$. This implies that the GSP of a one system would be 9.52 % out of a possible score of 100. Multiplied by the market share, the result will be even lower. For example, if the market share of a SSCG system would be 25%, only 25% out of the 9.52% GSP would explain the potential impact (the GSIP) of a SSCG system, in this case $0.25 \times 9.52 = 2.38\%$.

Box 4.4: Model Summary - GSIP

- C_{total} = Coverage total score
- P_{total} = Precision total score
- CC_{total} = Compliance Control total score
- GSP = Governance System Performance

$$GSP = C_{\text{total}} \times P_{\text{total}} \times CC_{\text{total}}$$

$$GSIP = GSP \times \text{market share SSCG system}$$

subject coverage

Coverage & Precision		Social Sphere					Environmental Sphere					Economic Sphere				
		Poverty	Safety	Governance	Health	Education	Atmosphere	Terrestrial	Water	Biodiversity	Resources	Waste	Employment	Labour Conditions	Social Security	Income and Finances
Supply Chain																
Agro production	Seedlings	1	0	1	0	1										
	Growing Phase	0	1	0	1	0										
	Harvesting Phase	0	1	0	1	1										
Processing	Pulping/Drying/Washing	0	0	0	0	0										
Trader and Exporter	Storage Cherries	0	0	1	0	0										
	Transport															
Roaster	[Blending] Roasting															
Retailer and Consumer	Caterer or Retailer															
	Consumer															

chain coverage

Dry Cherry / Parchment Coffee
 Bulk/Green Coffee
 Blended/ Roaste Coffee

Figure 4.3: Scoring Matrix

4.5 Actor influences

Measuring the different influences of the actors involved is the second part of this study. As explained in paragraph 4.3, different actor activities and instruments need to be distinguished which can influence the score of the governance system impact potential (GSIP). For each actor and/or activity studied, a trend line is created, showing the number of times (N) an activity took place at a certain period of time. For example, regarding the influence activity of parliamentary negotiations of the Dutch parliament it is analyzed how much they have discussed sustainable coffee. For instance it may appear that in the period between January and March, they discussed a subject 10 times, and in the next three months only 4 times and so forth. These results are put into a graph. This will be done for each actor instrument and activity, displaying the fluctuations over time. These graphs can be compared to the graphs for the GSIP.

The different activities and instruments chosen to analyze will have – in theory – different outcomes over different time intervals. Depending on the corresponding number between the data from the activities/instruments and the governance system impact potential, a correlation might be exposed. Depending on this correlation, the type of influence can be distinguished. This in turn might explain the possible (lack of) variations within the governance system impact potential.

The information for this part of the study is found by using interviews, (online) databases with scientific or news articles and firm and NGO databases as well as their annual reports. The variables of the government are found in the governmental databases such as OPMAAT. When the information of the databases is used, it is important to distinguish a number of keywords for the query. These words can either be in English or in Dutch: coffee, fair trade (or Fairtrade, fair-trade), sustainability, sustainable coffee, sustainable production, supply chain, agro commodity and agro commodity chain. Using the same words for every query increases the chance of finding the proper information.

Also, a number of interviews are held with different actors involved within the coffee supply chain. The interviews need to be representative for the branch. Therefore, interviews will be held with different buyers (roasters) of coffee, government and NGO representatives to gain a complete overview on the previous and current situation in the coffee branch.

It is also important that the different actors influences are based upon the theories presented in chapter 3. But what is an 'actor'? According to the Van Dale Dictionary an actor is either 'an individual or an institution or organisation having a decisive influence within a process' (Van Dale, 2005). This implies that different institutions or organisations have decisive influences within policy processes regarding a supply chain. In this study, there is only one institute to be distinguished: the government. Regarding the organisations, different market organisations and civil society organisations can be distinguished which are ought to be delineated. In the category of the government, all actors, activities and instruments whom are part of the public and non-profit sphere of the Dutch government which are directly linked to the particular SSCG-system studied are included in this analysis. In the market, all actors (including consumers), activities and instruments which are a part of the private sphere of the SSCG-system studied which can be directly linked to this system are included. For this study, a requirement with these actors is that the buying organisation or firm of the SSCG-system studied has to operate from and in the Netherlands. Actors, activities and instruments related to the civil society need to be independent and not belong to either a public or private sphere and have to be non profit. What also is included in this sphere are the Dutch media (newspapers, scientific journals, internal (corporate) magazines) plus public debates. The actors in the sphere of the civil society need to have a direct influence the SSCG-system studied.

What is being noticed is that the word 'direct' is key within all three definitions of categories. This implies that contacts *between* actors of the SSCG-system studied, or the influences of these actors upon one another will not be included. This implies that only parties whom are directly affected by and are directly included within the SSCG-system (in the case of this study, coffee) will be studied. Third parties, whom are not directly involved within the SSCG-system, such as an espresso machine producer, will not be included due to a restriction of time for analysis. This step will therefore be recommended for further research.

These activities and instruments used by these actors need to be defined precisely with help of the theories presented in chapter 3. It is important that with this defining, the activities and instruments can be related to (agro commodity) supply chains, such as the coffee supply chain.

The resource dependency theory as described by Frooman (1999), enables to identify two activities in relation to the coffee supply chain: resource withdrawal and redesigning environmental standards. These actions are in particularly related to a strong buyer position (firm power), implying that the stakeholder is mainly dependent on the firm and the firm may require certain actions from the other stakeholders involved. Furthermore, other actions can be distinguished in which (sustainable) coffee can be mentioned (table 4.4). These are the actions which are internally performed by the firms involved within the (coffee) supply chain. These actions are negotiations within the firm, CSR reports from the firms or mentions in year reports. Although the situation in the coffee market is described using these different activities, it is not possible to capture them all in numbers. Therefore only the actions printed in bold will be measured on a quantitative basis.

Sphere	Activities / Instruments
<i>Firm</i>	<ul style="list-style-type: none"> - Resource withdrawal - Redesigning environmental standards - Negotiations - CSR reports - Producer training - Year report mention

Table 4.4: Different firm actions and instruments

Different governmental activities and instruments can be distinguished based on the general governmental steering models and related instruments (administrative, economic and informative; Mont and Dalhammar, 2005), as seen in table 4.5. With administrative instruments strengthening of the governmental regulations, permits, laws, regulations and covenants are included. For the economic instruments different taxes are distinguished. Public procurement is part of the informative instruments as it creates awareness with the consumers that the government is also buying sustainable or Fairtrade products to set a good example. Other governmental actions taking place in the government are parliament negotiations, questions and documents by the government. Other activities are subsidizing activities as roundtable participation and campaigns on CSR or sustainable products. Even though the situation in the coffee market is described by these different activities, not all these activities are fitted for an analysis on a quantitative basis. Therefore only the actions in bold are measured on a quantitative basis.

Sphere	Activities / Instruments
<i>Government</i>	<ul style="list-style-type: none"> - Participation in roundtables - Parliament activities - Campaigns on CSR or sustainable products. - Recognition of sustainable supply chains. - Government Regulations - Voluntary Agreements - Public Procurement

Table 4.5: Different government actions and instruments

In the case of the civil society, different activities can be distinguished based upon the theory of de Los Angeles Gil Estallo et al. (2006). In this theory a strategic social map is created with different strategies set out by NGOs to gain the results they initially required. This functions as a basis for the distinguished NGO actions. From the means level, meetings, training, protesting and human and material capital are possible actions. From the processes level, the information provisions as well as the facilitator of a roundtable are actions undertaken by NGOs. In the next steps, the market and results, training (again) and assistance

with implementation could be undertaken by NGOs. Besides NGOs other civil society activities could be distinguished as well such as newspaper articles, scientific articles and consumer awareness. Even though the situation in the coffee market is described by these different activities, not all can be measured on a quantitative basis. Therefore only the actions in bold will be measured on a quantitative basis.

Sphere	Activities
<i>Civil Society</i>	<ul style="list-style-type: none"> - Meeting - Implementation assistance - Training - Information provision - Human Capital - Material Capital - Newspaper articles - Scientific articles - NGO (Year) Report - Facilitator roundtable - Consumer awareness - Lobbying - Legal Cases

Table 4.6: Different civil society actions and instruments

4.6 Case Selection

The method as described in the previous paragraphs and the related indicators has to be applied upon a SSCG-system in order to come up with new insights and explanations. Therefore an operational choice had to be made: which SSCG-system has to be studied and which system provides this study with the best options of also generating ‘general’ implications for SSCG-systems instead of merely specific implications? The system chosen is the coffee supply chain as it is the oldest SSCG system. It therefore has not only a large history, but also different certification systems and acknowledged sustainability issues. Within the coffee chain, different certification systems exist, as well as initiatives taken by private companies which either do or do not have a third party monitoring system (Daviron, Ponte, 2005).

As explained in chapter 2, the coffee supply chain is a buyer driven supply chain, dominated by a few major roasting firms and copes with different sustainability issues on a ecological, social and economic scale. Throughout the years different sustainability initiatives have been taken, starting in 1988 with Max Havelaar (now Fairtrade) in the Netherlands followed by different other initiatives. While the primary aim of this study was to create a model in order to analyze SSCG systems, this study will try to analyze and explain the relative influence of the different actors involved, as well as their activities and instruments upon the overall governance system impact potential of the coffee SSCG- system and translate these results into overall general implications for governance system impact potentials and lessons for actors involved.

In order to gain results, two cases from the ‘green’ Dutch coffee market were chosen. The Dutch coffee market has one of the biggest market shares in the world with roasters such as Douwe Egberts/Sara Lee or De Drie Mollen Holding (Giovanucci and Koekoek, 2003). What should not be forgotten is that different SSCG systems originated in the Netherlands. Two of these systems have been chosen to study: Fairtrade Coffee (‘Max Havelaar’) and Utz Certified, respectively having a market share of 2900 and 27605 tonnes of coffee (Coffee Coalition, 2007). More detailed explanations regarding these two cases can be found in the fifth chapter.

4.7 Data Collection

Information for this study has been found by using several sources. In order to find the score for the different performance components, the standards by Fairtrade and Utz Certified from the years 2003 up to 2009 are used in order to find the results. For the second part of the, information is found by

performing a (content) analysis searching (online) databases with scientific and news articles. For the scientific articles, the SCOPUS database is used. This database provides a good overview of scientific articles. Newspaper articles are found by using the LEXIS NEXIS database, which provides newspaper articles from different newspapers within the Netherlands, including all national newspapers.

Information on NGO and CSR (annual) reports is found using the Global Reporting Initiative database, a project which contains NGO and CRS reports, but unfortunately not all CSR and NGO reports which were published throughout the years were available. Therefore it is tried to gain additional information from NGO and producer websites. To find information on other annual reports, the database Company.info is used. This database contains almost all (annual) reports and statistics from the majority of Dutch companies. It is possible on this website to look specifically for roasting companies and coffee producer firms, which was done for this analysis.

Information on government activities and instruments is found by searching the governmental database OPMAAT. This database contains all governmental activities (written) and enables to find the required information for this study.

Also, a number of interviews are held with different actors involved within the coffee supply chain. The interviews need to be representative for the coffee branch. Therefore, interviews are held with different buyers (roasters) of coffee, government and NGO representatives to gain a complete overview on the previous and current situation in the coffee branch.

5. Results: Coffee SSCG Systems – Fairtrade and Utz Certified

5.1 Introduction

In the previous chapter the theoretical concepts and the methodological framework for analysis were explained. This chapter will analyze the coffee SSCG systems studied: Fairtrade and Utz Certified. Though both systems might provide standards to ensure sustainable produced coffee, they differ in their approach, their choice of topics being covered in the standard and their ideology. This chapter provides an overview of the history of Fairtrade and Utz Certified (paragraph 5.2.1 and 5.3.1) and gives an analysis of the different variables (paragraph 5.2.2, 5.2.3, 5.3.2 and 5.3.3) as defined in the analytical framework (chapter 4).

5.2 Fairtrade Coffee

5.2.1 General information

Fairtrade is a strategy for poverty alleviation and sustainable development (FLO, 2009a) with the aim to provide an 'alternative approach to conventional trade and improving the livelihoods and well-being of small producers by improving their market access, strengthening their organizations and paying a fair price and a continuous relationship' (Giovanucci and Koekoek, 2003, p.38). Fairtrade originated as a partnership between the Alternative Trading Organisations (ATOs), such as Oxfam Trading, Equal Exchange and producers and Third World Shops in the 1950s and 1960s. This partnership purchased different products in developing countries and sold these directly through a network of Third World Shops (Daviron and Ponte, 2003). These first Fairtrade products weren't labeled. The labelling of Fairtrade started with the Max Havelaar initiative for coffee in the mid eighties and the creation of the Max Havelaar standard in 1988 in the Netherlands. The label could be established with financial support of the Dutch Government and different civil society organisations. The standard was created after adhoc consultations with coffee producers in Mexico and was designed to address social codes. The current environmental perspective was then still underdeveloped. In the time of creation, the Max Havelaar standard setting was new. The standard setting process has evolved over the years and now includes an extensive process including stakeholder consultation, - verification and compliance control (Personal Communication, 2009a). This initiative was copied by other Fairtrade initiatives throughout the world (Belgium, 1991; Switzerland 1992, Germany France and Luxemburg 1993, UK and Austria 1994 (Giovanucci and Koekoek, 2003, p.39)). In the first half of the 1990s, all these different Fairtrade labelling initiatives (including Max Havelaar) joined their forces in the Fairtrade Labelling Organisation (FLO), an umbrella organization mandated to apply and monitor Fairtrade standards worldwide (Stenzel, 2009). The role of the national branches of the FLO, such as Max Havelaar, became minimized to license the importers and distributors within their own country, thereby taking care of the product labelling and promotion of Fairtrade products (Raynolds, 2009).

Fairtrade labelled coffee is purchased directly from small farmer cooperatives located at approximately 30 different countries (see figure 5.1). This coffee is guaranteed to be produced under contractual social and environmental standards and is purchased at a minimum contract price. This minimum price includes a social premium which the producers are ought to invest in the community, education, healthcare or infrastructure (Daviron and Ponte, 2005; Giovanucci and Koekoek, 2003). This social premium is at least US\$ 0.05 per pound of green coffee – about US\$ 0.15 depending on the origin of the coffee - as compared to the coffee stock markets, though this price might vary according to the type and origin of the coffee (Daviron and Ponte, 2005).

While the premium prices of Fairtrade previously varied per region, the current (2008 version) price on coffee is set at a worldwide level. An overview of the Fairtrade minimum prices and premiums is provided in table 5.1. Within this table, a distinction is being made between regular and organic coffee since Fairtrade farmers are often double certified as organic farmers as well.

Type of Coffee	Regular		Organic	
	Fairtrade Minimum Price	Fairtrade Premium	Fairtrade Minimum Price	Fairtrade Premium
Washed Arabica	1,25	0,10	1,45	0,10
Unwashed Arabica	1,20	0,10	1,40	0,10
Washed Robusta	1,05	0,10	1,25	0,10
Unwashed Robusta	1,01	0,10	1,21	0,10

Table 5.1: Fairtrade minimum Price and Premium, per October 2008 (US\$/lb green coffee)

Source: FLO (2009b)

Despite its large production scale, Fairtrade still hasn't become a large player in the market. When Max Havelaar was founded in the Netherlands, the founders were quite positive on obtaining a large market share, varying somewhere between the 7 and 50%. This was partially based upon a market study which initially showed that a large percentage of people was willing to pay a premium price for their coffee (Personal Communication, 2009a). Unfortunately reality showed a different result: Max Havelaar/Fairtrade currently only accounts for 2 or 3% of the market. In figure 5.2 shows the current sales of Fairtrade coffee in the Netherlands in kilograms.

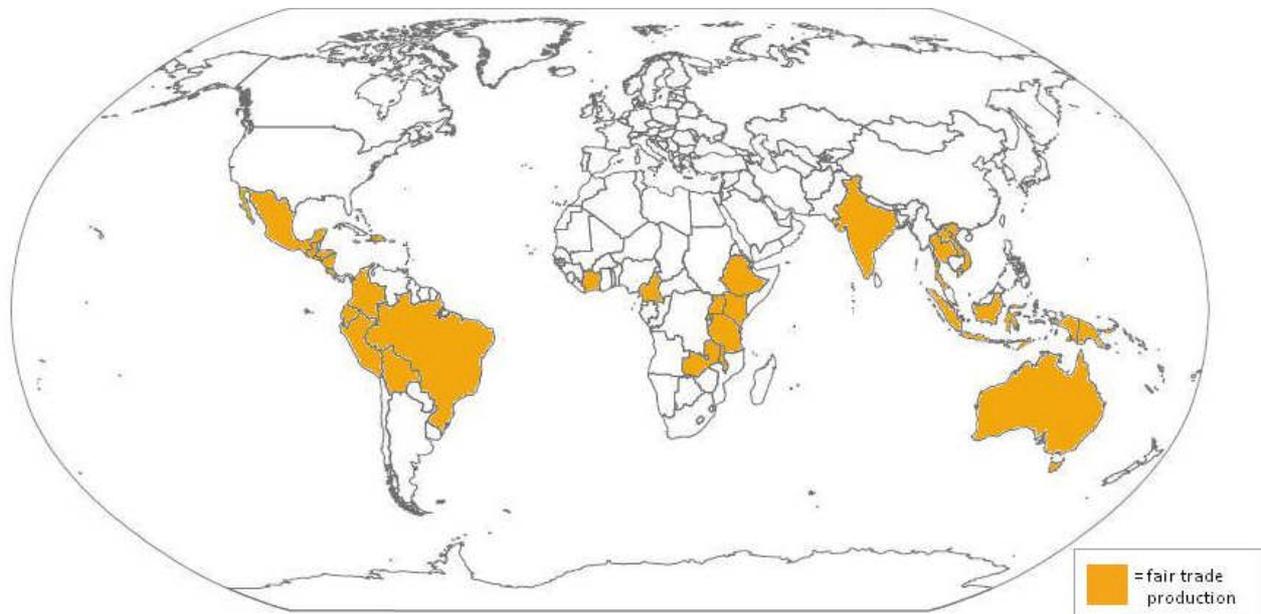


Figure 5.1: Overview of the Fairtrade production countries
(Source: based FLO Cert 2010a)

One of the reasons for such a small market share is the fact that large companies within the Netherlands such as Douwe Egberts and Ahold were reluctant to join the initiative. They were opposed to paying a premium price, as well as the fact that they didn't want their own brand to compete with the Fairtrade logo which then had to appear on the package (Personal Communication, 2009a). A similar effect can be seen elsewhere in the world, though there are some exceptions where Fairtrade has achieved a higher market share. In Switzerland, 5 % of the retail sales were captured, and in the UK Fairtrade even accounts for 7 % of the coffee market (Giovanucci and Koekoek, 2003).

Before becoming a member of Fairtrade, the farmer needs to comply with three general standards:

1. be a small family based operations;
2. be organized into democratic associations and act politically independent;
3. pursue environmental goals.

(Raynolds, 2009; Daviron and Ponte, 2005)

Despite the fact that these conditions are demanded by the FLO, the question is whether it is truly possible to enforce them. While the first and third demand can be enforced by the FLO, the second

demand on democratic associations might be problematic in formerly state controlled cooperatives (Daviron and Ponte, 2005).

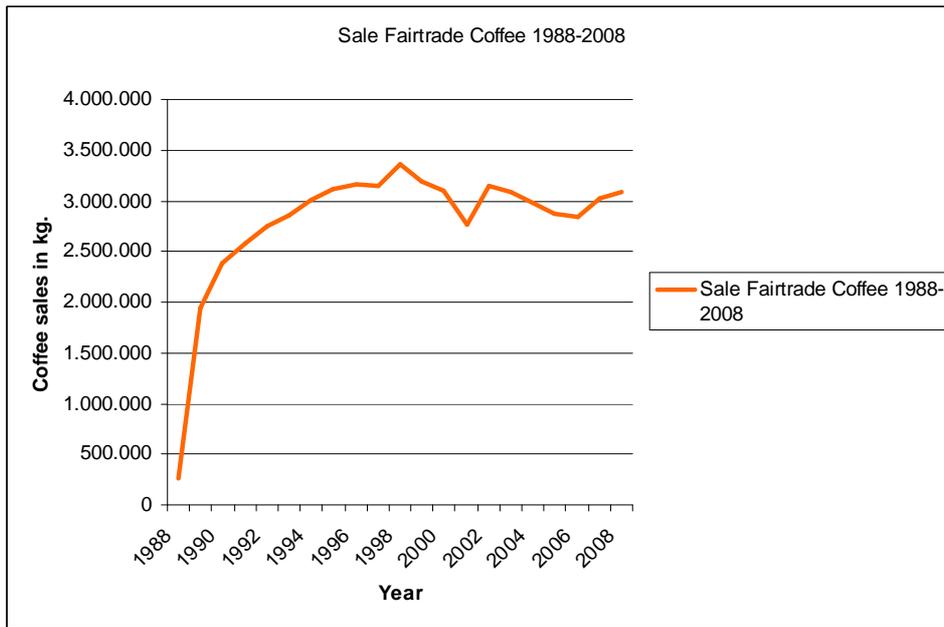


Figure 5.2: Sale Fairtrade coffee in the Netherlands (source: Max Havelaar, 2009)

When a farmer has become a member of FLO, the handling of the certificate and the compliance upon the standard was in the past carried out by FLO itself. This was for a long time criticized, as other standards strictly separated the standard setting and the compliance control. FLO however, countermarked that this lack of division was necessary in order to keep costs low (Daviron and Ponte, 2005). Currently the auditing on the standard compliance is carried out by FLO-Certified (FLO-Cert), thereby creating more transparency in the certification process. Though both FLO and FLO-Cert are undoubtedly connected with Fairtrade, FLO-Cert acts autonomous from FLO and decides whether farmers comply with the standards requirements as set by FLO. Another difference from other systems such as Utz Certified is that farmers do not have to pay the trader a fee in order to stay in the system. Instead, the trader, or the company responsible for applying the Fairtrade label, has to pay a US\$0,10/lb fee for licensing (Potts et al., 2007).

5.2.2 The Fairtrade Standards: General Information

The origin of the Fairtrade standard goes back to 1988, when the first standard of Fairtrade on coffee, became into practice. These standards have been altered over the years with sometimes small and large changes made with the intention to improve the standard and its output. The General Trade Standards is the standard that, as the name implies, is generally applicable to different kinds of commodities Fairtrade certifies. The General Trade Standards have changed every few years with the last change made in 2009. In addition to the General Trade Standards, Fairtrade has created specific trade standards for different commodities such as cotton, cocoa and coffee. The additional trade standards provide guidance for where the General Trade Standards are lacking specific information. The coffee trade standards came into practice in 2003. Until the current standard, 2009, the standard declares that no additional criteria were created, i.e. the General Trade Standards are 100% applicable to coffee without requiring additional criteria.

The full name of the specific trade standard for coffee is 'Fairtrade Standards for coffee' and consist out of five parts: (1) an introduction to Fairtrade, (2) serving as a guidance for the rest of the standards, (3) part A: generic Fairtrade standards for small farmers' organizations, (4) part B: product specific standards for coffee and (5) part C: trade standards for coffee.

From all these parts, part A is the most comprehensive one. The generic Fairtrade standards (part A) can be divided in four broad categories, covering (1) social development, (2) economic development,

(3) environmental development and (4) standards on labour conditions. Each of these categories consists out of minimum requirements and progress requirements. Minimum requirements are requirements 'all producer organizations must meet from the moment they join Fairtrade' (FLO, 2003a). Progress requirements are requirements in 'which producer organizations must show permanent improvement. And a report on the achievement of progress requirements should be made each year' (FLO, 2003a).

Despite the fact that part B (product specific standards for coffee) makes a distinction between social, economic and environmental development, all three categories show that there are no additional standards required for the coffee producers. This has not changed since 2003.

Part C describes the trade standards for coffee and contains information on the product description, pricings and premiums and the pre-financing and credit.

Over the years, the Generic Trade Standards (part A) have been altered in the year 2003, 2005, 2007 and 2009. While some years the changes were minor, other years major changes on e.g. environmental issues were being made. Part B has not changed over the years and part C has undergone some minor changes. A more in-depth description on these changes is provided in paragraph 5.2.3.

5.2.3 The Fairtrade Standard: Ambition Level

As mentioned in the previous chapters, it was explained that the goal setting performance will not be measured within the (semi) quantitative approach used within this study. Despite the fact that the goal setting performance cannot be measured, the development of the goals setting performance is included in this study by describing its development over the years on a qualitative basis. This approach is chosen since it is difficult to translate this component into a set of indicators and variables which can be used for both SSCG systems studied. Both systems have different standards setting different requirements. It is therefore difficult to come up with a general indicator set to value these standards.

Goal setting performance looks at the ambition level in the standard and if this has grown over the years, in other words: do the standards keep adjusting their requirements to a higher level or do they stick at a certain level? This paragraph looks at whether this ambition level set within the standards has changed over the years.

Within the General Trade Standards, certain international recognised standards and conventions are followed (FLO, 2003a). One of the conventions followed is the ILO (International Labour Organisation) convention. The ILO sets general standards on labour rights which are mostly accepted throughout the world. Also, FLO expects producers to follow national legislation. This legislation prevails over FLO standards if it sets higher standards (FLO, 2003a). This requirement did not change until 2009, where it is declared that international legislation prevails over national legislation if it sets higher standards (FLO, 2009).

In most of its set requirements, ILO is the most common followed standard. Issues covered by ILO included within the General Trade Standard are non discrimination, freedom of association and collective bargaining, fair employment conditions, health issues and accident prevention. In case of national or regional legislation, FLO states that wages should be on a 'regional average, used within the country' (FLO, 2003a).

Besides requirements set at a higher or lower level than regional, national or international legislation, it is also interesting to see whether the ambition level has changed over the years. In general, the requirements set in the General Trade Standard have not been changed much. In 2005 though, the environmental development part has changed and increased with a lot of new requirements. The topics covered in this set of requirements however, did not change over the years. The requirement level however did: many requirements shifted from previously being a minimum requirement, towards a progress requirement.

The 2009 version did make changes within some of the requirements other than the environmental standards. They became more precise and more required additional demands. An example can be found in the first part (social development) of the General Trade Standard, where an additional requirement was added stating that the producer should create a plan showing how sustainability on all

three levels – environment, social and economic – could be reached. This plan should be made after one and three years (FLO, 2009).

Though minor changes might have been made, the ambition level of the Fairtrade standard did not change over the years. While the stringency of the requirements might have changed, the requirements itself did not. Furthermore, additional requirements have been made to top the ILO and national standards. While there might not be improvement on the ambition level of the standard, the other performance components – coverage, precision and compliance control might show a different picture. The following paragraphs will show the conclusions and developments throughout the years of the governance system performance of the Fairtrade standards.

5.2.4 Coverage

The coverage of an SSCG system is the degree in which the links of the supply chain are covered in terms of the sustainability aspects of society, the economy and the environment (see paragraph 4.4.1 for a more elaborate explanation). The valuation of coverage is performed with the method presented in paragraph 4.4.1. The links of the supply chain applicable to Fairtrade can be found in the introduction of the standard, which indicates that the standards ‘apply to small *farmers*’ organisations ONLY’ (FLO, 2003a). The final coverage score will therefore only apply to the agro commodity production phase of the model (i.e. seedlings, growing and harvest) as it covers farming. To come up with a final score for coverage, all requirements in the Fairtrade standard in the years 2003, 2005, 2007 and 2009 were analyzed using the method described in paragraph 4.4.1. In order to calculate the scoring for coverage, the minimum and progress requirements of the 2003, 2005, 2007 and 2009 Fairtrade standards have been analyzed by using the indicators as described in paragraph 4.4.1. These indicators each present a part of a sustainability subject (group) such as poverty, biodiversity or fair income. Though most requirements represent only one indicator, some requirements were rather large and covered multiple indicators and had to be valued with multiple indicators to cover the entire requirement. An overview of the total amount of the different indicators counted for each year can be found in table 5.2. Next step is to calculate the coverage score. After this indication, the group score of the different standards had to be calculated in absolute numbers. As explained in paragraph 4.4.1, the presence of each indicator provides a score of one (1), absence is a score of zero (0). Even when fair income might be present three times, the score is still one (1), since coverage is about the presence of the subject and not about how many times it was mentioned.

Based upon the presence of the subjects, the group average needs to be calculated. To use an example, the average for poverty in the year 2003 will be used. In the 2003 Fairtrade standard, housing and human rights both were been counted zero times, implying a score of zero. Fair income scored three, thereby scoring one. The average is subsequently $(1+0+0)/3 = 0,33$. This is done for each sustainability subject. The overall scores for the sustainability subjects are subsequently added together to form the sphere average score.

In table 5.3, an overview is provided of the overall coverage scores. Csoc implies the average score of the social sustainability subjects, Cenv the average score of the environmental sustainability subjects and Cecon the average score for the economic sustainability subjects. The average of all three scores is provided in the column ‘coverage’. A first conclusion is that Fairtrade does not score relatively well on coverage, possibly a result of the scope upon farmers only. Nevertheless, the coverage has grown about 15% in the past six years. The most rapid growth in coverage was made when the 2005 and 2009 standard were introduced, respectively increasing coverage in the environmental and social sustainability sphere.

Year	Csoc	Cenv	Cecon	Coverage (%)
2003 -2004	0.3996	0.21333	0.549	0.00387 (38,73%)
2005-2006	0.4788	0.4	0.549	0.004759 (47,59%)
2007-2008	0.5184	0.4	0.549	0.004891 (48,91%)
2009	0.6	0.45	0.549	0.00533 (53,3%)

Table 5.3: Overview coverage Fairtrade 2003-2009

	(Group/) Subject	Indicator	2003-2004	2005-2006	2007-2008	2009	
Social sphere	Poverty	Housing	0	1	1	1	
		Human rights	0	0	0	1	
		Fair income	3	4	2	2	
	Health	Sanitation	0	0	1	3	
		Drink Water	0	3	3	3	
		Health Care	0	0	0	2	
	Education	Schooling	3	3	2	4	
	Safety	Employee safety	8	13	12	13	
		Product quality	1	5	4	4	
	Governance	Employee discrimination	3	3	4	11	
Reciprocity		13	14	12	11		
No Corruption		1	13	3	5		
Environmental sphere	<i>No atmosphere indicators were present</i>						
	Terrestrial	Chemical use	1	2	2	12	
		Agrochemical use	2	10	10	16	
		Fertilizers	0	1	1	12	
		Deforestation	1	3	3	4	
		Soil	1	4	5	5	
	Water	Water Quality	1	5	7	9	
		Water Quantity	0	3	5	5	
	Biodiversity	Species preservation	1	7	7	4	
		Habitat preservation	1	4	3	3	
		Preservation management	0	3	1	6	
		Impact prevention	0	4	4	9	
	Waste	Waste generation	0	3	5	6	
		Waste management	1	3	3	4	
	Resources	Energy use	0	0	0	1	
		Energy availability	0	0	0	0	
	Economic sphere	Employment	Community employment	0	0	0	0
			Female employment	1	3	1	1
			Child labour	3	3	3	5
		Labour conditions	Freedom of association	2	1	3	6
Work load			1	1	1	1	
Social Security		Retirement arrangements	1	1	1	2	
		Sick days	1	1	1	1	
		Maternity leave	1	1	1	1	
Income & Finances		Credit provisions	1	1	1	1	
		Fair price arrangements	2	2	2	5	

Table 5.2: Overview of the coverage scoring for the Fairtrade standards 2003-2009

The progress on the social, environmental and economic sustainability subjects is clearer when the information presented in table 5.3 is presented by using radar charts. These radar charts range from zero (0), the centre of the chart; to one (1), the outer lines of the chart. Analyzing these radar charts pair wise will provide a more detailed and precise overview.

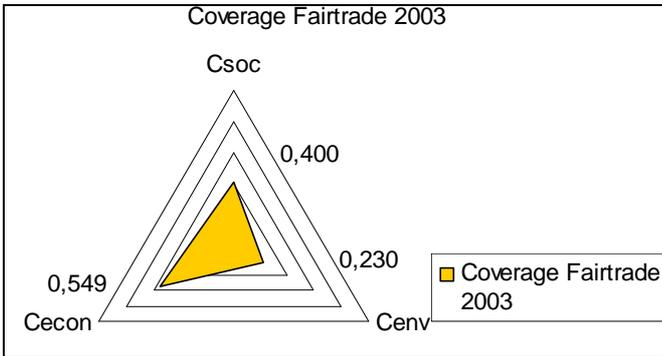


Figure 5.3: Coverage Fairtrade 2003-2004

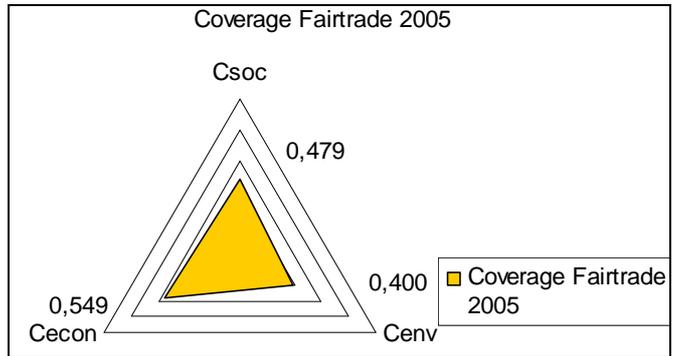


Figure 5.4: Coverage Fairtrade 2005-2006

A first conclusion which can be drawn from figure 5.3 and 5.4 is that between 2003-2004 and 2005-2006, the economic development coverage did not change, while the environmental sphere coverage almost doubled. The latter can be explained by the increase in 2005 in the environmental development requirements. While in 2003-2004 the standard had two minimum and one progress requirement, the 2005 standard shows an extensive and elaborated environmental development section with 49 requirements. The minor 8% increase in social sustainability can be explained by the additional requirements on housing and drinking water.

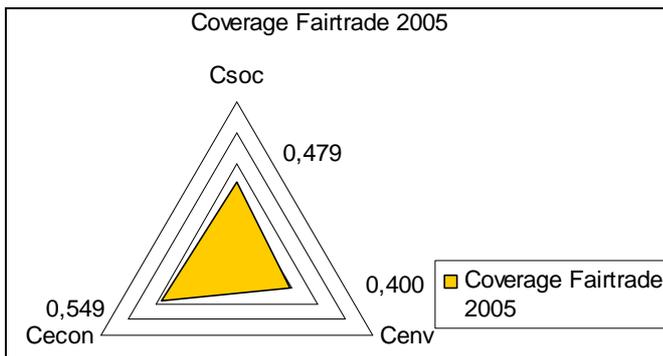


Figure 5.4: Coverage Fairtrade 2005-2006

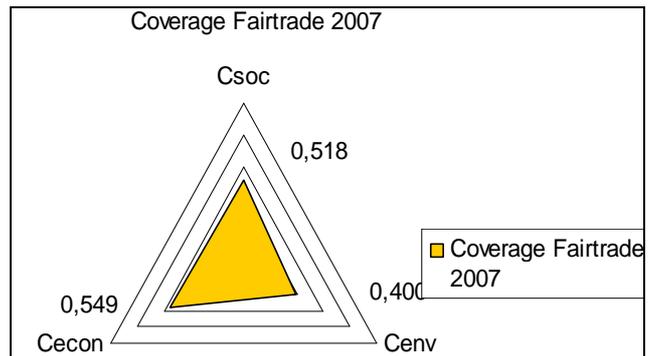


Figure 5.5: Coverage Fairtrade 2007-2008

Between 2005-2006 (figure 5.4) and the 2007-2008 (figure 5.5), relatively little changes occurred: the environmental and economic sustainability coverage remained the same, while the social sustainability coverage increased with approximately 4%. This small increase is a result of an extra requirements included on sanitation.

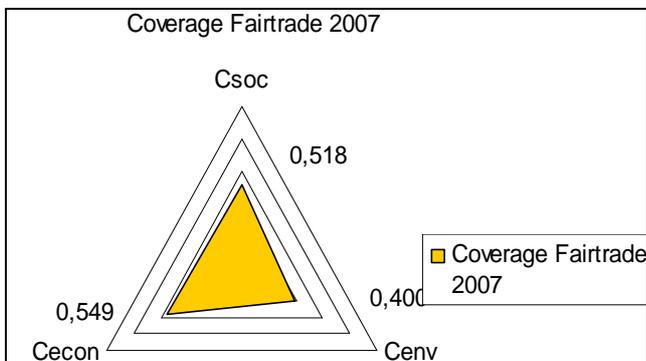


Figure 5.5: Coverage Fairtrade 2007-2008

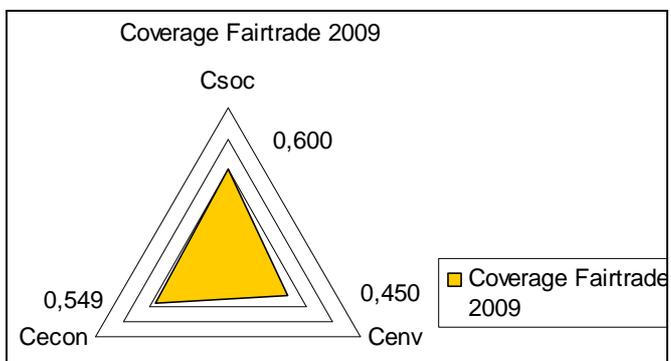


Figure 5.6: Coverage Fairtrade 2009

Comparing the 2007-2008 radar chart (figure 5.5) the 2009 radar chart (figure 5.6), it is visible that the social and the environmental sustainability coverage increased, while the economic sustainability subjects

remained the same. The increase in the social sustainability criteria is a result of extra requirements included in the 2009 standard on the indicators health and human rights. The small environmental sustainability coverage increase can be explained by the 2009 standard having an additional requirement on energy use. This is fairly remarkable, since previous standards did not include these requirements on energy use or resources in to the standards before.

5.2.5 Precision

Precision looks at the level of detail in the prescribed actions of subjects addressed in the coverage (Vermeulen, 2008) as well as the requirement level of the prescribed actions (see paragraph 4.4.2 for a more detailed explanation). The valuation of precision is performed with the method presented in paragraph 4.4.2. The length of the chain applicable to Fairtrade can be found in the introduction of the standard, which indicates that the standards ‘apply to small *farmers*’ organisations ONLY’ (FLO, 2003a). The final precision score will therefore only apply to the agro commodity production phase of the model (i.e. seedlings, growing and harvest) as it covers farming. To come up with a final score for precision, all requirements in the Fairtrade standard in the years 2003, 2005, 2007 and 2009 were analyzed using the method described in paragraph 4.6.2. In order to calculate the score of precision, the coverage indicators are used as a basis for the analysis. For each indicator present, a requirement level is determined as explained in paragraph 4.4.2: high, low or recommended. This will result in a number (N) of high requirement levels (H), low requirement levels (L) or recommended requirement levels (R) for each of the different indicators. An overview of the total of the requirement levels identified for Fairtrade 2003-2009 is provided in table 5.4. Based upon the levels indicated with the different sustainability subjects, the group average needs to be calculated. To use an the example for poverty for the 2003 standard once again: housing and human rights both were counted zero times for coverage, resulting in a score of zero for precision. Fair income was counted three times for coverage and all three times, the requirement was low (hence the 3L), scoring $3 \times 0,66$). The average then has a score of $(3 \times 0,66) / 5 = 0,396$.

In table 5.5 below, an overview is provided with the overall precision scores. Psoc is the average score of the social sustainability subjects, Penv the average score of the environmental sustainability subjects and Pecon the average for the economic sustainability subjects. The average of all three scores is provided in the column ‘precision’.

Year	Psoc	Penv	Pecon	Precision	Precision of Coverage
2003 -2004	0.316906	0.159667	0.552	0.3429	0.134697
2005-2006	0.369091	0.311954	0.50625	0.3958	0.188368
2007-2008	0.41014	0.2706	0.50625	0.3957	0.193532
2009	0.490764	0.312651	0.500333	0.434583	0.231633

Table 5.5: Overview precision Fairtrade 2003-2009

As with coverage, the precision score of Fairtrade is not relatively high, due to the focus of Fairtrade upon small farmers. However, despite the almost 10% increase in precision, the precision between all three spheres fluctuates more than with coverage, which all increased at a regular pace.

Added to the table is the column precision of coverage. This column shows the relative score of precision in terms of coverage. The precision column shows the precision of the entire standard based upon fractions (ranging 0-1). This column is included since the coverage score was never 100%. The precision should therefore be calculated as a percentage of the coverage. Thus, the coverage score is being divided by 100, and multiplied by the overall score for precision. Though this outcome is a lower score, it might show a more realistic value for precision

What also stands out from table 5.5 is that despite the almost 10% increase of the precision score in 2009 compared to 2003, the values of Psoc, Penv and Pecon fluctuate from high to low and vice versa. The data presented in table 5.5 is translated into radar charts. These radar charts have a range from zero (0), being the center of the chart, to one (1), being the outer lines of the chart. These charts present the growth of the sustainability subjects (Psoc, Penv, Pecon).

	Group	Indicator	2003-2004	2005-2006	2007-2008	2009	
Social Sphere	Poverty	Housing	0	1R	1R	1R	
		Human rights	0	0	0	0	
		Fair income	3L	3L	3L	1H;2L	
	Health	Sanitation	0	1R	1R	1H;1R	
		Drink Water	0	2H;1R	2L;1R	2H;1L;1R	
		Health Care	0	0	0	2H	
	Education	Education	1H;2	1H;1L	1H;2L	2H;2L	
	Safety	Employee safety	5H;3L;1R	5H;5L;1R	6H;8L;1R	9H;5L	
		Product quality	1L	1H;4L	4L	2H;3L	
	Governance	Employee discrimination	2H;2L	3H;2L	2H;2L	8H;2L	
Reciprocity		6H;8L;	5H;6L	5H;7L	7H;5L		
No Corruption		1H;2L	1H;2L	1H;1L	3H;3L		
Environmental Sphere	<i>No atmosphere indicators present</i>						
	Terrestrial	Chemical use	1L	1H;2L	1H;2L	2H;1L	
		Agrochemical use	1H;1L	5H;5L	4H;6L;1R	1H;13L;1R	
		Fertilizers	0	1H	1L	1H;13L;1R	
		Deforestation	1L	2L;1R	2L;1R	2L;1L	
		Soil	1L	2H;1L	2H;3L	4H;2L	
	Water	Water Quality	1L	3H;2L	6L	3H;6L	
		Water Quantity	0	5H	4L	1H;4L	
	Biodiversity	Species preservation	1L	2H;6L	1H;7L	1H;3L	
		Habitat preservation	1L	1H;3L	3L	3L	
		Preservation management	0	2L	1L	5L;1R	
		Impact prevention	0	1H;3L;1R	1H;3L	4H;5L;1R	
	Waste	Waste generation	0	2L;1R	4L;1R	1H;3L;2R	
		Waste management	1L	1H;2L	2L;1R	2L;1R	
	Resources	Energy use	0	0	0	1L	
		Energy availability	0	0	0	0	
	Economic Sphere	Employment	Community employment	0	0	0	0
			Female employment	1H	1H	1H	1H
			Child labour	3H	3H	3H	3H
Labour conditions		Freedom of association	2H;1L	2H;1L	2H;1L	5H	
		Work load	1H	1H	1H	3H;1L	
Social Security		Retirement arrangements	1L	1L	1L	2H	
		Sick days	1H	1H	1H	1L	
		Maternity leave	1L	1L	1L	1L	
Income & Finances		Credit provisions	1H	1H	1H	1H	
		Fair price arrangements	1H;1L	1H;1L	1H;1L	4H;1L	

Table 5.4: Overview of the precision scoring for the Fairtrade standards 2003-2009

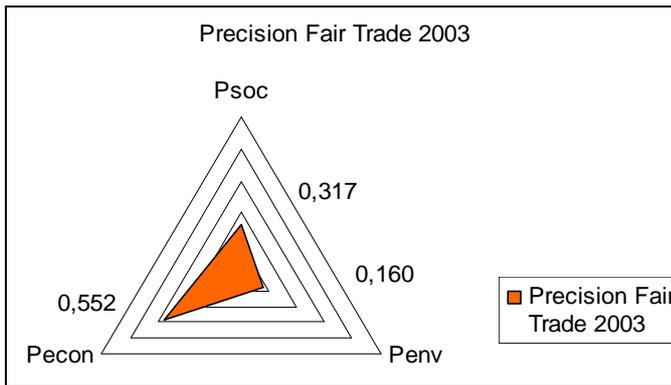


Figure 5.7: Precision Fairtrade 2003-2004

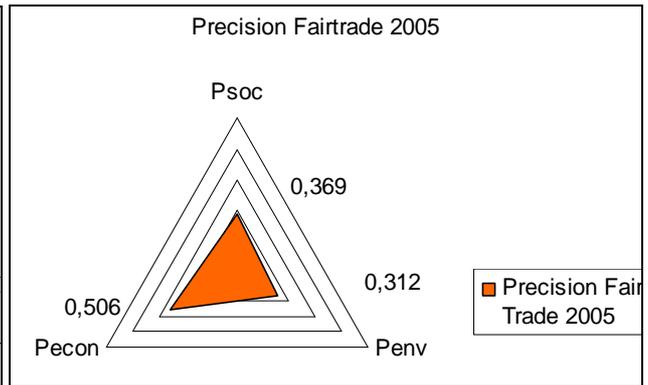


Figure 5.8: Precision Fairtrade 2005-2006

Compared to the 2003-2004 (figure 5.7) version of the standard, the precision in the 2005-2006 version of the standard (figure 5.8) increased. The precision of the economic sustainability indicators remained stable and the social sustainability indicators increased with 5%, while the precision of the environmental sustainability criteria almost doubled. The main reason for this increase is the extended environmental criteria in the 2005 and 2006 version of the standard. Despite the fact that there might have been an increase in the environmental sphere, not all requirements were written in a precise way.

The layout of the environmental requirements also differs from the other social or economic development requirements. In the 2005-2006 standard, the requirements are presented in columns: while the left column shows the general requirement, the right column shows the correct interpretation and guidelines of the requirement. Despite this elaborated explanation, not all requirements or explanations were specific enough to be valued as 'high'.

The difference between both the 2005-2006 (figure 5.8) and the 2007-2008 (figure 5.9) standard in terms of precision is very little. The precision in economic sustainability indicators has remained the same, while the social sustainability precision has increased slightly with 4%. Environmental sustainability on the other hand, dropped 4%. This has to do with the relocation of some of the requirements. Some of the minimum requirements were transferred to the progress requirement. Though most requirements remained the same when transferred from minimum to progress, some did change in a minor way.

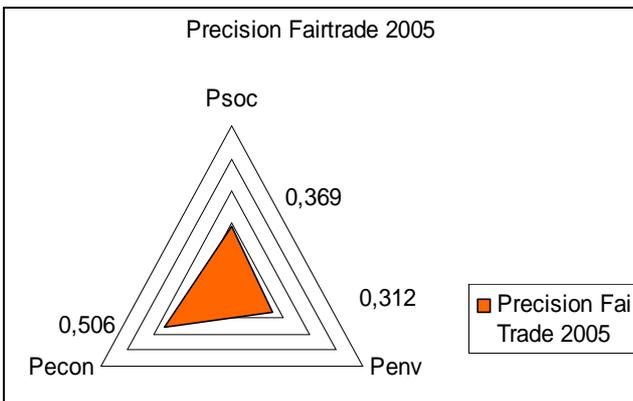


Figure 5.8: Precision Fairtrade 2005-2006

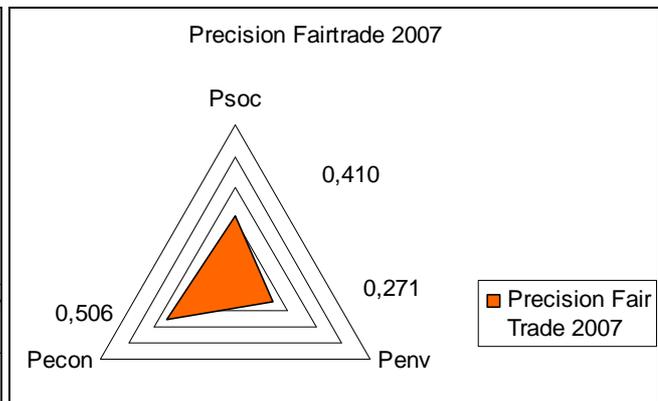


Figure 5.9: Precision Fairtrade 2007-2008

Precision in 2009 compared to the 2007-2008 standard increased in all three spheres. The 2009 standard revision has to do with this increase. Despite changes have been made, most of the requirements on all three spheres remained the same. Though extra requirements have been added to this standard. Especially in the environmental sustainability more and more detailed requirements have been added. Especially on the field of species and habitat protection the standard has increased its precision by including more strict standards. New is also a requirement of energy use, which was not included in all previous versions.

The increase in the precision however, can best be explained to Fairtrade's decision to include more guidance on each requirement for social, economic and environmental development. As previously only

the environmental requirements received special guidelines, the 2009 standard includes guidelines offering a step by step approach on interpretation of the requirement.

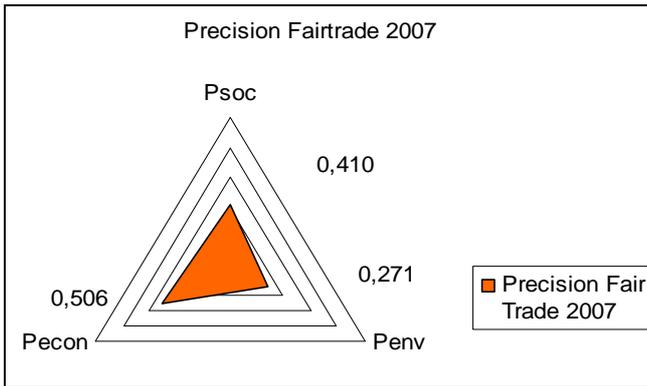


Figure 5.9: Precision Fairtrade 2007-2008

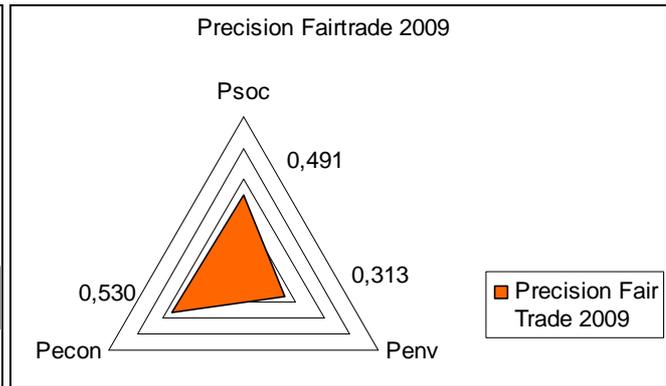


Figure 5.10: Precision Fairtrade 2009

5.2.6 Compliance Control

Compliance control looks at the extent of implementation and support of the requirements in the supply chain. The compliance control component looks at the control and sanctions. However, it is difficult to determine how the compliance control has changed throughout the years. Therefore only one score can be calculated for all years the system studied. The compliance control for Fairtrade is performed by FLO-CERT, the standard setting body performing audits for Fairtrade.

When a Fairtrade certificate is granted, the certification is valid for three years. This does not imply that control only takes place every three years. Instead, the evaluation of the Fairtrade standards takes place on a yearly basis. These are called follow up audits. The time between these follow up audits could increase when the certificate holder shows exceptional performance. Besides these follow up audits and the renewal audits where a certificate is granted, there are also surveillance audits and unannounced audits where the auditor makes an unannounced audit without the certificate holder's notice. As a result of the regular audits, Fairtrade receives a score of 1, the maximum score for every year control.

Next is to see whether sanctions are performed when non complying takes place. Within FLO – CERT, there are two different types of corrective actions: corrective action – audit and the corrective action – suspension. The first implies that a group must comply to the point suggested for corrective action and that a follow up audit needs to take place to check up on this. The corrective action suspension means that the certificate is suspended until compliance with the standard has taken happened. It is after 6 months after the suspension that the certificate can be withdrawn (Personal Communication, 2010a). Based upon this six months notice, the score for sanctions will be 1 as well.

The score for compliance control for Fairtrade therefore will be as followed: $CC_{total} = (C_{control} + CC_{sanctions})/2 \rightarrow (1 \times 1)/2 = 1$. Multiplied by 100 will give that the compliance control is 100%.

5.2.7 Governance System Impact Potential

As explained in paragraph 4.4.4, the governance system impact potential shows the relative impact of the supply chain upon the final impact. The GSIP can be consider a proxy variable and can be found by multiplying the governance system performance by the market share.

The governance system impact potential however, cannot be calculated for Fairtrade as it was not possible to find the exact market data. While the number of sold Fairtrade coffee in the Netherlands is available (see figure 5.2), it was not possible to gain information of the total sustainable coffee sales in the Netherlands. In other words: it is not possible for this analysis to calculate the market share and thereby the GSIP. Instead, the correlation will be made by using the Governance System Performance, in the next paragraph.

5.2.8 Governance System Performance

As the GSIP cannot be calculated, the governance system performance (GSP), as a part of the GSIP will be calculated. The effects on correlating these results with the actor influences will not be substantial. The effects upon the performance can possibly still be seen, even without the market share. What thus is missing is the impact it might have on the final impact.

Component \ Year	2003	2004	2005	2006	2007	2008	2009
C_{total}	0,393	0,393	0,476	0,476	0,489	0,489	0,533
P_{total}	0,343	0,343	0,396	0,396	0,396	0,396	0,445
CC_{total}	1	1	1	1	1	1	1
GSP	0,135	0,135	0,188	0,188	0,194	0,194	0,237

Table 5.6: GSIP Fairtrade

The GSP is the reproduction of the coverage total score, the coverage total score, the precision total score and the compliance control total score: $GSP = C_{total} \times P_{total} \times CC_{total}$. The results of the individual performance components and the GSP can be found in table 5.6. Figure 5.11 shows a line diagram of the GSP. What can be seen from table 5.6 and figure 5.11 is that the GSIP increases over the years. The most increase was made between 2003-2004 and 2005-2006 and between 2008-2009. With the first the rise in GSP was a result of a major increase in coverage, while with the latter the increase was due to increase in both coverage and precision.

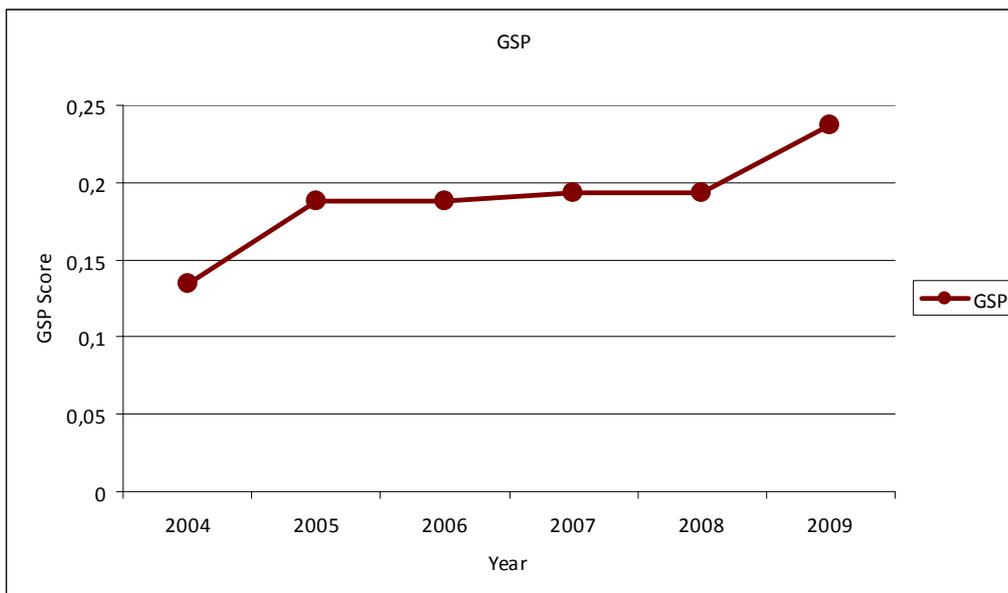


Figure 5.11: GSP Fairtrade

5.3 Utz Certified

5.3.1 General information

While the first ideas to create Utz Kapeh (the first name of Utz Certified) started in 1999, the foundation itself was not established until 2002 by founders Ward de Groot of Ahold Coffee Company and Nick Bocklandt, a coffee producer from Guatemala. The first name of Utz Certified, Utz Kapeh, means good cup of coffee in the Mayan language, and reflects upon the ambitions of the organization to 'enable coffee producers and coffee brands to credibly and transparently demonstrate their commitment to sustainability in a market driven way' (IISD, 2004). The organization changed their name to Utz Certified, how it is currently known, in 2007. While originated in Guatemala, the scope of Utz Certified broadened and Utz Certified coffee is currently produced by producers located in about 21 countries (see Figure 5.12).

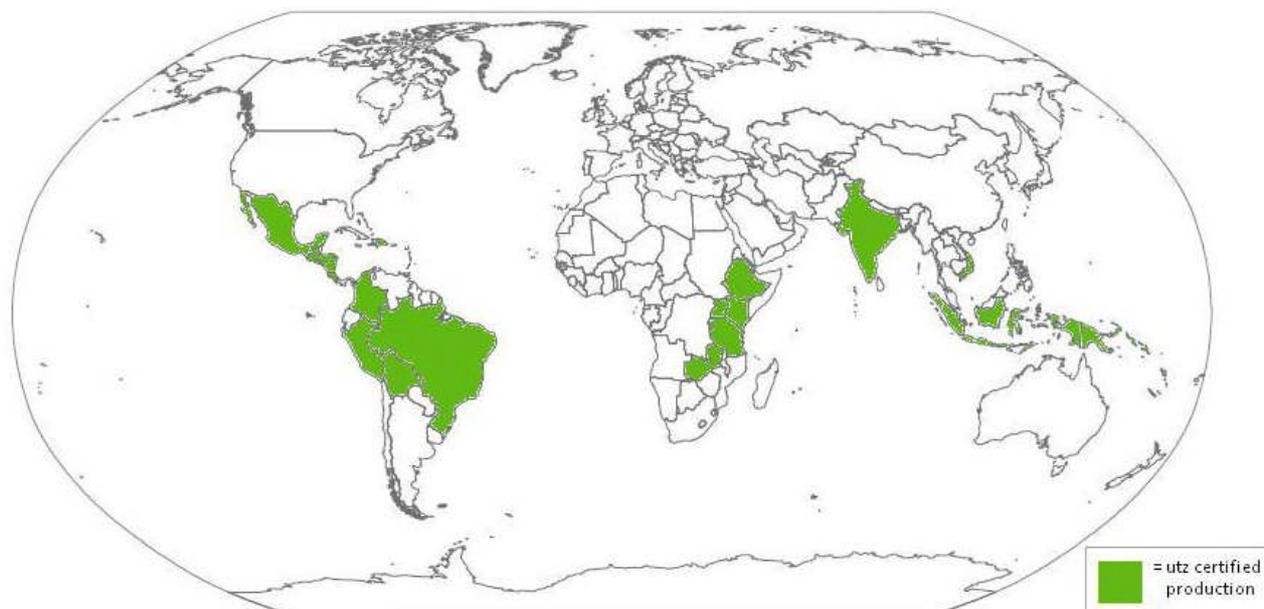


Figure 5.12: Overview Utz Certified production countries
(Source: Based upon Utz Certified (2010a))

Utz Certified based their standards upon the in 1997 established criteria of the European Retailer Produce Group of Good Agricultural Practices (EUREP-Gap). In October 2004, the Utz Certified Code of Conduct was officially recognized by EUREP-Gap. In addition to these EUREP-GAP criteria, Utz Certified added criteria based on the ILO convention and the Universal Declaration of Human Rights. Besides the Code of Conduct which applies to (an association of) farmers and/or producers, Utz Certified also pursues Chain of Custody requirements which apply to the importers and roasters, ensuring the quality of the Utz Certified product throughout the entire chain. Both the Chain of Custody and the Code of Conduct are renewed every few years.

If a coffee producer wants to become Utz Certified, a first step they have to take is registering themselves. When the registration is complete, the producers are audited by an independent, Utz Certified approved certification body. This certification body performs an inspection to see whether the farmer complies with the Code of Conduct. When a producer complies to these criteria, the Utz Certified certificate is granted (Ponte, 2004). When the farmer has become a member, their certificate is renewed every year after the conduction of an independent audit.

Different from the Fairtrade system where membership is free, Utz Certified farmers have to pay the organization a fee of US\$ 0,02/lb. Another difference with Fairtrade is the traceability of the Utz Certified bean: Utz ensures that the coffee, or any other product, is fully traceable from bean to cup. This traceability was one of the most important issues when the organisation was founded. It was Ahold

Coffee company who wanted to restructure the supply chain and pursue a more traceable system and see where the coffee came from to ensure its quality (Personal Communication, 2009b).

Opposite to the Fairtrade system, Utz does not offer a fixed premium upon the regular coffee price. Utz' founding idea was that Utz was going to be a 'preferred supplier programme', where the roaster buys its coffee directly from the certified supplier and both supplier and roaster determine the right price for the coffee together. In practice producers often end up getting a premium of US\$ 0.07 (low)/0.26 (high)/lb for Arabica coffee. This premium is based upon either the social or the sustainability criteria within the programme. From March 2003 onwards, the system started to work with a system of variable premiums rewarding sustainability. This implies that the sum of the market reference price (New York or London) is either plus or minus the quality premium, plus a variable sustainability investment premium depending on the international market price (Daviron and Ponte, 2005). Figure 5.13 shows how the Utz premium price is created. Even with this premium system, Utz does not interfere with the price negotiations. Utz Certified does maintain a database with the average premium prices paid per country, which producers and buyers may consult (Personal Communication, 2009c).



Figure 5.13: Utz Certified pricing system (IISD, 2004)

Even with this premium system, Utz does not interfere with the price negotiations. Utz Certified does maintain a database with the average premium prices paid per country, which producers and buyers may consult (Personal Communication, 2009c).

5.3.2 Utz Certified Code of Conduct and Chain of Custody: General Information

While Utz Kapeh (now Utz Certified) was established in 1999, the first certificate was not created until 2002. Utz Certified works with two different standards, the Code of Conduct and the Chain of Custody. Since 2002, both standard has been revised three times: in 2003, 2006 and 2009. With these revisions, changes have been made with the intention to improve the outcome of the standard. Utz Certified started with certification on coffee and increased over the years by also its scope to other types of commodities. Currently they also certify tea, cocoa and palm oil. Utz Certified applies different Chain of Custody and Code of Conduct standards for each commodity instead of having additional criteria and a generic trade standard as Fair Trade does.

The Utz Certified Code of Conduct is based on the EUREP-Gap criteria, but it focuses on three broad categories: social responsibility, environmental responsibly and food safety (Ponte, 2004). These three categories are addressing issues on soil management, fertilizer use, integrated pest management, waste pollution management, health of the workers, safety and welfare and cultural health. While the current version of the Code of Conduct has only mandatory requirements which the farmer has to comply to within 1 to 5 years after being certified, older versions of the Utz Code of Conduct used a different system with criteria which were not all mandatory, but had a minor or low recommendation, implying that the producer didn't have to comply to all criteria in order to become certified. The recommended criteria reflect the lower priority attached to these criteria, but it may be questioned what the impact of the system would be. The Utz Code of Conduct applies to all coffee producers producing and selling coffee as Utz Certified; this can either be individual farms or a group of organized producers (Utz Certified, 2009a).

In addition, Utz has Chain of Custody requirements which are applicable to all operations or activities taking place in the 'destination country' and need to be implemented by for instance the roaster, importer, packer or processor, i.e. the steps trader/export; roaster and retailer/consumer of the chain coverage in figure 4.3 (chapter 4). For example, a roaster has to prove that the coffee is stored separately from the non – certified coffee and that the final package with roasted coffee contains more

than 90% Utz Certified coffee in order to stay certified (Personal Communication, 2009c). The Chain of Custody is required for each party whom has legal ownership of Utz Certified coffee (Utz Kapeh, 2005).

While the Code of Conduct has changed 3 times since 2002, the 2003, 2006 and 2009 version of the code conduct are analyzed. To be able to understand how the Code of Conducts are analyzed, it is necessary to explain the structure of the codes since they slightly differ from one another.

The 2003 and 2006 Code of Conduct are divided in respectively 14 and 12 chapters of which the major part addresses the coffee production process. The chapters cover the traceability, the management system, the varieties of coffee and rootstocks, soil management, fertilizer use, irrigation use, crop protection products, harvesting, post-harvest product handling, worker health, safety and welfare and environment. Each chapter contains different requirements which are labelled as majors, minors and recommendation. In order to obtain a certificate, the certificate holder must comply with 100% of the major control points, 95% of the minor control points and none of the recommendations. Compliance to the latter requirement show 'more responsible farm management' (Utz Kapeh, 2006). The Chain of Custody consists out of 7 parts covering the selling, roasting decaffeinating, processing and packaging of coffee. The division of major, minor and recommended also applies to the Chain of Custody.

The 2009 Code of Conduct consists out of 11 chapters, covering traceability, management system, varieties and rootstocks, soil management, fertilizer use, irrigation, crop protection products, harvesting, post harvesting product handling, worker rights, health and safety and natural resources and biodiversity. Each chapter contains 175 different requirements. The requirements are divided in two sets: mandatory and additional. For the mandatory requirements, there is a range from year 1 to year four and throughout the years, the number of mandatory control points per chapter is increased. In year one 12 are required, year two 13, year three 15 and year four 16. The additional requirements, on the other hand, the farmer/producer needs to comply to from the start. The applicability of the additional requirements differs per production system. For the Chain of Custody the producer or organization has to comply with all requirements which are applicable to the organization, since not all organizations in the Chain of Custody perform all the activities described.

5.3.3 Utz Certified Code of Conduct and Chain of Custody: Ambition Level

Explained in paragraph 5.2.3, the goal setting performance is not included in this study on a quantitative basis, but will be described on a qualitative basis. Goal setting performance is about attaining long term goals through short wise steps and carries on to the demands of precision. This implies that it is not only important to look at the requirement level of a standard (precision), but also if requirements have been made above a national or international level (i.e. the ambition level). This paragraph looks at whether this ambition level set within the standards has changed over the years.

Utz Certified follows the ILO convention and the Universal Declaration of Human Rights on several issues. Examples of issues covered in ILO standards are freedom of association and collective bargaining, child labour, non remuneration, safety and health, hours of work, forced labour and non discrimination. In the 2003 and 2006 version of the standard, several EUREP-Gap criteria were followed. In the 2009 version of the standard however, Utz Certified decided to create their own set of requirements without strictly looking at the EUREP-Gap criteria. In the case of pesticides, Utz Certified also wants the farmer to comply to FAO international Code of Conduct regulations in case national legislation is absent on the matter (Utz Certified, 2006a). Furthermore, in some of the requirements, Utz Certified has included national and local regulations to which the producer has to comply. Compliance to national or local legislation is addressed within the requirement itself and is not used as a base line. It depends – in case of the 2003/2006 version of the certificate on whether the requirement is major, minor or recommended whether the producer has to comply to this requirement.

Utz Certified expects the producer to follow certain local, national or international legislation or standards, but these standards are not the baseline in the Code of Conduct. Instead, Utz Certified is very descriptive in its requirements, providing very strict descriptions on what producers should comply to and how they can achieve this compliance. The versions over the years have changed. While the topics remained the same, the way the requirements and the mandatory control points were formulated did

change. For instance, compared to the 2003 version, the 2006 standard included more mandatory control points on fertilizers regarding product storage and safety. Although the outline of the requirements remains rather general, this does not imply that the Utz Certified ambition is low. Instead of requiring increasingly more ambitious demands on for instance pesticides, Utz Certified has created very precise requirements. It demands a 100% compliance to the mandatory control points when the farmer has been certified for over 4 years in 2009. In previous versions of the Utz Certified standard, this compliance did not have to be 100% after four years, but instead producers could be lacking the same requirements after 4 years over and over again. In that sense Utz Certified is ambitious, but not on defining its variables.

While there might not be great improvements on the ambition level of the standard, the other performance components – coverage, precision and compliance control might show a different picture. The following paragraphs will show the conclusions and developments throughout the years of these other three performance components of the Utz Certified standards.

5.3.4 Coverage

The coverage of an SSCG system is the degree in which the links of the supply chain are covered in terms of the sustainability aspects of society, the economy and the environment (see paragraph 4.4.1 for a more elaborate explanation). The scoring of the coverage is based on the method presented in paragraph 4.4.1. The Utz Certified Code of Conduct applies to all coffee producers producing and selling coffee as Utz Certified; this can either be an individual farm or a group of organized producers (Utz Certified, 2009a). This covers the agro production phase (i.e. seedlings, growing and harvest), as well as processing phase of the model. In addition to the Code of Conduct, the Chain of Custody applies to all operations or activities taking place in the ‘destination country’, thereby covering all the other links of the chain. In this analysis, the entire supply chain will be studied. To calculate the coverage, the different requirements in both Utz’ Certified Code of Conduct and Chain of Custody of the years 2003, 2006 and 2009 were analyzed using indicators as described in paragraph 4.4.1. While in general most requirements only cover one indicator, others covered multiple. An overview of the total numbers of indicators is provided in table 5.8. After this indication, the group score of the different standards had to be calculated in absolute numbers. As explained in paragraph 4.4.1, the presence of each indicator provides a score of one (1), absence is a score of zero (0). Even when fair income might be present three times, the score is still one (1), as coverage is about the presence of the subject and not about how many times it was mentioned.

Next, the average for the different indicators is calculated. To use an example of poverty for the 2006 standard: housing was counted 3 times in the agro production phase and the processing phase, scoring 1 in both occasions. Human rights scores 0 and fair income scores 1 in the agro production and processing phase. Due to the complete chain coverage of Utz, the average has to be calculated for each part of the chain. For agro production this implies a score of 0,66 $((1+1+0)/3)$; for processing a score of 0,66 as well $((1+1+0)/3)$; and for transport/export and roasting both zero.

In table 5.7 below, an overview is provided of the average coverage scores. Csoc is the average score of the social sustainability subjects, Cenv the average score of the environmental sustainability subjects and Cecon the average for the economic sustainability subjects. The average of all three scores is provided in the column ‘coverage’.

Year	Csoc	Cenv	Cecon	Coverage (%)
2003	0,724	0,598	0,566	0,630
2006	0.805	0.613	0.423	0.614
2009	0.799	0.603	0.523	0.642

Table 5.7: Overview coverage Utz Certified 2003 2009

A first conclusion based on this table is that the Utz Certified coverage score is higher than Fairtrade. The explanation is that Utz Certified covers 100% of the chain, while Fairtrade covers 33%. Another conclusion is that the coverage in general of the Utz Certified standard of 2009 has not grown as rapidly as the Fairtrade standards have.

	Group	Indicator	2003*				2006*				2009*			
			Ag	Pr	T/e	Ro	Ag	Pr	T/e	Ro	Ag	Pr	T/e	Ro
Social Sphere	Poverty	Housing	2	2	0	0	3	3	0	0	0	0	0	0
		Human rights	0	0	0	0	0	0	0	0	0	0	0	0
		Fair income	0	2	0	0	2	2	0	0	0	0	0	0
	Health	Sanitation	2	2	0	0	4	4	0	0	0	0	0	0
		Drink Water	1	1	0	0	1	1	0	0	0	0	0	0
		Health Care	10	10	0	0	14	7	0	0	0	0	0	0
	Education	Schooling	6	4	0	0	9	5	0	0	0	0	0	0
	Safety	Employee safety	17	14	2	0	21	14	0	0	0	0	0	0
		Product quality	14	19	10	1	17	11	13	5	2	0	13	5
	Governance	Employee discrimination	5	5	0	0	1	1	0	0	0	0	0	0
Reciprocity		4	4	0	0	3	3	0	0	2	2	0	0	
No Corruption		3	3	0	0	2	2	3	4	0	0	3	4	
<i>No atmosphere indicators present</i>														
Environmental sphere	Terrestrial	Chemical use	18	0	1	1	31	0	0	0	18	0	1	1
		Agrochemical use	18	0	1	0	31	0	0	0	18	0	1	0
		Fertilizers	10	0	0	0	20	1	1	0	10	0	0	0
		Deforestation	4	1	0	0	1	0	0	0	4	1	0	0
		Soil	5	0	0	0	2	0	0	0	5	0	0	0
	Water	Water Quality	6	2	0	0	3	2	0	0	6	2	0	0
		Water Quantity	7	1	0	0	7	1	0	0	7	1	0	0
	Biodiversity	Species preservation	3	3	0	0	4	0	0	0	3	3	0	0
		Habitat preservation	3	3	0	0	3	0	0	0	3	3	0	0
		Preservation management	3	1	0	0	7	1	0	0	3	1	0	0
		Impact prevention	4	2	0	0	5	3	0	0	4	2	0	0
	Waste	Waste generation	8	2	1	0	16	3	1	0	8	2	1	0
		Waste management	0	0	0	0	0	0	0	0	0	0	0	0
	Resources	Energy use	4	3	0	0	5	6	1	0	4	3	0	0
		Energy availability	1	1	0	0	1	1	0	0	1	1	0	0
Economic sphere	Employment	Community employment	0	0	0	0	0	0	0	0	0	0	0	0
		Female employment	1	1	0	0	0	0	0	0	1	1	0	0
		Child labour	3	3	0	0	1	1	0	0	3	3	0	0
	Labour conditions	Freedom of association	3	3	0	0	3	3	0	0	3	3	0	0
		Work load	5	5	0	0	2	2	0	0	5	5	0	0
	Income & Finances	Credit provisions	0	0	0	0	0	0	0	0	0	0	0	0
		Fair price arrangements	1	1	1	0	0	0	1	0	1	1	1	0
	Social Security	Retirement arrangements	0	0	0	0	1	1	0	0	0	0	0	0
		Sick days	0	0	0	0	0	0	0	0	0	0	0	0
Maternity leave		1	1	0	0	1	1	0	0	1	1	0	0	

Table 5.8: Overview of the coverage scoring for the Utz Certified standard 2003 - 2009

* AG = agro production; Pr = production; T/e = trade/export; Ro = roaster/retailer

The progress of the different social, environmental and economic sustainability subjects is perhaps more visible when the information of table 5.8 is translated into radar charts. These radar charts have a range from 0, the centre of the chart, to 1, the outer lines of the chart. These charts display the growth of the sustainability subjects (Csoc, Cenv, Cecon).

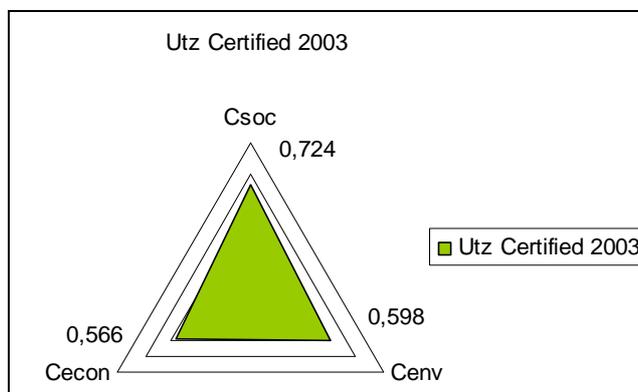


Figure 5.14: Coverage Utz Certified 2003

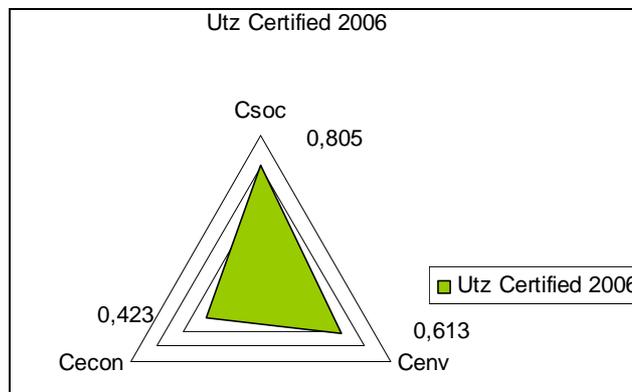


Figure 5.15: Coverage Utz Certified 2006

What can be seen in figure 5.14 and 5.15 is that since 2003, there has been an increase in the social sustainability sphere and the environmental sustainability sphere, but the economic sustainability sphere has decreased with almost 14%. This is a result of requirements on fair prices and female employment not being included within the standard.

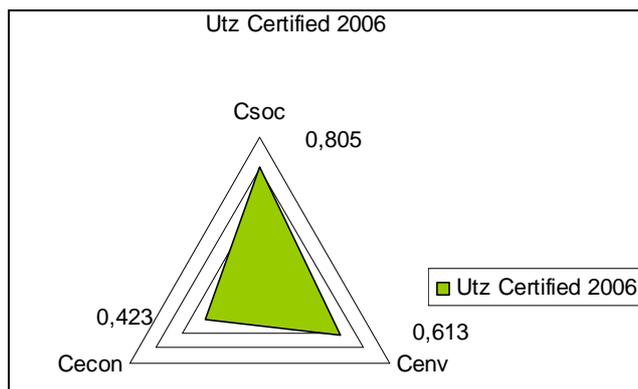


Figure 5.15: Coverage Utz Certified 2006

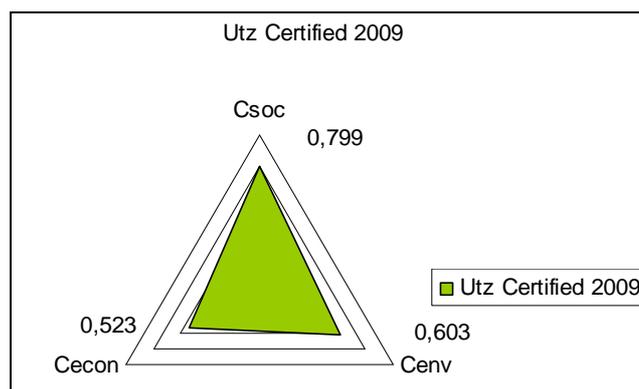


Figure 5.16: Coverage Utz Certified 2009

What can be seen is that since the 2006 standard, is that the coverage for both social and environmental sustainability sphere remained almost the same, while the economic sphere increased. In the 2009 standard, more attention was given to employment, the labour conditions and the income and finances of the producer.

5.3.5 Precision

Precision looks at the level of detail in the prescribed actions of subjects being addressed within the coverage (Vermeulen, 2008) as well as to the requirement level of the prescribed actions (see paragraph 4.4.2 for a more detailed explanation). The scoring of the precision is based upon the method presented in paragraph 4.4.2. To calculate the coverage, the different requirements in both Utz' Certified Code of Conduct and Chain of Custody of the years 2003, 2006 and 2009 were analyzed using the indicators defined in paragraph 4.4.2. An overview of the different indicators over the years is provided in table 5.9 and 5.10. For each indicator indicated, a requirement level is determined as explained in paragraph 4.4.2: high, low or recommended. This results in an number (N) of high requirement levels (H), low requirement levels (L) or recommended requirement levels (R) for each of the different indicators. An overview of these requirement levels is provided in table 5.9 and 5.10.

	Group	Indicator	2003			
			Ag	Pr	T/e	Ro
Social sphere	Poverty	Housing	1H; 1R	1H; 1R	0	0
		Human rights	0	0	0	0
		Fair income	1H; 2L	1H; 2L	0	0
	Health	Sanitation	3L	3L	0	0
		Drink Water	1H; 1L	1H; 1L	0	0
		Health Care	9H; 2L; 3R	7H; 2L; 1R	0	0
	Education	Schooling	3H; 2L; 2R	3H; 2L; 2R	0	0
	Safety	Employee safety	12H; 11L; 3R	7H; 5L; 1R	0	0
		Product quality	7H; 5R 14	9H; 1R	2H	0
	Governance	Employee discrimination	2H; 1L	2H; 1L	0	0
		Reciprocity	1H; 1R	3H; 1R	2H	2H
No Corruption		0	0	0	0	
Environmental Sphere	<i>No atmosphere indicators present</i>					
	Terrestrial	Chemical use	11H; 8L; 4R		0	0
		Agrochemical use	11H; 8L; 4R		0	0
		Fertilizers	11H; 10L; 1R	1L; 1R	0	0
		Deforestation	2H; 1L; 1R	0	0	0
		Soil	3L; 2R	0	0	0
	Water	Water Quality	1H; 3L	0	0	0
		Water Quantity	1L; 7R	3H	0	0
	Biodiversity	Species preservation	1H; 4L; 1R	0	0	0
		Habitat preservation	1H; 4L; 1R	0	0	0
		Preservation management	2H; 1L; 6R	0	0	0
		Impact prevention	2H; 1L; 2R	2H; 1R	0	0
	Waste	Waste generation	1H; 1L	1H	0	0
		Waste management	6H; 2L; 3R	3H; 1L; 2R	0	0
	Resources	Energy use	2H; 2L; 1R	2H; 3L; 1R	0	0
		Energy availability	1R	1R	0	0
	Economic	Employment	Community employment	0	0	0
Female employment			0	0	0	0
Child labour			1H; 1L	1H; 1L	0	0

	Labour conditions	Freedom of association	1H; 1L	1H; 1L	0	0
		Work load	2L	2L	0	0
	Social Security	Retirement arrangements	1L	1L	0	0
		Sick days	1L	1L	0	0
		Maternity leave	1L	1L	0	0
	Income & Finances	Credit provisions	0	0	0	0
		Fair price arrangements	1L	1L	0	0

Table 5.9: Overview of the precision scoring for the Utz Certified standard 2003

* AG = agro production; Pr = production; T/e = trade/export; Ro = roaster/retailer

	Group	Indicator	2006*				2009*			
			Ag	Pr	T/e	Ro	Ag	Pr	T/e	Ro
Social sphere	Poverty	Housing	2H;1R	1R	0	0	2H	2H	0	0
		Human rights	0	0	0	0	0	0	0	0
		Fair income	2H	2H	0	0	1H;1L	1H;1L	0	0
	Health	Sanitation	2H; 1L	2H;1L	0	0	3H;1L	1H;1L	0	0
		Drink Water	1H	1H	0	0	1H	1H	0	0
		Health Care	2H;7L;2R	1H;3L;2R	0	0	4H;4L1R	4H;5L;1R	1L	0
	Education	Schooling	3L;1R	1R	0	0	3H;1L;2R	1H;1L;2R	0	0
	Safety	Employee safety	4H;6L;2R	1H;3L;2R	0	0	11H;5L;3R	8H;5L;3R	2H;1L	0
		Product quality	9H;6L;7R	5H;12L;1R	4H;5L;1R	3H	8H;5L;3R	17H;2L;1R	7H;2L	1H
	Governance	Employee discrimination	3H;1L;2R	3H;1L;2R	0	0	3H;2R	3H;2R	0	0
Reciprocity		2H	2H	0	0	2H;1L;1R	2H;1L;1R	0	0	
No Corruption		2R	2R	1H 9H	0	2H;1L	2H;1L	1H	1H	
<i>No atmosphere indicators present</i>										
Environmental sphere	Terrestrial	Chemical use	18H;9L;3R	0	0	0	17H	0	1H	0
		Agrochemical use	18H;9L;3R	0	0	0	17H	0	1H	0
		Fertilizers	9H;7L;		0	0	5H;3L;2R	0	0	0
		Deforestation	1H	1H	0	0	4H	1H	0	0
		Soil	3L;1R	0	0	0	1H;3L	0	0	0
	Water	Water Quality	2H;1L	1H	0	0	6H	2H	0	0
		Water Quantity	5L;1R	1H	0	0	2H;4L;1R	1L	0	0
	Biodiversity	Species preservation	2L;1R	2L	0	0	2H;1R	1H	0	0
Habitat		2L;1R	2L	0	0	2H;1R	1H	0	0	

		preservation								
		Preservation management	3L;3R	2L;3R	0	0	1H;3L	2L	0	0
		Impact prevention	4L	2L;1H	0	0	4L	2L	1H	0
	Waste	Waste generation	16L	4L	1L	0	8H	2H	0	0
		Waste management	0	0	0	0	0	0	0	0
	Resources	Energy use	4L	6L	L	0	2H;1L;1R	3H	0	0
Energy availability		1R	1R	0	0	1R	1R	0	0	
<i>Economic sphere</i>	Employment	Community employment	0	0	0	0	0	0	0	0
		Female employment	0	0	0	0	1H	1H	0	0
		Child labour	1H	1H	0	0	3H	3H	0	0
	Labour conditions	Freedom of association	3H	3H	0	0	3H	3H	0	0
		Work load	2H	2H	0	0	4H;1R	4H;1R	0	0
	Social Security	Retirement arrangements	1H	1H	0	0	0	0	0	0
		Sick days	0	0	0	0	0	0	0	0
		Maternity leave	1H	1H	0	0	1H	1H	0	0
	Income & Finances	Credit provisions	0	0	0	0	0	0	0	0
		Fair price arrangements	0	0	1H	0	1L	1L	1H	0

Table 5.10: Overview of the precision scoring for the Utz Certified standard 2006 2009

* AG = agro production; Pr = production; T/e = trade/export; Ro = roaster/retailer

Subsequently, the average for the different requirement levels is calculated. Poverty in the year 2006 is again used as an example to illustrate the previous explanation. For the agro production, housing was three times indicated with coverage of which two were valued high (H) and one recommended (R). Human rights was counted zero times, scoring 0 and fair income was counted twice and valued with two highs. Added together this will give a score of: $((4 \times 1) + (1 \times 0.33) + 0) / 7 = 0,721667$.

In table 5.11 below, an overview is provided of the overall precision scores. Psoc is the average score of the social sustainability subjects, Penv the average score of the environmental sustainability subjects and Pecon the average for the economic sustainability subjects. The average of all three scores is provided in the column 'precision'.

Year	Psoc	Penv	Pecon	Precision	Precision of Coverage
2003	0,642	0,427	0,381	0,483	0,304
2006	0.599	0.393	0.425	0.472	0.290
2009	0.670	0.519	0.501	0.563	0.361

Table 5.11: Overview precision Utz Certified standard 2003 - 2009

Added is the column precision of coverage. This column shows the relative score of precision in terms of coverage. The precision column shows the precision of the entire standard in terms of a fraction scale (ranging 0-1). What should be realized is that the coverage score was not 100% and the precision should be calculated as a percentage of coverage. The coverage score is divided by 100, and multiplied by the precision score. These outcomes are displayed in the precision of coverage column, thereby showing a lower and therefore more realistic value of precision. This means that respectively, 29% and 36% coverage is actually being precise.

What can be seen is that despite the increase in the length of the chain being Utz covers, the precision score of Utz Certified with both the 2003, 2006 and 2009 standard is not necessarily higher than the Fairtrade standard. The overall increase in precision however, is a lot higher than the coverage increase previously described.

These outcomes are translated into radar charts (figure 5.17 and 5.18). What can be seen is that there is an increase in the economic sphere, but the social and environmental sphere decreased. An explanation for this decrease can be found in the decrease in the number of requirements. The 2003 standard was very comprehensive and contained a lot of different requirements. In the 2006 standard some requirements disappeared, and other requirements were added together. Because the model indicates the indicators per requirements, the overall score might be higher because indicators are more often mentioned.

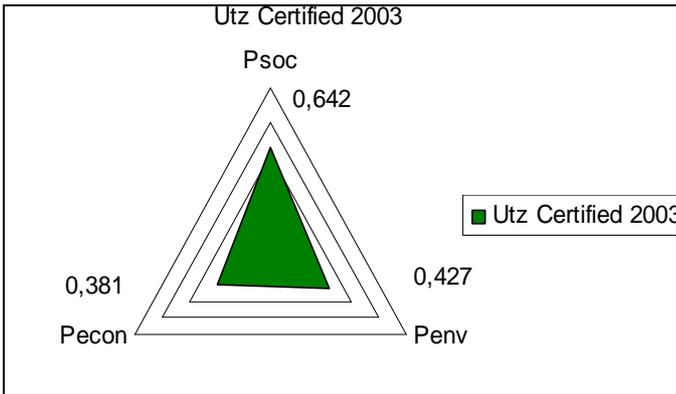


Figure 5.17: Precision Utz Certified 2003

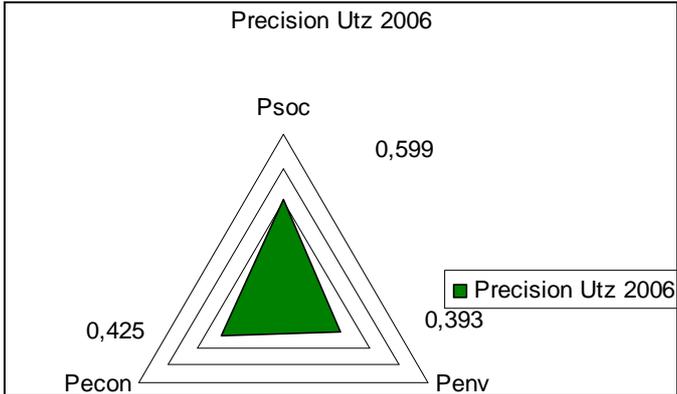


Figure 5.18: Precision Utz Certified 2006

What is visible when comparing the 2006 standard to the 2009 standard is the increase in all three spheres. The social sphere increased with almost 7%, the environmental sphere with almost 23% and the economic sphere with almost 8%. The first reason for this is the increase also in the coverage: more indicators were being covered thereby creating also a growth in the chart. A second reason is that in the 2009 standard, especially the requirement level of the requirements within the standards grew. While previously farmers had the option to non compliance to some of the requirements, the 2009 standard made all requirements obligatory between 1 and 4 years. As seen in table 5.12, a relatively high number of indicators were valued as high, thereby also increasing the overall score.

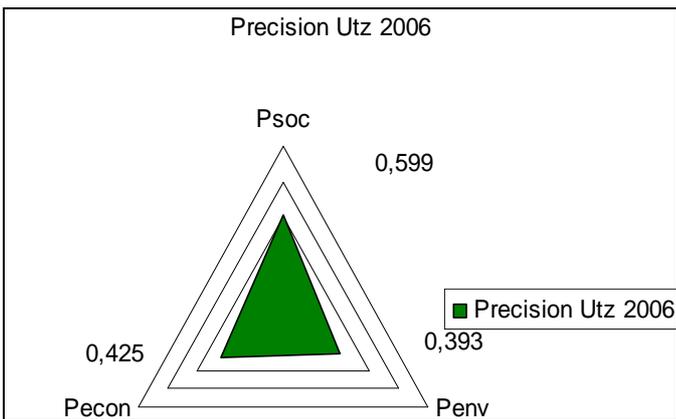


Figure 5.18: Precision Utz Certified 2006

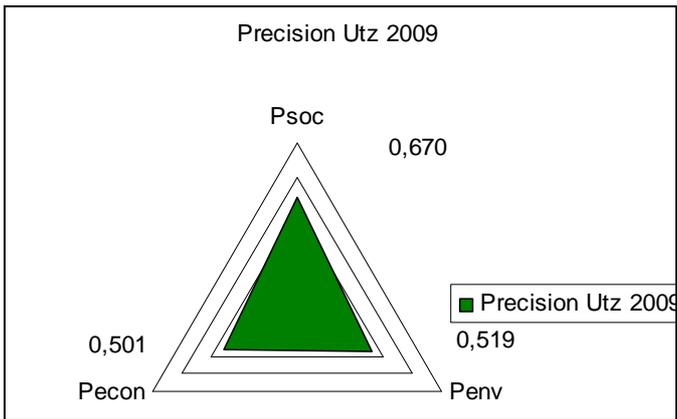


Figure 5.19: Precision Utz Certified 2009

5.3.6 Compliance Control

Compliance control looks at to which extent the decision and approaches of the standard are implemented and supported throughout the supply chain. The compliance control component looks at the control and sanctions. However, it is difficult to determine how the compliance control has been throughout the years. Therefore only one score will be calculated for all years the system studied.

When a certificate for Utz Certified is granted, the certificate is valid for one year. Every year, the Utz Certified certificate is renewed against the Utz Certified standards. The control for Utz Certified is performed by Control Union, an independent certifying body. Besides the regular audits Control Union performs for Utz Certified, they perform an additional 10% unannounced audits. For this part, Utz Certified receives a score of 1, the maximum score for every year control.

With Utz Certified, there is in general very little non compliance, mainly a result of the very descriptive standards of Utz Certified. Utz Certified tried to create a realistic standard: most of the possible non compliance points are included within the first year. After this first year, the farmer has to show improvement by consulting documents (Personal Communication, 2009c). However, the kind of sanction upon non compliance depends on the problem. Some problems take little time to be fixed while others take more time due to their complex nature. In order to improve, it is important that the certificate holder shows a good plan on how to fix the non compliance. The certificate holder also needs to show continuous improvement with a SMART approved plan. If not, then the certificate needs to be withdrawn (Personal Communication, 2009d). Based upon this information and the very strict non compliance rules Utz Certifies maintains, the score for the sanctions will be 1 as well.

The score for compliance control for Fairtrade therefore will be as followed: $CC_{total} = (C_{control} + CC_{sanctions})/2 \rightarrow (1+1)/2 = 1$. Multiplied by 100 gives the percentage of 100% compliance control.

5.3.7 Governance System Impact Potential

As explained in paragraph 4.4.4, the governance system impact potential shows the relative impact of the supply chain upon the final impact. The GSIP can be consider a proxy variable and can be found by multiplying the governance system performance by the market share.

The governance system impact potential however, cannot be calculated for Fairtrade as it was not possible to find the exact market data. While it was already difficult to obtain information on sustainable coffee sales in the Netherlands, it was even more difficult to find sales data of Utz Certified in the Netherlands. Exact number of coffee sold and consumed in the Netherlands has not been documented in number required for this analysis and are therefore not reliable enough for this analysis. In other words: it is not possible for this analysis to calculate the market share and thereby the GSIP. Instead, the correlation will be made by using the Governance System Performance, in the next paragraph.

5.2.9 Governance System Performance

As the GSIP cannot be calculated, the governance system performance (GSP), as a part of the GSIP will be calculated. The effects upon the performance can still be seen when these results are compared to the actor influenced, even without the market share. What thus is missing is the impact it might have on the final impact.

Component \ Year	2003	2006	2009
C_{total}	0,630	0,614	0,642
P_{total}	0,483	0,472	0,563
CC_{total}	1	1	1
GSP	0,304	0,290	0,361

Table 5.12: GSIP Utz Certified

The GSP is the reproduction of the coverage total score, the precision total score and the compliance control total score: $GSP = C_{total} \times P_{total} \times CC_{total}$. The results of the individual performance components and the GSP can be found in table 5.12. Figure 5.20 shows a line diagram of the GSP. What can be seen from table 5.12 and figure 5.12 is that the GSP increases over the years from 30,4% in 2003 to 36,1% in 2009. However, in 2006 there is a slight drop in the GSP, a result of a decreased coverage and decreased precision. This is possibly the result, as explained in the previous paragraphs of the rearranged standard in 2006 where the requirements were improved. With these improvements, the number of requirements decreased resulting in a low number of requirements which had to be valued. The decrease in the GSP

therefore does not necessarily imply that the quality of the standard decreased. Instead it was the quantity of the standard.

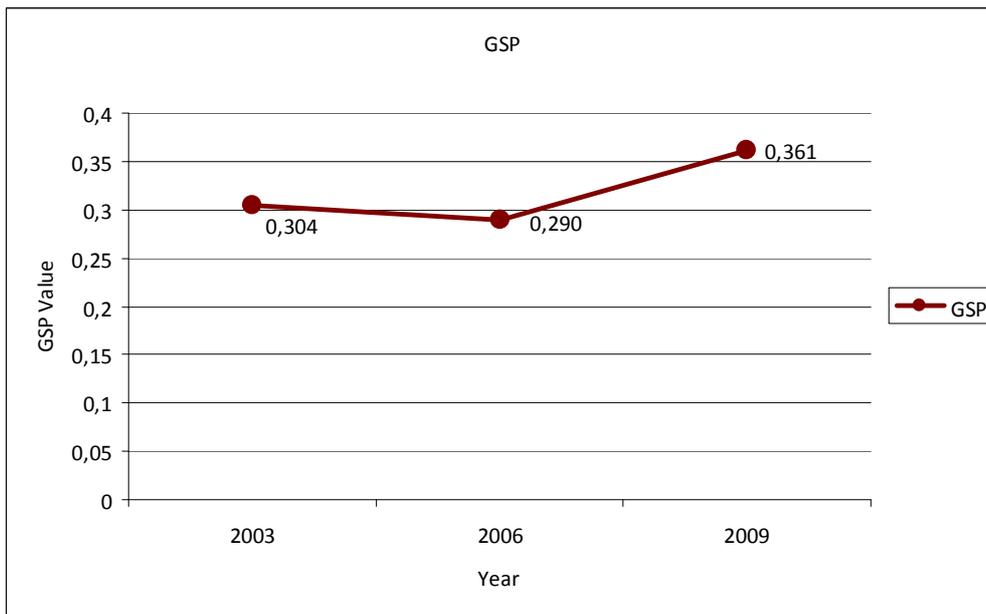


Figure 5.20: GSP Utz Certified

From 2006 to 2009, the GSP increased again, with a performance of 36% in 2009. What is remarkable though when looking at table 5.12 is that the scores for coverage all rather high, especially compared to the precision. If Utz would like to increase their GSP, the precision should increase. The question that remains now is how the results of the Fairtrade GSP and Utz Certified GSP correlate with the actor influences. This step will be made in the next chapter.

6. Results Coffee SSCG systems: Actor Influences

6.1 Activities and Instruments measured

To get a better understanding on why some changes are made, actor activities and instruments might be an explaining factor. In paragraph 4.4.5 three lists with different activities and instruments for the government, market and civil society were distinguished. The second part of this study tries to capture the trend these activities and instruments have made in order to find possible explanations for the GSP trend. However, not all the distinguished activities and instruments could be translated into quantitative data. Instead, a selection of instruments and activities has been made which can be measured (table 5.14).

Market	Government	Civil Society
CSR Report (mention) Year Report (mention)	Parliament negotiations Parliamentary questions Governmental Regulations	Newspaper articles Scientific articles NGO (Year) Report

Table 6.1: Overview quantitative measured activities and instruments.

Important is that not all these activities and instruments can explain the GSP trend and what happened within the SSCG system. The graphs displaying the trend in the actor activities and instruments will therefore be a part of a story telling what happened in the Netherlands in relation to coffee supply chains and coffee production.

6.2 Relevant Coffee initiatives throughout the years

Though this study intends to describe the activities on the Dutch market, an exception is made on a international level to see which standards have been developed for the coffee sector over the years. This exception is made because the development of these codes might very well have influenced the development of the standards being analyzed in this study.

Kolk (2005) provides a good overview of the different codes of conduct that have been developed over the years which relevant to the coffee sector, as can be seen in table 6.2. These standards, or codes of conduct as Kolk calls them, are separated by the nature of the initiative: are they either a multi stakeholder initiative (MSI), a multinational corporation initiative (MNC) or an non governmental organization initiative (NGO).

Year	Actor*	Name
1995	MNC	Starbucks framework for a Code of Conduct
1995	MNC	Sara Lee Global Operating Principles
1995	MNC	Sara Lee Global Selection Guidelines
1997	MNC	Sara Lee Global Business Standards
1998	MNC	Nestle Corporate Business Principles
2000	MNC	Procter & Gamble's Values and Code of Conduct
2000	MNC	Procter & Gamble's Sustainability Guidelines for Vendor Relations
2000	MNC	Altria's Child and Forced Labour Policy
2000	MNC	Altria's Employee Policies and Practices
2001	MNC	Starbucks Green Coffee Purchasing Programme
2001	MNC	Sara Lee's Supplier Selection Guidelines
2001	MSI	Utz Kapeh Code of Conduct (v1)
2002	MNC	Nestle Corporate Business Principles
2002	NGO	Rainforest Alliance & Sustainable Agricultural Network's Generic Coffee Standards
2003	MNC	Altria's Code of Conduct for Compliance and Integrity
2003	MSI	Utz Kapeh Code of Conduct (v2)

2003	NGO	FLO International's Fairtrade Standards for Coffee
2003	MNC	Starbuck's Supplier Code of Conduct
2003	MNC	Producer & Gamble's Our Values and Policies
2004	MSI	Common Code for the Coffee Community

Table 6.2: Codes of conduct relevant for the coffee sectors

Source: Kolk, 2005.

* MSI = Multi stakeholder initiative; NGO = non governmental organization initiative; MNC = multinational corporation initiative.

To complete the overview, the data of table 5.2 is translated into a bar chart (figure 6.1), showing the number (N) of initiatives for each year, stacked by type of initiative (MSI; NGO; MNC). Until 2001, there were mainly multinational corporation who took the initiative of creating a more sustainable coffee supply chain. The reason behind these initiatives is that these large multinational coffee corporations, such as Starbucks and Procter and Gamble, started to feel pressure from the non governmental organizations (NGOs) to consider the sustainability issues surrounding coffee (Kolk, 2005). In the mid nineties, NGOs started to take more

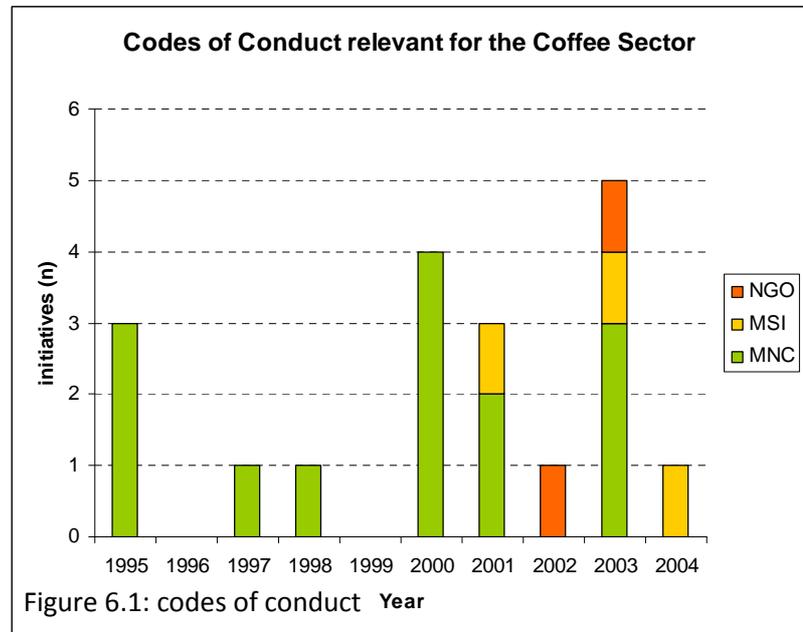


Figure 6.1: codes of conduct Year

action against flagship enterprises as Philip Morris (now Altria), Sara Lee, Nestlé and Procter and Gamble (see figure 2.4, chapter 2). These flagship enterprises took, according to table 6.2, different MNC initiatives.

Starbucks experienced this pressure from NGOs on the labour conditions at their production sites in Guatemala. After implementing the framework for a Code of Conduct, the NGOs kept pressuring Starbucks to take more strict measures and that they should be aligning with Fairtrade coffee (Kolk, 2005). Other companies such as Sara Lee Douwe Egberts, have been increasingly pressured by NGOs to become more sustainable. Despite all the NGO efforts still a lot of these MNC's are favouring the market mechanism. An example is Kraft which believes that 'the market will find its own solution because countries and producers will be driven out of the market. Our role is on the demand side – our role as Kraft is to increase production' (Oxfam, 2002, p.59). Recently however, Kraft decided to cooperate with Rainforest Alliance in order to certify a part of its coffee (Kolk, 2005). Another flagship enterprise, Nestlé, also has a long history with NGO actions including non-coffee related areas. As a result of this pressuring, Nestlé standards include more specific requirements (Kolk, 2005).

6.3 Market

(Sustainable) coffee in the Netherlands is consumed at home and out of home (retail) and can be bought at various retail stores or supermarkets. These supermarket either belong to a supermarket chain with their own purchase consortium such as Albert Heijn, C-1000 (Ahold) or Super de Boer and Konmar (Laurus), or they purchase their product through an independent purchasing consortium such as Superunie (e.g. Dirk van de Broek, Dekamarkt) (Giovanucci and Koekoek, 2003). The specialized retail stores as the Simon Lévelt stores where coffee and tea produced by Simon Lévelt - a small - mid-sized coffee roaster/producer from the Netherlands selling and producing sustainable produced coffee – can be bought.

The coffee sold at supermarket can have different origins: it is either a brand, such as (Sara Lee) Douwe Egberts, it is roasted by their own roasting company, such as Ahold, or it can be a house brand. In the latter case, the coffee is roasted at a general roasting company. An example is 'De Drie Mollen', where about 85% of the coffee they produce, is sold at supermarkets as a house brand.

In the analysis, not only these small -, mid and large scale roasting and production companies should be included, but the branch organization of the Dutch coffee and tea (KVNKT) should be incorporated in the analysis on the focus upon sustainability within coffee supply chains. In this paragraph, the development of the different activities and instruments used within the market segment of the Dutch coffee market will be described. In order to do so a more general description of the development of the Dutch coffee market will be combined by telling also specific cases of market parties on how they cope with sustainable development and the progress they've made therein. An analysis has been made of the mentions on sustainable coffee in different CSR reports and year reports (see figure 6.2). For this analysis, different sources were consulted like GRI. GRI stands for global reporting initiative and their database contains a large overview of CSR reports published. Despite the large number of CSR reports available at GRI, a relatively low amount of CSR reports was available on coffee roasters and producers specifically. GRI itself therefore was

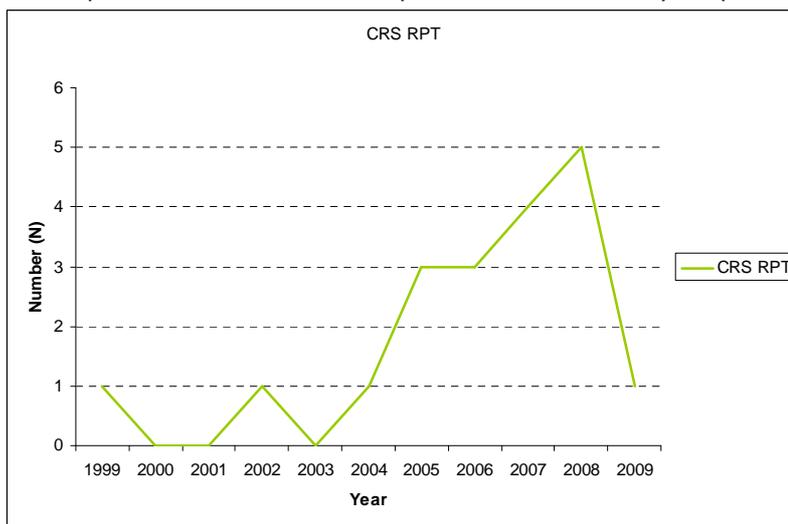


Figure 6.2: CSR Reports

not the only source consulted. Other websites such as duurzaamheidsverslagen.info and sustainabilityreports.info were consulted as well. Besides the CSR reports, year reports were analyzed as well to see whether they mentioned sustainable coffee. These year reports were found by consulting the website company.info, an online database with year reports of parties involved within the coffee industry.

However, the final number of results is still rather low: the number of mentions is 19. These mentions in the CRS reports or year reports also weren't very elaborate and sustainable coffee production were barely mentioned. Either the necessity of sustainable production, the sustainability standard or a sustainability project they were supporting was mentioned. Despite this low number in results, the trend line still shows an increase in the number of CSR reports from the year 2005 onwards, with its height reached at 5 mentions in the year 2008.

The conclusion of this increasing trend line is supported when compared to other activities in the market. Within the KVNKT, the Royal Dutch branch organization for coffee and tea production companies, a similar trend is visible. From the year 2005 onwards, the KVNKT has pursued sustainability in a more active way by not only being a platform for information for its members, but also by taking on the dialogue with its members on sustainability issues. While the KVNKT does not determine the final strategy of a company, they are the representation of the branch. On an international level, the KVNKT participates in the International Coffee Organization (ICO) and the European Coffee Federation (ECF) as a member. On a national scale, the KVNKT participates in relevant project and covenants important for its branch in order to reach more sustainable production. The KVNKT have signed on the energy - covenant and the packaging – covenant, both initiated by the Dutch Ministry of Economic Affairs. As branch, the KVNKT have been involved within the energy – covenant since 1994. Since 1994 the covenant has been renewed twice, all in good success for the branch and a total amount of 35% energy efficiency has been reached. While it are the firms itself how have to pursue the efficiency, the KVNKT has played an active role with providing the firms with information on energy efficient production, logistics and consumption. Especially consumption takes on almost 40% of the energy used in the coffee production as a result of the consumer coffee machines. As for the packaging – covenant, the KVNKT signed this covenant in order to

reduce the environmental pressure coming from packaging. For this covenant, the KVNKT works together with the government and consultancy agencies in order to determine the exact efficiency of new kinds of wrappings and thereby the effect of the covenant.

Besides signing these covenants, the KVNKT also tries to create a discussion platform. A conference was held in 2007 with all parties involved in the coffee industry to discuss sustainability. The involved parties were not only coffee companies, but also sustainability initiatives and the government in order to create a broad discussion. The KVNKT intends to plan a follow up on this 2007 meeting in 2010. Besides these conferences sustainability is always on the agenda and discussed in the plenary sessions of the KVNKT (Personal Communication, 2009e). Besides such plenary sessions, more (private) dialogues and discussions with external parties such as NGOs and the government is more actively pursued from 2006 onwards. These discussions do not only serve to gain more insight in the motivation of these parties, but also to inform them on the position of the Dutch coffee sector thereby creating more mutual understanding (Personal Communication, 2009e).

The scope of the KVNKT does not remain limited to the Netherlands, but also extends across the Dutch border, by being the representative for the Netherlands in the European Coffee Federation (ECF) and the ICO (through the ECF). On all these subjects, the KVNKT is pursuing an active dialogue with its members and provides a platform where the (success) stories can be shared in order to learn from each other and create more efficient production.

Concerning the different market parties, a distinction can be made between small and large and mid sized roasting/production companies. Becoming sustainable is not always easy for small roasting and production companies, for instance due to a lack of capacity. Taking steps towards sustainability without taking the risk of losing market share is therefore sometimes easier for large roasting companies such as Douwe Egbert (Sara Lee). While on the other hands, these large firms have an image to be concerned about. Despite the difficulties small and midsized roasting and production companies face, there are examples of companies who have taken steps towards sustainability.

Peeze is an example of a small roasting company which has incorporated sustainability in their internal and external production procedures, but also serves as a good example of the struggle these small companies have to make to become sustainable.

Peeze coffee is an old company, but did not started to actively pursue sustainability until the second half of the 1990s. With the relocation of the firm from the inner city of Arnhem to an industrial area outside the city center, the entire production process was renewed by implementing energy and water efficiency. Peeze coffee is a CO₂ neutral firm and tries to look at every step taken after the production process: transport, printing, after sales within the out of home consumption (Personal Communication, 2009f). Currently, about 40% of all Peeze coffee is produced sustainable and labelled with the EKO and Fairtrade label. Peeze does not purchase its coffee directly, but uses a coffee broker called the EFICO foundation. EFICO is a part of the 'Koning Boudewijn Foundation' and pursues sustainable coffee production through different project and public-private partnerships (EFICO, 2010). Peeze does have contact on a regular basis with the EFICO foundation and even takes audits together with the foundation to see how the production circumstances at the production site are. While not all the production sites where Peeze purchases coffee produce sustainable coffee, Peeze maintains buying coffee with these farms due to their long history and the farmers dependency on Peeze. Peeze does try to help these unsustainable farms as well as other farms to become sustainable, but outsources this through the EFICO foundation (Personal Communication, 2009f).

As a mid sized company, Simon Lévelt is one of those companies where sustainability has become a central part of the production. In the eighties, former president of Simon Lévelt, Hans Lévelt was one of the pioneers when it comes to sustainable coffee. Hans Lévelt held discussions with farmers in production countries and several NGOs and other partners to see whether they were able to create a model which could enable the farmer to receive a fair price for production. This initiative resulted in the founding of the Max Havelaar Foundation, or Fairtrade as it is nowadays called.

Throughout the years though, Simon Lévelt tried to maintain and improve their strategy regarding sustainability, as well as the quality of the coffee. One of the problems with Fairtrade, especially in the beginning, was that lack of quality. Simon Lévelt therefore started with initiating projects at the product site where the emphasis was put not only on sustainability, but also on how the farmers could create a better quality coffee for instance by training them in 'cupping' (tasting and verifying the quality of the coffee) or drying methods (Personal Communication, 2009g).

Simon Lévelt purchases its certified or non certified coffee directly from the producer. Coffee is also purchased at large estates which are not qualified for Fairtrade due to their production size, which does not necessarily imply that the coffee is not sustainable. Simon Lévelt therefore looks at the different, e.g. social, programs an estate has or by helping them to create a better sustainable farm for instance by helping them become certified. Despite their active role on the production site, Simon Lévelt does not carry the wish to create their own label. Instead, the company chooses to maintain a strong sustainable image towards the consumer (Personal Communication, 2009g).

Simon Lévelt pursues sustainability throughout the entire production chain. Not only by participating in the energy covenant but also by becoming more efficient. Internally, the use of energy with the roasting is minimized, while externally, the use of agrochemicals and fertilizers is trying to be minimized. With packaging, Simon Lévelt is trying to be as efficient as possible by transporting in recycling crates instead of carton boxes (Personal Communication 2009g).

A large roasting firm when it comes to the house brands is De Drie Mollen Group, located in England, France, Spain, Germany, Switzerland and the main headquarters in the Netherlands. De Drie Mollen produces different kind of coffee, of which about 80 % of its production does not carry their own label, such the house brands of the supermarkets. De Drie Mollen offers these labels the opportunity to become certified with Organic, Fairtrade, Rainforest Alliance or Utz Certified coffee. In order to do so, de Drie Mollen has active dialogues with their customers on what different aspects of coffee there are, which sustainability labels there exist and the different qualities of the coffee since every customer has its own preference. However, persuading especially the supermarkets to become sustainable is sometimes very difficult. While they want to become more sustainable, they often don't want to pay for this. The supermarkets however, do have the power to increase the sustainability level of the coffee, as they offer and price the products. But if they are not willing to change their production method, an active discussion is all De Drie Mollen has to offer. The interest with the supermarkets however has increased over the years since supply chain subjects became more important and discussed, and an increase in awareness is visible. The results of the discussions held with the customers of the Drie Mollen, is also reported back to the different standards such as Fairtrade or Utz, in order to create more feedback. This feedback also discussed with the buying organisations in order to create an even better quality of coffee. Internally, De Drie Mollen has also signed on the energy and packaging covenant and has created a more efficient way of producing coffee, as well as creating more sustainable packages for coffee (Personal Communication, 2009h).

As a large private label roaster, Douwe Egbert/Sara Lee (SLDE) divides sustainability in three steps: sustainable import, sustainable production and sustainable consumption.

The focus upon sustainable coffee of SLDE did not start until 1999. Before 1999, SLDE had a small farmer procurement policy, ensuring that 10 % of its coffee was purchased at small farmers. From 1999 onwards, SLDE initiated more projects in production countries in order to understand more of the production process. However, one of the main reasons of SLDE to start purchasing and roasting more sustainable produced coffee was the public scrutiny during its 250th anniversary of the company by Oxfam's 'Make Trade Fair' campaign as well as other NGOs (such as the Tropical Commodity Coalition - TCC). The moment became a turning point and in 2004, SLDE started to work together with Utz Certified on sustainable coffee. In the beginning of the collaboration, SLDE bought about 2,500 ton of coffee, which increased to the approximate 40.000 tons of coffee it currently (2010) buys. The choice for Utz instead of Fairtrade was twofold: first of all, SLDE didn't believe in Fairtrade's premium system, and another reason is that SLDE buys large amounts of coffee at large coffee estates which are not included in the Fairtrade system. Utz does include them. Another reason is that the costs for joining Fairtrade were higher than Utz Certified (Personal Communication, 2009j). Despite the fact that SLDE buys large amounts

of Utz Certified coffee it does not carry the Utz Certified certificate on their packages. This has to do with the storage of the products: when buying certified coffee, this has to be stored separately from the other non certified coffee beans in order to avoid possible 'contamination'. In SLDE's current storage facilities, this is not yet possible (Personal Communication, 2009j). Internally, SLDE tries to increase its energy efficiency, packaging and water use. SLDE also participates in the covenants on energy and wrapping though the latter one is harder to comply to due to marketing and logistics (Personal Communication, 2009j).

SLDE also works together with third parties, such as the TCC, Oxfam Novib and Solidaridad. Especially Solidaridad is an important partner in SLDE's focus upon sustainability at the production site. With the TCC, SLDE has regular contact to discuss sustainability topics, together with other coffee producers.

6.4 Government

To see the activities and instruments used by the government, the governmental database OPMAAT was consulted. This database contains all documents related to the government. By using a specific query focused upon sustainable supply chain coffee production, a large number of results (> 6000) were analyzed to see whether they were applicable to the subject of this study. In the end, 150 results were left, which could be categorized as debate and specific parliamentary question (D/V), a letter from the secretary or minister (BRF), parliamentary documentation (KST), or annexes for the parliamentary documentation (BLG KST). This resulted in the bar chart as seen in figure 6.3.

In general, what can be seen from figure 6.3, is that since 1988 onwards and from 1996-2003, there is a small increase in the number of activities in the government. From 2005 onwards, there are more governmental documents regarding the topic of sustainable coffee production, in particularly in the annexes and the parliamentary documents. These parliamentary documents include everything that has occurred in the parliament, while the annexes are usually provided to give the MP more insight into the topic being discussed.

In the period 1988-1994, the majority of the government documents are about determining the final governmental budget for the Dutch ministry of Foreign Affairs and the ministry of Economic Affairs. Other documents include reports on the visit of governmental representatives on countries where coffee is produced. Often shortly after such a visit, an MP asks questions regarding the production circumstances in these countries.

The peak in 1995 can be explained by a more diverse discussion and documentation. Discussions were held on the International Coffee Organisation, as in 1994 the International Coffee Agreement (ICA) was renewed and the Netherlands is a member of the ICO. Furthermore, questions were asked about the establishment of the World Trade Organisation and the impact it would have on coffee (2 documents).

From 2002 onwards, another climb in the interest in coffee production is visible. This can be explained by the increased interest in sustainable production and sustainability by the government in the past ten years. The 2001 peak can be explained by three extensions being made to the ICA. Parliamentary questions were asked about these extensions. Also, budgetary questions were asked regarding the budget of the ministry of Economic Affairs and the ministry of Foreign affairs. New is the discussion on the development program of the Dutch government. Questions were asked about poverty alleviation. Direct questions regarding the production of coffee and the unsustainable situations in production countries are more and more questioned were asked as well. From 2005 onwards, the discussion topics on sustainable supply chains became more precise, and questions were asked about new emerging initiatives such as Utz Certified and Rainforest Alliance. Other questions on sustainable consumption and the effects of supply chains were discussed and more annexes (e.g. NGO reports) were used as a source of information to find explanations for certain trends. In 2005, the public procurement policy of the government was discussed by the parliament and questions were asked. This same discussion is renewed in 2008/2009. Furthermore, the renewing of the energy and packaging covenant is also being discussed when they have been renewed. What is striking though is that in 2007, the ICA as renewed again, but no

questions were asked by the parliament on this subject whereas with the previous renewing of the ICA, this indeed was a topic for discussion.

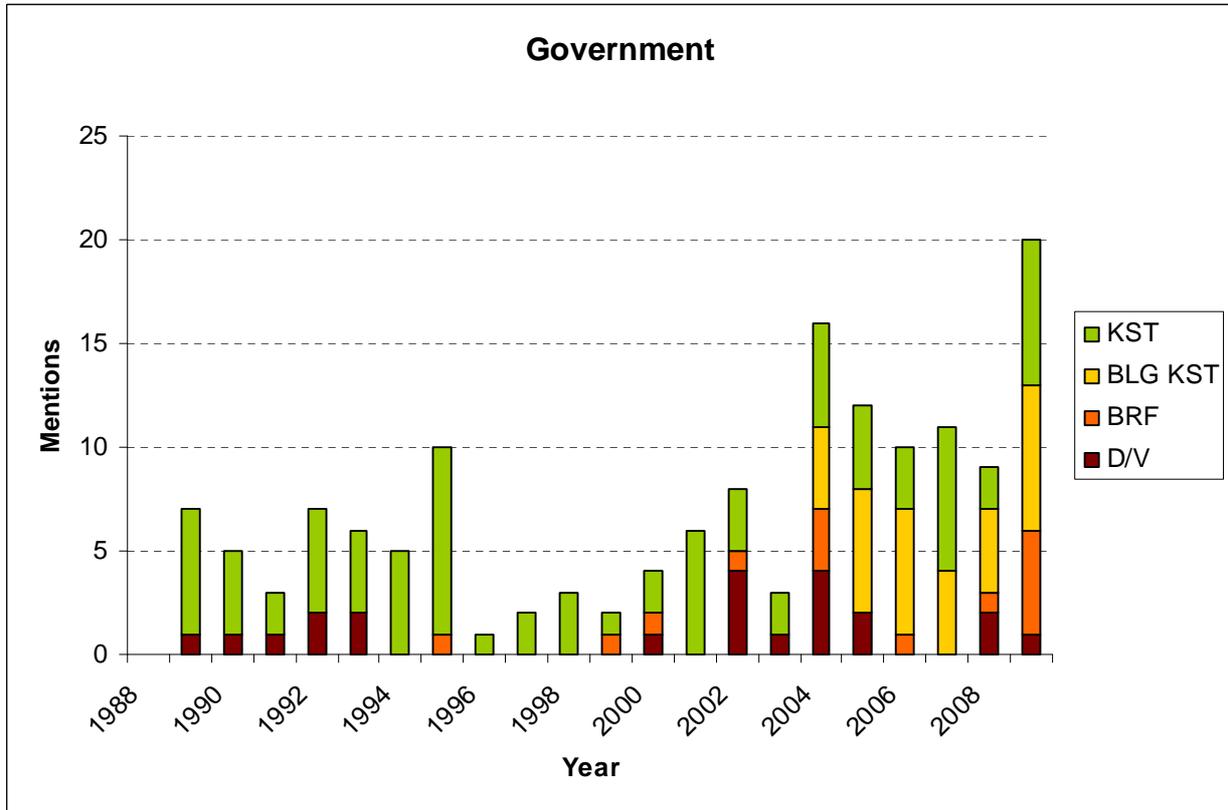


Figure 6.3: Government Activities/Instruments

*D/V = Debat/Kamervraag ; BRF = Brief Minister of Staatssecretaris; BLG KST = Bijlage Kamerstuk; KST = Kamerstuk

What stands out from all these governmental documents is that no direct actions were taken by the government to influence the production and try to make it more sustainable. The parliament asks questions and the government is involved within international agreements, such as the ICA, they arrange covenants on energy efficiency and packaging, but direct measures are not being taken. A similar conclusion can be drawn from the interviews held. The ministry of Agriculture, Nature and Food security (LNV) currently has the coordinating role when it comes to agricultural commodities, of which coffee is one. The role of LNV, and thereby the government, can be seen as threefold, it is funding roundtables and NGOs, it encourages multilateral processes such as the ICO and the ICA and it may serve as an information platform and serve as an example by the public procurement policy. The funding of the roundtables however, is an important role. Stakeholders need to be brought together when more sustainable production needs to be created and providing a platform where such decisions can be made, helps creating progress. Direct involvement with private labels is not in the government interest to be directly involved. Remarkable however is, that the government still funds Fairtrade as an organisation and provided back in 1988 a substantial part of the founding money (Personal Communication, 2009k). In addition the government initiated the Initiatief Duurzame Handel (Dutch Sustainable Trade) in 2008 as a multi stakeholder initiative in order to make international supply chains more sustainable. The initiative is financed by the Dutch government. This initiative however, does not focus upon coffee, as the coffee supply chain already knows a substantial amount of sustainability initiatives.

The public procurement policy of the Dutch government is heavily debated. The Dutch government had a study carried out by Price Waterhouse Coopers where a baseline standard needed to be created on the public procurement policy. The conclusion Price Waterhouse Coopers made was that Fairtrade standards needed to be the baseline scenario. After this conclusion, the discussion started, since not everything could be Fairtrade (e.g. traffic lights, or chairs). For the current public procurement policy, the government is advised by Agentschap NL (formally known as SenterNovem). Also, there are other

initiatives such as Utz or Rainforest Alliance and where do they stand within the procurement policy. In the end, this advice was altered in the sense that governmental agencies now can choose which brand/standard of sustainable product they are using, as long as it is sustainable.

6.5 Civil Society

To find the activities and instruments the civil society used, the diversity in articles of Dutch newspapers, international scientific articles and the NGO activities were analyzed. In the case of the Dutch newspapers, the seven largest national newspapers were analyzed: Trouw, Volkskrant, Financieel Dagblad, NRC Handelsblad, Algemeen Dagblad, Telegraaf and Parool. Their articles can be obtained through the Lexis Nexis Academic Database. While the data in figure 6.4 might go back to 1994 not all newspaper articles were available in a digital format. While there might have been articles available in the analyzed newspapers, they are not included within the analysis. Despite these articles are not included within the chart, it still shows a general trend on articles written about (sustainable supply chain) coffee.

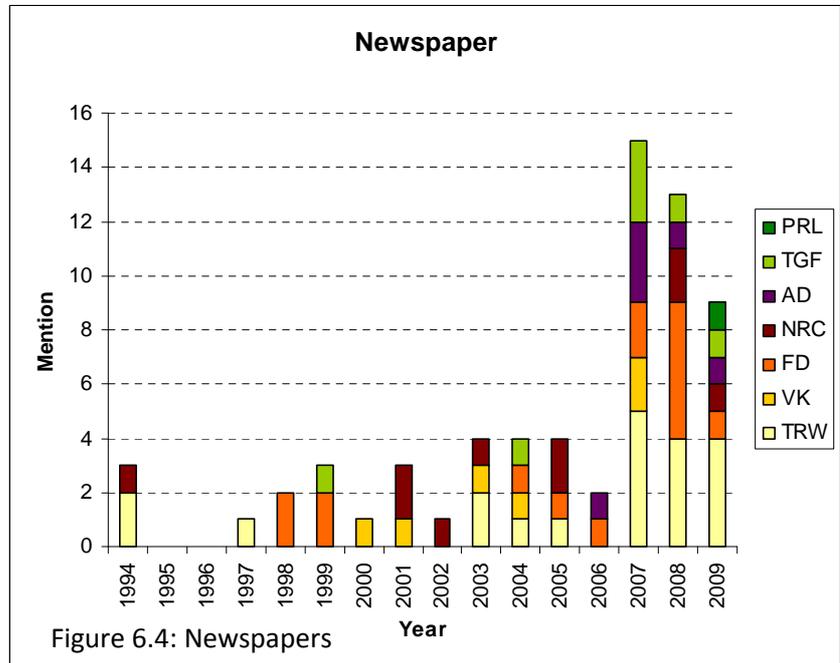


Figure 6.4: Newspapers

While there might have been articles available in the analyzed newspapers, they are not included within the analysis. Despite these articles are not included within the chart, it still shows a general trend on articles written about (sustainable supply chain) coffee. The studied newspapers were made digitally available in the following years: 1990, NRC Handelsblad; 1992, Trouw; 1993, Het Parool; 1994, Financieel Dagblad; 1995, De Volkskrant; 1999, De Telegraaf.

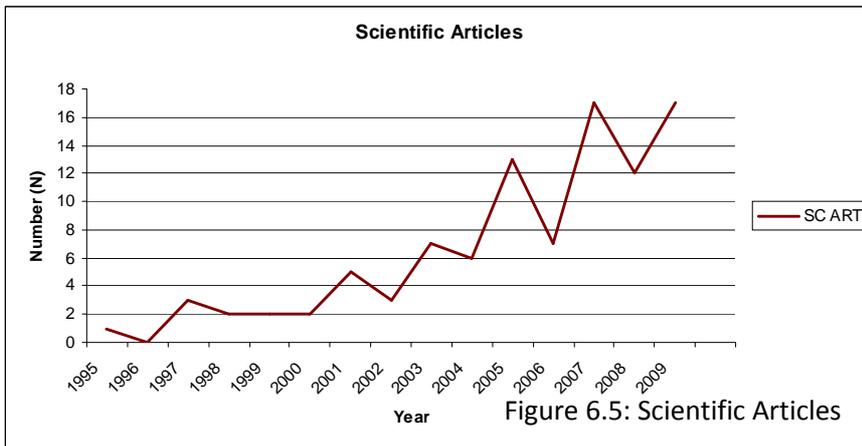


Figure 6.5: Scientific Articles

In total, 65 articles were found in the database. The number of articles found is translated into a bar chart (figure 6.4). The chart shows that sustainable coffee throughout the years has been mentioned plenty and the years 2007, 2008 and 2009 show an increasing growth in the number of articles. In the years 1995 – 1997 very little was written on sustainable coffee. From 1997

onwards, more attention is being given to the position of the consumer within the debate on sustainable coffee, as well as to the unfair prices paid for coffee. This trend lasted until 2002, when the emphasis in the newspaper articles shifted towards the role of the market and the different initiatives taken on sustainable coffee production. Also sustainable production and the reason why this is necessary was addressed. This trend continues until 2009. By the end of 2007 till 2009, the newspaper reports procurement discussions surround sustainable coffee rises. This discussion includes private businesses as well as governments. Especially from 2005 onwards, the trend the newspaper articles seem to be aligning with the same trend of the governmental activities.

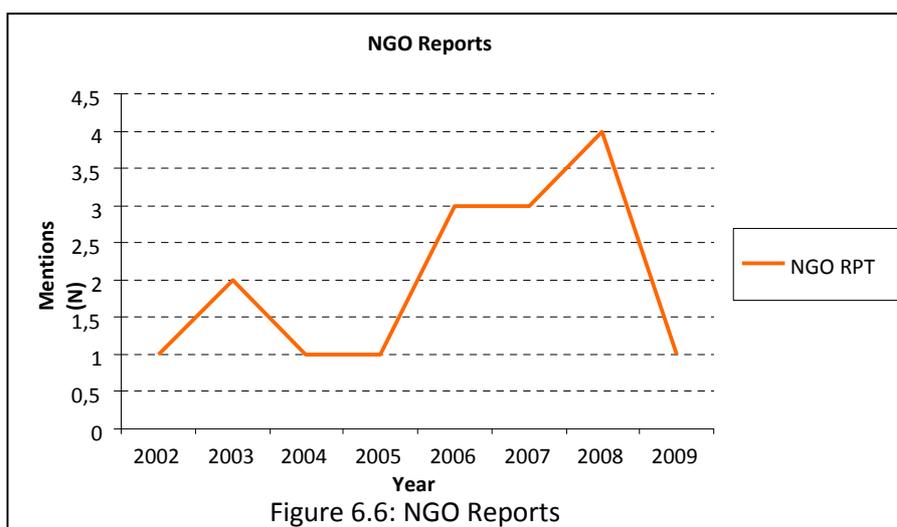
Besides newspapers, scientific articles also show a trend when it comes to sustainability issues surrounding coffee production. To see what the academic world has written on sustainable coffee supply chains, search engine SCOPUS was consulted, using the following keywords: Coffee AND Supply chain OR Coffee AND Commodity chain. In addition, separate searches including the words UTZ and Fairtrade OR Fair trade have been made to get a complete overview. As the keywords show, the focus is in particular upon the supply chains of coffee. Articles on the chemical characteristics of coffee and effects of different fertilizers upon coffee are not included within this analysis since it is not the main aim of this study to look into these specific chemical characteristics. The Scopus search results are useful from 1995 onwards.

The search resulted in 102 useful articles. As the line diagram (figure 6.5) shows, there is an increase within the articles written since 1995. A legitimate comment regarding these results might be that it always takes time before a scientific article is written, accepted and published. This implies that the results should therefore be transposed to the left. This would imply that a 1995 result might actually be an article originally written in 1993. However, this study looks at the relative influence of the different actors in the field upon the standard setting of the different initiatives. Since the standard setting bodies cannot see the articles before they are published, the publication date is seen as the ‘influence’ date, since the articles can only influence the standard setting body after publication.

In 1995 and 1997 (1996 didn’t have any useful publications) the article content was about general coffee supply chains and the problems therein. From the beginning of the millennium onwards, the focus of the articles shifted towards supply chains and the (un)sustainability of the supply chains. The self regulation of the market with initiatives such as Utz Certified, Rainforest Alliance, seems to be getting more attention. The focus upon Fairtrade and its effects upon the production site and society has not faded as well, studies were still devoted to this topic from the 2000s onwards. The focus also became more upon the governance structures and partnerships related to these market and third party led initiatives and its role with creating more sustainable development.

Another part of the civil society are the NGOs, what has their role been upon the governance system impact potential by their different activities and instruments? The only data which could be captured in numbers were NGO reports where coffee production was mentioned. This little amount of results found is translated into a line diagram (figure 6.6) which is showing an increasing number of NGO reports. Though the number of 2009 reports is low, not all year reports on the date of publishing this study were available, explaining the low results for that year.

The first report, in 2002, was a report by Oxfam named ‘Mugged, poverty in your coffee cup’. This report was part of the Oxfam ‘Make Trade Fair’ campaign. This campaign had the intention to create a more stable market and more welfare for the coffee producers. In order to reach their aim, Oxfam wanted among others that roasters would pay a decent price for their coffee, decrease over – production of coffee and that roasters



would buy more Fairtrade coffee (Oxfam, 2002). With this international campaign, Oxfam worked together with other NGOs in the Netherlands, attacking SLDE, using the 250th anniversary of the company to emphasize that there ‘was nothing to celebrate’ (Kolk, 2005). In 2003, 2004, 2006 and 2008, Oxfam has released year reports mentioning coffee supply chains. And in 2007, Oxfam released a briefing note

named 'Seeking common ground: Analysis of the draft proposals for the international coffee agreement', where different proposals on sustainable coffee production were analyzed.

Another NGO involved within the coffee sector is Solidaridad. Solidaridad has both been involved with the creation of Max Havelaar (Fairtrade) and Utz Certified. Currently, Solidaridad is also a partner for Utz Certified and several market parties in the production countries to support the farmers in order to produce coffee more sustainable. These activities and Solidaridad's vision upon sustainable coffee supply chains are provided in their year reports, published in 2003, 2005 and 2008.

Year reports mentioning sustainable supply chain coffee were also published by Hivos, in 2006 and 2007. Hivos is also hosting the TCC – Tropical Commodity Coalition. The TCC is a Dutch initiative and collaboration between ten NGOs - such as Oxfam and Hivos – with the aim to increase production circumstances for the coffee producers. Members within the TCC are working together and try to create a stronger case against buyers and providing an information platform for consumers. In both 2006 and 2009, TCC has produced the Coffee barometer, a report showing the state of sustainable coffee in the Netherlands and analyze the different standards which are available on sustainable coffee.

The main target of the TCC regarding coffee is the industry (roasters) itself. They emphasize a change in this sector regarding production methods. To ensure this change, TCCs main strategy is lobbying. Within lobby campaigns, the TCC tries to influence the companies by including all different actors such as the standard bodies, direct stakeholders and the government. An example of this was SLDE, where the TCC actively lobbied against the company which was a success. Besides the focus upon the roasters, the TCC also tries to put pressure upon the global production standards by starting a discussion. As an NGO, TCC is convinced that none of the standards is optimal and that there are always options and possibilities to change them. TCC has always kept in mind that the production problems on the ground level need to be improved and that it is very well possible that standards may contribute to the solution, but does not have to be the final solution. The TCC therefore also works together with farmers and plantations. This support network structure is coordinated by Solidaridad, one of TCCs member organizations, trying to positively improve production standards by projects on location. Over all, TCC has made its shift from strongly campaigning against the industry, to lobbying and persuading the industry to become more sustainable by taking on the dialogue (Personal Communication, 2009i).

6.6 Correlation

In chapter 5 and paragraph 6.1-6.5, the results were shown on how Fairtrade and Utz Certified have developed over the years. The different actor activities and instruments used by the government, market and civil society were analyzed as well. This paragraph tries to show possible relations in the trend in Government System Performance (GSP) and the different actor influences.

Resulting from the different charts and diagrams previously shown, it can be seen that there is a general trend visible in the activities of the market, government and civil society. A similar trend is visible with the GSP, where a growth can be seen from the year 2003 onwards (see figure 8.1 and 8.2 for a more detailed overview). While both systems show improvement, Fairtrade has made the most improvements. As a result of increased environmental development requirements, the coverage grew from 2005-2006 onwards. Precision in Fairtrade on the other hand, remained the same. The coverage and precision of Utz Certified grew steady from 2003 onwards, with a slight dip in 2006 and growth in 2009. This is a result of a revision of the standard where some of the requirements were placed together in one requirement.

Overall, it stands out that the GSP of both Fairtrade and Utz Certified increased most in 2009, a result of increased precision. In the case of Fairtrade the standard included more requirements on how the standard should be interpreted. The increase with Utz is a result of more and elaborated requirements on social and environmental development. With these requirements more detailed and explicit descriptions were provided on how the requirements should be interpreted. In general it can be concluded that both systems in general have improved in terms of the GSP. The question remaining is whether there also is a correlation between the GSP and the related actor activities.

From the years 2000/2001, more standards (or codes of conduct) were initiated in the international market. Before, initiatives were mainly taken by multinational corporations on a single firm basis, while

after this 'turning point' in 2001, other initiatives started as well. One of the initiatives is Rainforest Alliance, an NGO initiative started in 2002. Another initiative is Utz Certified, a multi stakeholder initiatives initiated by Ahold started in 2003. These standards distinguish themselves in their focus on environmental sustainability, whereas Fairtrade mainly focused upon social and economic sustainability as can be seen from the 2003-2004 coverage and precision results presented in paragraph 5.2.4.

While the CSR reports do not show a strong trend line, there is an increase in firms activities regarding sustainable development in this coffee sector from the year 2000 onwards. While the small and mid-sized companies interviewed as front runners already acted in a sustainable way, the large roasting and production companies show an increasing focus on sustainability from 2001 onwards. This trend is visible by the memberships of the companies of the different sustainability standards such as Utz Certified and Rainforest Alliance. A similar trend can be seen at the branch organisation, which paid more attention to sustainable development as its members also requested an increased focus on it.

In the government activities, a similar trend can be seen. The Dutch government seems to act upon what is happening in the society and MPs ask questions on production circumstances and later on supply chains. In particular the new forms of collaboration starting SSCG systems is a highly debated question in the Parliament. From 1988 onwards, the questions in the parliament remained rather general with occasional questions on ministerial budgets or production circumstances whenever a government official visited a production country. From the second half of this decade a change was noticeable and the questions more often addressed the new initiatives such as Utz Certified and Rainforest Alliance. What also was noticeable is the increase in the number of NGO reports MPs use for information and create a valid argumentation. These NGO reports are often enclosed as an annex in the parliamentary documentation. Also other issues such as public procurement became more important. Government agencies such as Agentschap NL were given the task to create guidelines. With this newly increased attention for the important role of public procurement, the discussion came on which product should be bought. Fairtrade was no longer the only SSCG system initiative in the Netherlands and thereby the only option. Other initiatives could be chosen as well.

As for the civil society, 2003 seems to be a turning point when it comes to activity. While before that time newspapers showed a slight increase in articles mentioning sustainable coffee or coffee production, 2003 was for them also a turning point. A similar trend is visible with the scientific articles, which give more attention to this subject in articles related to the self regulation of the market by these initiatives, but also about new emerging forms of governance and partnerships. NGOs also became more active from 2002 onwards. NGOs in the Netherlands started to collaborate together and create campaigns in order to pursue coffee producers to become more sustainable. An example is the Oxfam campaign in 2002 called 'Mugged'. Other initiatives followed after 2003, most of them with good results. Companies such as Sara Lee Douwe Egberts started to become more aware of sustainability issues surrounding coffee and as a result from NGO pressure, they are now blending certified coffee with their regular blends.

As it is not possible to use a time series regression analysis due to troubles finding enough detailed data, a visible inspection of relations between the GSP and the actors is presented here. What becomes clear from the different activities in the market is that the emergence of new SSCG system initiatives led towards new and improved attention for sustainable development in the coffee sector by the market, government and civil society. It also meant new and critical attention for already existing SSCG systems. These new systems, such as Utz Certified and Rainforest Alliance focused more on environmental sustainability than the already existing Fairtrade standard. This standard which almost had the monopoly until 2002, focused more on social and economic sustainability. The GSP of Fairtrade increased in 2005, while standard remained the same during 2003-2004. This increase was mainly the result of an increasing number of environmental protection requirements, causing in particularly the coverage to rise. This increase is remarkable, since before 2003 very few environmental requirements were taken into account. But after the initiation of other initiatives, which apparently were more in favour of the market, as a result of a higher market share -large players such as Sara Lee Douwe Egberts decided to join Utz Certified, while previously they did not want to join Fairtrade for over 10 years – Fairtrade decided to include more environmental protection requirements. Utz Certified also kept strengthening and

increasing their standards as well, as can be seen by the increase in the GSP and in their coverage and precision.

The correlation between the different activities of the actors and the GSP can therefore be interpreted as the coffee initiatives taken in the market initiatives, either pressed by NGOs are the main reason for improvement of the GSP. The SSCG systems respond to what is happening in the market. The Fairtrade system increased its environmental protection requirements after other SSCG systems emerged with new requirements and kept improving their standards continuously. While it is difficult to say whether the standards have changed before 2003, since that information could not be obtained from the FLO, it is seen that after a dip in the Fairtrade sales in the Netherlands in 2001 (figure 5.2) there is an increase in the GSP with the standard being renewed in 2005-2006 and in 2009. Utz Certified also keeps improving their requirements. However, a direct influence of the actors upon the GSP of Utz Certified and Fairtrade could not be seen.

The market and government actor activities might therefore not have influenced the GSP, but instead a thrive for a higher market share caused by the substantial increase in the number of SSCG systems possibly has influenced the GSP. This observation is strengthened by the fact that most new found activities involve the discussion around these new SSCG systems, their form of governance and their partnerships. The government discusses it more, companies seem to be attracted by these new systems by implementing them into their production process. NGOs seem to take more initiatives possibly a result of a renewed interest of companies to become more sustainable which could increase their changes of successful lobbying. It was an NGO which initiated the Rainforest Alliance certificate, and NGOs have successfully pressured companies to become a member of different standards.

While the initiation of Utz Certified was triggered by talking with NGOs, the process of restructuring the supply chain in order to ensure quality and traceability was key in the establishment of Utz Certified. While this reason explains the initiation of Utz Certified, it does not give any explanations on how the GSP in the years following the initiation can be explained. The results in this study show that the different actors involved – the government, market parties and civil society – might have not influenced the GSP, but the dynamics surrounding the different SSCG systems have influenced one another. This was possibly triggered by the desire for a higher market share as more initiatives on sustainable coffee came into the market. This caused more activities with the different actors involved and the debate on sustainable coffee and supply chains became more important. This conclusion is supported by the results found in the topics discussed with the different actors. Most of the debate in the government surrounded new emerging market systems, new forms of governance and the partnerships surrounding these newfound SSCG systems. The market responded more on these new activities and sustainable production was more discussed for instance with the branch organisation KVNKT. Also NGOs seem to react more upon the activities in the market and the government by addressing these SSCG systems and keeping the debate going.

7. Conclusion and Discussion

7.1 Conclusion

The previous chapters discussed supply chains, how they function and what they consist of, as well as the (functioning of) global coffee supply chains and the variation of the different actors involved in coffee supply chains in the Netherlands. This information was provided to answer the main question of this study:

“To what extent do variables related to the different actors, activities and instruments (government, market, civil society) explain the variation in time of the governance system impact potential (as the reproduction of the market share and governance system performance components of SSCG-systems)?”

To answer this main question a method was developed to measure and explain the governance system impact potential, ideally applying a statistical method [time series regression analysis] and thus explaining the variation in time of the governance system impact potential. In order to do so, the coffee SSCG system was chosen as a case study in order to verify the model which was created within this study.

To create a proper model different dependent and independent variables are required to measure the Governance System Performance (GSP) and marketshare to form the governance system impact potential. This was the first part of this study. The GSP consists out of three dependent variables: coverage, precision and compliance control. These three performance components were subsequently measured by using the case study material: the Fairtrade and Utz Certified standards.

Coverage stands for the degree in which the links of the supply chain are covered in terms of the sustainability aspects of society, the economy and the environment. The indicators chosen to define coverage had to be applicable on a firm level since that is where production in a SSCG system takes place. Also, the indicators had to be applicable to coffee. In the end, 15 indicator groups (table 7.1) were distinguished with 39 indicators which in turn defined the indicator groups.

The standards of both Fairtrade and Utz Certified were analyzed by using these indicators. For the presence of each indicator, a score of 1 was added. Next, the sub scores for the different sustainability spheres – social, environmental and economic - could be calculated. As a result, the final score of the coverage was calculated by using the following function: $C_{total} = ((C_{soc} + C_{env} + C_{econ}) / 3) \times 100$.

Social sustainability	Environmental Sustainability	Economic Sustainability
Poverty	Atmosphere	Employment
Health	Terrestrial	Labour
Education	Water	Conditions
Safety	Biodiversity	Social Security
Governance	Waste	Income and Finances
	Resources	

Table 7.1: Overview sustainability indicator groups

Precision on the other hands looks at the level of detail and requirement level of the different standards. To define precision, the same indicators were used as for coverage. These indicators are valued for precision by using three requirement levels: high, low or recommended. For each requirement level a different score was given: 1 for the high level, 0,66 for low level and 0,33 for the recommended level. The average of each sphere was calculated and as a result, the final precision score can be found by using the following reproduction: $P_{total} = ((P_{soc} + P_{env} + P_{econ}) / 3) \times 100$.

The last performance component measured is the compliance control. Compliance control looks at how many times audits are being performed as well as the type of sanctions that are being used. There can be a lot of audits, but if there are no sanctions for non compliance, the sustainability tends not to increase but either remains the same or decreases. The compliance control is found by multiplying the control scores with the sanctions scores. The more frequent control takes place, the more higher the score (maximum 1). The score for the sanctions is determined by looking at the implementation time for a

sanction. A little timeframe gets a higher score than a large timeframe. The final compliance control score is found by the following multiplication: $CC_{total} = (C_{control} + CC_{sanctions})/2$.

In this study the different performance components have been measured for each Fairtrade (figure 7.1) and Utz Certified standards (figure 7.2), resulting in the trend lines displaying how the governance system performance developed over the years.

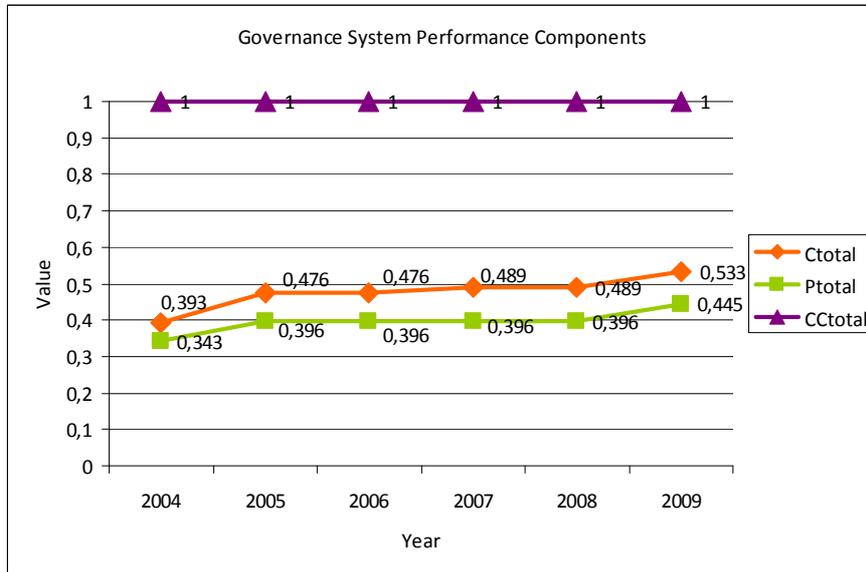


Figure 7.1: Governance System Performance Components Fairtrade

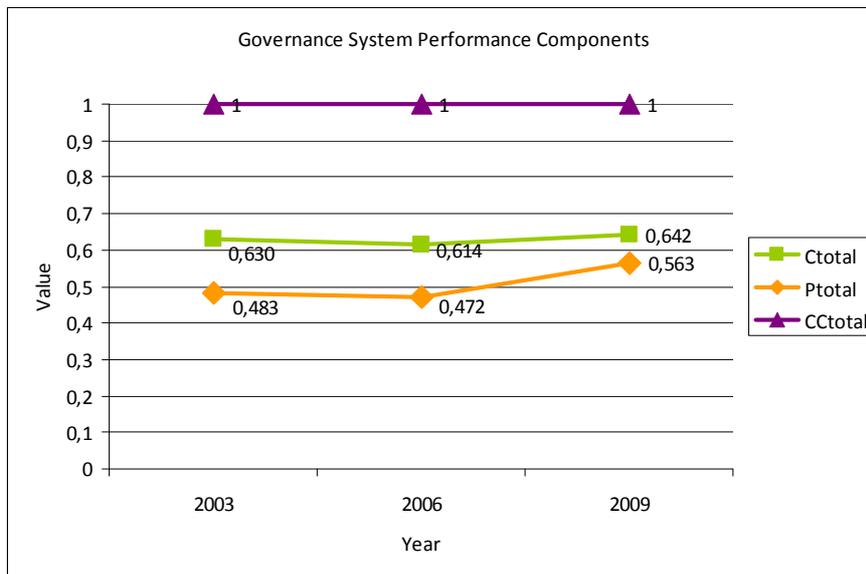


Figure 7.2: Governance System Performance Components Utz Certified

While the results of the GSP should be multiplied by the market share in order to obtain the governance system impact potential (GSIP), it was not possible to do so. In the case of both Fairtrade and Utz Certified, this was impossible to gain the correct information for the market share. Only rough estimations could be made which is not enough for this analysis. The decision was therefore made to only use the GSP as it represents the performance of the system. The GSP is retrieved when all final scores of the coverage (Ctotal), precision (Ptotal) and compliance control (CCtotal) are multiplied by one another ($GSP = C_{total} \times P_{total} \times CC_{total}$). The outcomes of these reproductions can be found in figure 7.3 and 7.4, respectively showing the Fairtrade and Utz Certified GSIP.

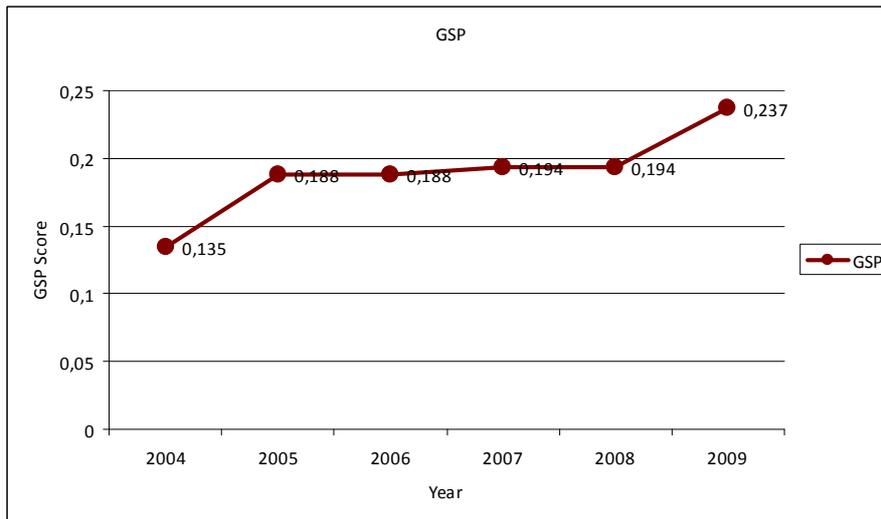


Figure 7.3: GSIP Fairtrade

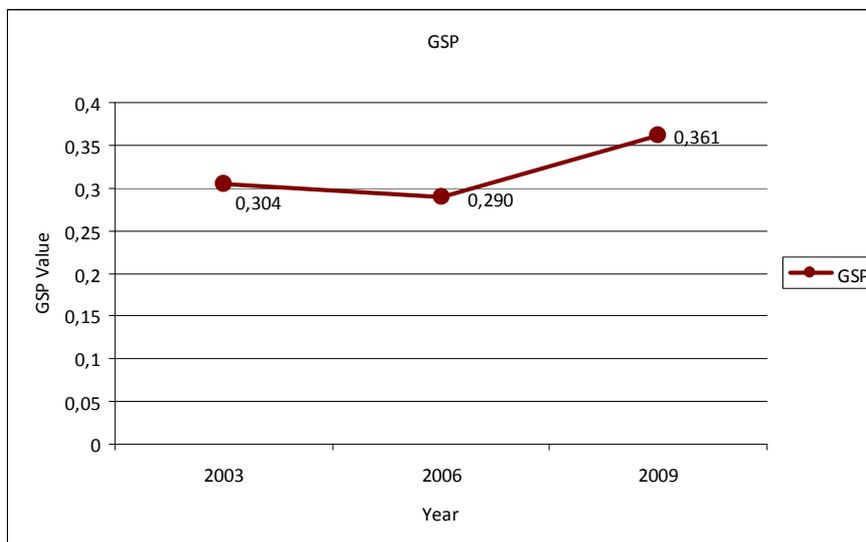


Figure 7.4 GSIP Utz Certified

What can be seen is that the GSP increased over the years, with respectively the most increase with Fairtrade in the years 2005-2006 and 2009 and Utz Certified in 2009. This boost is a result of increased precision in both standards. Furthermore, Fairtrade has introduced a new standard in 2009 which includes more guidelines on how the standard should be interpreted. The 2009 Utz Certified standard increased with more and elaborated requirements on social and environmental development with additional descriptions on how the requirements should be interpreted.

The second part of this study consists of analyzing different actors, activities and instruments which could influence the performance of the SSCG system studied. To come up with different activities and instruments used, different theories on influence strategies which could be applicable to one of the actors (government, market and civil society) were used. While the different theories provided useful information on actor activities and instruments, they had to be applicable in a quantitative method which excluded several activities and instruments. In this way I selected useful indicators, reflecting activities and instruments of societal actors, enabling a quantitative approach by counting the number of references to regarding sustainable coffee (SSCG-systems):

- for the market: CSR reports and year reports;
- for the government parliamentary negotiations and questions as well as government regulations;
- for the civil society, newspaper and scientific articles as well as NGO (year) reports.

In addition to these activities and instruments, a more detailed overview was provided on how these activities and instruments have evolved by means of interviews.

The results all showed a similar trend. On the international market, it became visible that from the beginning of the year 2000 onwards, more initiatives were made regarding sustainability. While initiatives previously were taken by multinational corporations, NGO and multi-stakeholder led initiatives took over. The increasing activity line is also visible in the market, government and civil society. Within the market, firms do seem to take more action regarding sustainable development. Especially the large roasting and production companies seem to shift towards sustainable development and sustainability standards. The civil society is for the most part responsible for this shift within the companies. Especially NGOs started an intensive lobbying and protesting campaign against large roasting firms in order to pursue them to become more sustainable and consider the diverse standards available. Newspapers and scientific articles also show more activity from the year 2003 onwards. The articles are mostly related to the new third party led initiatives such as Utz Certified and Rainforest Alliance. The scientific articles use these initiatives as a source of information and also write about these new forms of governance and partnerships. The government follows all the activity described above and thus shows a similar trend. The role of the supply chain is debated in the parliament from the year 2003 onwards. While previously parliamentary questions remained rather general, they became more specified and extra documentation on the sustainability issues surrounding coffee is included as well as issues related to the public procurement debate as Fairtrade is no longer the only SSCG system which the government can choose from.

An interpretation of the relation between these activities and the performance of SSCG-systems is that the dynamics surround the newly emerging SSCG systems have influenced not only the GSP, but also the actor dynamics as well. This was possibly triggered by the desire for a higher market share as more initiatives on sustainable coffee came into the market. This caused more activities with the different actors involved and the debate on sustainable coffee and supply chains became more important. The SSCG systems seem to react upon market dynamics. The Fairtrade system increased its environmental development after other SSCG systems emerged with new requirements and kept improving their standards continuously. Fairtrade was originally founded to create better working conditions and better prices for the small farmers producing coffee. The newfound focus upon sustainable development and the related new sustainability standards might have triggered Fairtrade to include more environmental issues, especially after a dip in their Dutch sales. As a result, the 2005-2006 and 2009 GSP increased substantially. Also Utz Certified's standards kept on improving resulting in an increasing GSP with a peak in 2009. This conclusion is supported by the results found in the topics discussed with the different actors. Most of the debate in the government surrounded new emerging market systems, new forms of governance and the partnerships surrounding these newfound SSCG systems. The market responded more on these new activities and sustainable production was more discussed for instance with the branch organisation KVNKT. Also NGOs seem to react more upon the activities in the market and the government by addressing these SSCG systems and keeping the debate going.

The actor activities might therefore not have influenced the GSP, but instead the needs or desire for a substantial market share caused by the increase in the number of SSCG systems. This observation is strengthened by the fact that most new found activities involve the discussion around these new SSCG systems, their form of governance and their partnerships. The government discusses it more often and companies seem to be attracted by these new systems by implementing them into their production process. NGOs seem to take more initiatives possibly a result of a renewed interest of companies to become more sustainable which could increase their chances of successful lobbying.

The outcome of the correlation imply some new insights for the actors involved. Of all actors involved, the government perhaps can learn the most out of this experience. What it has shown is that government interference is perhaps not even necessary to create more sustainable supply chains. The current role of the government is more based upon providing funding and subsidizing different conferences surrounding sustainability initiatives in commodities. More government interference does not seem to be necessary. While talking with one another about sustainability is useful and the government in the role of a

facilitator can be a good thing, the market seems to be quite able to manage everything themselves. The competition between the systems has led towards a higher, better and precise focus upon sustainability.

7.2 Discussion

In the process of the analysis, different points for discussion come up, as well as some aspects in this study which might be further improved. One of these first points for discussion is the small scope of this study. This not only includes the focus upon the Dutch market, which will be discussed later on, but also the fact that only data has been included from 2003 onwards. The original idea was to analyze Fairtrade from 1988 onwards, which is the time it came into existence. However, when trying to find the right information and asking both the national and international Fairtrade Labelling Organisation, it appeared to be very difficult to obtain this information. Actually, it was not possible and I could only gain access to the standards from 2003 onwards. As this study focuses on coffee, the Fairtrade 2003 standard was the first which included specific coffee requirements. In this perspective, the timeframe 2003-2009 was not so bad, but it was a shame that mainly because of this, the time series analysis had to be dropped.

Another point of discussion is that especially Fairtrade was not very transparent in providing information. While the compliance control for Fairtrade was scored with 1, a result of an interview via e-mail, the question is open whether this really is the case. During this research, various stories were heard on the non compliance of Fairtrade farmers. Since this is not a legitimate way of doing research these observations could not be included in the actual study but definitely deserve a mention in the discussion.

As indicated earlier, it was also very difficult to find the correct information for the market shares of the studied SSCG systems. While information is available from Fairtrade on how much was sold in the Netherlands, it was not possible to find the right information on the general sustainability market on coffee. In case of Utz, finding market data was difficult as it could not be specified which part of the sales was actually sold in the Netherlands as a lot of Utz Certified coffee is blended with non certified coffee. In this case, the coffee cannot be sold as certified even though the package contains certified coffee inside. Due to the absence of the market shares data, the original idea of calculating the governance system impact potential (GSIP) had to be dropped. Instead, the choice was made to include the governance system performance as it is a part of the GSP.

As for the method, it was originally believed that a time series regression analysis could be performed on the variables chosen. As a result of the previously mentioned lack of data, it was not possible to perform this type of analysis. Despite the fact that a time series regression analysis could not be performed, it does not imply that the current outcome of the study is not valid, but new relationships between the different variables might have been found and new insights could have been gained from this type of analysis. The question could also be asked whether the time series analysis was the best method of analysis to use for this study. The data collected was already done in a way that it could be applicable to time series regression analysis, but if the problems had been known earlier, the data could have been adjusted to a new type of analysis. An example of another type of analysis is the network analysis. The *network analysis* is based on networks, which are 'specific types of relations linking a defined set of persons, objects or events' (Knoke, Klukinski, 1982). A network analysis takes the relations in account that occur between the actors as well as the relations that they are not aware of they exist (Knoke, Klukinski, 1982). This analysis could have given a better perspective of the structure of the network surround the GSP. It also might have gained more insight in the behaviour of some of the actors involved. Another theory is the *(force) field theory* by Kurt Lewin. This type of analysis enables to look at the factors or forces that can influence a situation, in this case the GSP. It looks at forces that are helping or hindering and is applicable to not only social sciences as psychology but also management related sciences could use this theory. Lewin distinguishes different types of force fields. And it also might have been a feasible option as it distinguishes the types of power and now only the relationship as the network analysis does. Instead, it may see which actor could have been the most influential.

The aim of this study was to establish a model whereby the variation in time of the GSIP could be explained, or at least to make an attempt to explain the variation in time of the GSIP; this study only provides the start of this model by using a very small case study. To see whether the model really is

applicable to all systems, more standards and different commodities can be studied to see whether the outcomes are legitimate and if the model is applicable to various kinds of commodities.

Related to the case studies is the national scope of this study: only information on the Dutch market was used. To get a clear and full understanding on the influence of different actors upon the GSIP, international market data should have been included as well. This could have increased the legitimacy of this study. Despite possible lack of international information, this thesis was able to provide a good overview of the general trend in supply chain governance within the Netherlands. It shows the actors involved and provides an overview of everything that has happened and how it might have influenced the standard setting or at least the actors involved. These new insights could then again be used for further lobbying, standard setting or policy making.

A final point of discussion is more on the reputation of both SSCG systems studied. Besides the fact that people still have the feeling that Fairtrade coffee had a poor taste (which it has not, by the way), the idea still holds that Fairtrade is the 'top of the bill' in SSCG systems. But there is debate whether this is true. While doing this study, new perceptions on not only Fairtrade, but also other SSCG systems were gained. Nevertheless, it is difficult to determine which system in the end is truly better. This study has made an attempt to make a start by analyzing the different systems available, but it remains difficult to conclude which one is better.

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Figures:

Figure 2.5: Starbucks Coffee. Available on the World Wide Web [retrieved on July 27, 2009]: <http://www.utsa.edu/today/images/graphics/sbuxcup.jpg>