¿ Responsible Soy ?

A corporate response to the negative impacts of soy production and expansion on sustainable and inclusive development

- Case study of Paraguay -

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I hope you enjoy the read.

Arianne Gijsenbergh

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EXECUTIVE SUMMARY

The objective of this thesis is to explore to what extent responsible business represents a solution to the negative impacts of soy production and expansion and contributes to sustainable and inclusive development. To this end, field work has been carried out in soy production regions in Paraguay. By means of in-depth case study research, combined with opinions and perspectives from different urban and rural stakeholders, the study aims to gain insight in the possibilities and challenges related to improving the sustainability of the soy value chain. Special attention is accorded to analyzing the role and potential of the RTRS certification scheme in fostering the desired development outcomes. To complement and contextualize the findings, an effort is undertaken to develop a thorough understanding of the characteristics and dynamics of the soy sector, the functioning of public institutions, the different interests at stake, associated patterns of land use change and the relevant historical and political processes underpinning the development of the soy industry.

The findings reveal that the soy sector in Paraguay is one of the central pillars of the country's macro economy and has contributed a significant growth of the economy in recent decades. However, previous studies and evidence from the field indicate that this growth has been exclusive and the benefits of the sector have mainly been confined to an elite group of large landholders, investment funds and a few multinational corporations which dominate the soy value chain. The sector generates few jobs and expansion of the soy frontier has occurred at the expense of local rural populations, thereby perpetuating historically formed inequalities. Peasant farmers and indigenous communities suffered from eviction from their lands, rising land prices, loss of livelihoods, health problems and environmental degradation. Moreover, contrary to what the investors claim, the agribusiness sector presents a threat to the food security situation in the country as it competes for the scarce resources which are vital for the production of food crops for the local market. The situation is aggravated by malfunctioning public institutions, which are characterized by incapacity, corruption and a bias towards the agribusiness sector.

Responsible business emerged as a corporate response to the problems and aimed to render the soy value chain more sustainable. Three responsible soy companies have been investigated to determine how and to what extent they address the identified issues. In broad terms, the three companies reduce part of the negative impacts of their operations by complying with laws and regulations, and make contributions to local development by providing community assistance. However, responsible soy, in its current form, represents an inadequate response to the structural factors which drive the concentration of land and resources, environmental degradation and exclusion in Paraguay's rural economy.

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LIST OF ACRONYMS

CAPECO	Cámara Paraguaya de Exportadores de Cereales y Oleaginosas
CCU	Cooperativa Colonias Unidas
CDE	Centro de documentación y estudios
CSR	Corporate Social Responsibility
DAP	Desarrollo Agrícola del Paraguay
DFID	UK's Department for International Development
DGEEC	Dirección General de Estadística, Encuestas y Censos
IBR	Instituto de Bienestar Rural
INDERT	Instituto Nacional de Desarrollo Rural y de la Tierra
FAO	United Nations Food and Agriculture Organization
FMB	Fundación Moisés Bertoni
FNC	Federación Nacional Campesina
G	Guarani (Paraguay's monetary unit)
GM	Genetically Modified
GMO	Genetically Modified Organism
Ha	hectare
IMAGRO	Impuesto a la Renta de las Actividades Agropecuarias
MAG	Ministerio de Agricultura y Ganadería
MCP	Movimiento Campesino Paraguayo
NGO	Non-governmental organization
RR	Roundup Ready
RTRS	Round Table on Responsible Soy
SEAM	Secretaría del Ambiente
SENAVE	Servicio Nacional de Calidad y Sanidad Vegetal y de Semillas
UGP	Unión de Gremios de la Producción
UNDP	United Nations Development Programme
USD	United States Dollar
USDA	United States Department of Agriculture
WCED	World Commission on Environment and Development
WHO	World Health Organization
WWF	World Wildlife Funds

CHAPTER 1. INTRODUCTION

1.1 Problem identification

In capitalist societies, the role of the private sector has traditionally been to generate profit and stimulate economic growth. Yet, the late 20th century marks a significant transition in the conceptualization of this role. Businesses are increasingly considered to have obligations and responsibilities that extend beyond economic contributions to helping to solve social and environmental issues. The concept of Corporate Social Responsibility (CSR) emerged to characterize companies which commit to minimize their negative impacts and generate positive contributions to society. While the concept was initially applied to businesses operating in developed countries, it has hence gained a foothold in developing country contexts.

Debates between development scholars and practitioners have focused on the potential and desirability of the private sector to foster sustainable and inclusive development in the Global South. Proponents are optimistic about the contributions companies can make, provided that effective responsible business strategies are applied. The United Kingdom's Department for International Development (DFID), for example, states that "by following socially responsible practices, the private sector will be more inclusive, equitable and poverty reducing" *(*Jenkins, 2005). Arguments often given in favor of responsible business as a development strategy, are that it maximizes spillover effects of Foreign Direct Investments (FDI) and that it can fill government gaps and reduce the financial burdens of these governments. However, critics question whether companies, despite their best intentions, can make long-term contributions to development. They argue that CSR fails to tackle the structural causes of underdevelopment and calls for change only within the current capitalist framework. Furthermore, the critics note that corporations often lack development expertise and that, ultimately, business and development have conflicting agendas, which may result in CSR policies prioritizing the strategic needs of the firm above the development needs of local communities (Sagebien & Whellams, 2010; Blowfield, 2005).

Despite ongoing debates on responsible business in developing countries, most empirical research which has been conducted on the topic has focused on Europe and the United States (Carroll 1991, Visser 2008). There is a need for sound evidence on how exactly businesses can contribute to and influence economic, social and environmental development in the underdeveloped world (Prieto-Carron et al., 2006). More research is essential, considering that developing countries have the fastest growing economies and rapidly attract new businesses, which poses important social and environmental challenges. Furthermore, it is frequently claimed that existing theories, with their origin in western nations, do not sufficiently relate to the context and circumstances in developing countries, and that there is a need for the elaboration of alternative approaches. This requires a thorough understanding of how responsible business manifests itself in the Global South. In the light of the above, the present thesis aims to contribute to the debate and to the body of research on the role of responsible business in fostering sustainable and inclusive development in developing country contexts.

The notion of responsible business has received increased attention from the private sector, governments, NGO's, supranational institutions and consumer groups over the past decade. Companies throughout the world are under growing pressure to take responsibility for their impacts on the societies and the environment in which they operate (Visser, 2008). As a result, more and more companies develop and implement CSR policies. Some act on moral grounds, motivated by a desire to do good, while others view responsible behavior essentially as a business strategy, which serves to enhance market access or meet the demands of influential stakeholder groups. Whatever the drivers behind responsible business, companies experience many challenges because the field is context specific and constantly evolving (Gilbert, 2008). A sector in which the adoption of CSR principles has been particularly controversial is the global soy industry. Although investors in large-scale soy production and expansion claim they 'feed the world', numerous media reports, academic articles and NGO studies have appeared in recent years which report the sector's downsides, notably in soy production regions in South America. The soy industry became linked to a wide range of negative impacts, including violent conflicts over land, the forced displacement of rural population groups, deforestation and the indiscriminate use of toxic agrochemicals. As international concern for the situation began to grow, protesters and consumers in Europe started boycotting South American soybeans and threatened the producers with sanctions. In an effort to repair their reputation, soy producers became increasingly involved in responsible business. Some developed and implemented their own set of Corporate Social Responsibility standards, while others chose to follow the standards established by the Round Table on Responsible Soy (RTRS), a global governance and certification scheme. This trend raises the critical question whether the benefits of responsible business can weigh up against the severe downsides of the prevailing soy model. Empirical research has been undertaken to explore how responsible CSR in the soy sector actually is and how responsible it can potentially be.

1.2 Research objectives

The objective of this thesis is to explore to what extent responsible business represents a solution to the negative impacts of soy production and expansion and contributes to sustainable and inclusive development. To this end, field work has been carried out in soy production regions in Paraguay. By means of in-depth case study research, combined with opinions and perspectives from different urban and rural stakeholders, the study aims to gain insight in the possibilities and challenges related to improving the sustainability of the soy value chain. Special attention is accorded to analyzing the role and potential of the RTRS certification scheme in fostering the desired development outcomes. To complement and contextualize the findings, an effort is undertaken to develop a thorough understanding of the characteristics and dynamics of the soy sector, the functioning of public institutions, the different interests at stake, associated patterns of land use change and the relevant historical and political processes underpinning the development of the soy industry. On a more theoretical level, the finding will give insight in how CSR manifests itself in a developing country context. Based on the research objectives the following central question has been formulated:

How do responsible soy companies in Paraguay address the negative impacts associated with soy production and expansion and to what extent do these companies contribute to sustainable and inclusive development?

1.3 Relevance

In order to fully understand the relevance of this study, the choice for the sector, the country and the objectives of the research need to be clarified. In recent years, the growing domination of the agribusiness model in rural economies of the Global South has become a key development issue. Private investors and large corporations from both developing and developed nations rush to buy or lease affordable, fertile land throughout the developing world for large-scale crop production, resulting in pressures on agricultural land and resources. Notably the advance of the soy sector has given rise to widespread concern and fuelled a debate regarding the desirability of large-scale farmland acquisitions in developing countries, the use of biotechnology and the implementation of intensive crop farming techniques. While some highlight the potential of investments in the soy industry to generate local economic development, others believe the agribusiness sector mostly serves the interests of rich elites at the expense of the rural poor. Although the debate is heated, sufficient empirical evidence is often lacking and further academic research is needed to substantiate the claims.

The tropical regions of Argentina, Brazil, Paraguay, Bolivia and Uruguay have become popular destinations for investors in large-scale soybean production. Throughout the past decades, the land area dedicated to the cultivation of this crop in Latin America expanded rapidly, covering over 55 million hectares today (USDA, 2013), making the stated zone the main soy production region in the world. While much of the academic and public debate concerning the soy industry has focused on Brazil and Argentina, smaller landlocked Paraguay presents an interesting case for research. Paraguay has a long history of corrupt regimes, highly unequal distributions of wealth and resources, and large-scale agricultural investments by both foreign and national investors. Soy production began in the 1970s and today the grain is the country's main export product. Due to the high upfront investments and the substantial amounts of land and assets required, the sector has remained highly exclusionary, with little room for participation by smallholders. Conflicts between peasant groups and soy farmers over land disputes and agrochemical spraying have been particularly violent in Paraguay, severely affecting the prospects for equitable and sustainable rural development.

In Paraguay, there is a lively ongoing discussion about the impacts of the soy farming between highly biased supporters and opponents of the sector, each group attempting to defend their mutually conflicting interests and ideologies. There is a strong lack of more objective and nuanced views. In addition, existing scientific research on the topic has been very one-sided. Studies have mainly focused on demonstrating the impact of the industrial production system on local communities, which is insightful, but insufficient to understand the complexity of the issues at stake. Few studies have been found which try to grasp the wider dynamics of the value chain or which seek to understand the motives of the investors and the challenges they face. Moreover, while the soy sector in Paraguay is heavily under-researched, even fewer empirical studies exist which specifically investigate responsible business initiatives among soy farmers. In fact, various researchers and NGO workers have expressed their strong distrust of soy producers in general, and view no interest in investigating their CSR initiatives based on the assumption that "*responsible soy is a contradiction in terms*" and can therefore impossibly be achieved. Nevertheless, in the Netherlands, the second largest soy importer in the world (Dutch Soy Coalition, 2013), there exists a strong support base for the purchase of 'responsibly' produced soy. The RTRS certification scheme in particular, has received considerable political

and financial backing from the Dutch government, as well as ample support from large companies in the food industry and from the Dutch Soy Coalition, consisting of the NGOs Both Ends, Oxfam Novib, IUCN-NL, Milieudefensie, Stichting Natuur & Milieu, Solidaridad and WNF. It is therefore of utmost importance to investigate the implications of the implementation of the RTRS standards for sustainable and inclusive development in producer countries.

1.4 Structure of the thesis

This research continues with a theoretical framework, which explores theoretical concepts from the literature and discusses the link between CSR and development. The literature analysis forms the basis for the design of a conceptual model in chapter 3. In that chapter, the theoretical concepts are operationalized, and the methodological choices concerning data collection methods and the selection of the research area and the respondents are explained. Chapter 4 presents a brief account of the historical and political developments underpinning the advance of the soy sector in Paraguay. Chapters 5 to 7, serve to characterize the soy industry in Paraguay, paying attention to the importance of soy for the national economy, the stakeholders involved, the functioning of relevant public institutions and the patterns of soy expansion and associated land use change. Chapter 8 critically assesses six claims about the negative impacts of soy production and expansion, based on an analysis of existing data combined with evidence from the ground. Chapter 9 explores which soy production companies are involved in responsible business in Paraguay and introduces three companies which have been selected as case studies. Chapter 10 and 11 contain an in-depth analysis of the ways in which the three selected companies attempt to mitigate their negative impacts and contribute to sustainable and inclusive development. In chapter 12, the motivations of the companies to engage in responsible business are explored, as well as the barriers and challenges they are faced with. This is followed by a reflection in chapter 13 on the desirability of producing RTRS-certified soy. Chapter 14 is dedicated to discussing the research findings. The results are linked to the literature on the topic and an analysis is made of the actual and potential contributions of responsible business in the soy sector, as well as its limitations. Recommendations are provided on how to render the sector more sustainable. The research ends with a conclusion, which recapitulates the main findings, provides an answer to the central question and gives directions for further research.

CHAPTER 2: THEORETICAL FRAMEWORK

This chapter provides an overview of different theoretical conceptualizations and frameworks in the field of responsible business which have been found in the academic literature and which will form the basis of the research. Although this study is concerned with the relationship between responsibility in the soy sector and local and national development in Paraguay, it is first useful to place this topic within the broader context of the relationship between business and society. Next the link between responsible business and international development is explored. Finally, the concept of global private governance is discussed, and an analysis is provided of how this new institutionalized form of CSR is applied in the soy sector.

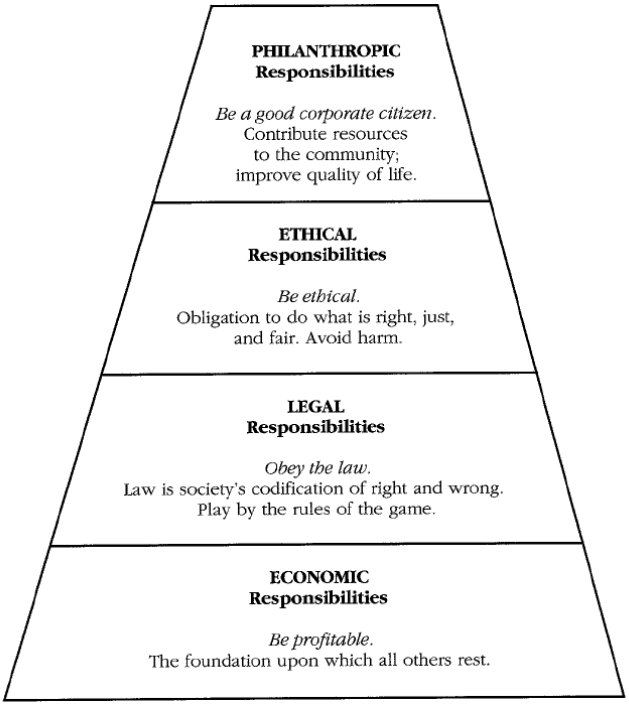
2.1 Business, responsibility and society

There has been an ongoing debate in recent decades about the roles and responsibilities of business in society. The concept of corporate social responsibility (CSR) is of particular importance in this discussion and functions as an umbrella term to encompass a broad spectrum of practical and theoretical definitions, that aim to characterize the business-society relationship and delineate the responsibilities of the private sector towards society. A review of the literature reveals there is a large variety of terminologies that refer to the societal role of businesses, including corporate citizenship (Matten and Crane, 2005; Windsor, 2001), corporate accountability, corporate social performance (Wood, 1991), corporate sustainability (Sharma and Starik, 2002), corporate social responsiveness and inclusive business. Yet, the terms CSR and responsible business have retained a certain dominance in the discussions and will be used interchangeably in this research to refer to the broad conceptualization of responsibility in the private sector.

The debate about the extent of a firm's corporate social responsibility obligations centers on the diverse perceptions of this role, beginning with Friedman's (1962) shareholder primacy perspective, in which the sole responsibility of firms is "to make as much money for their stockholders as they possibly can". Friedman was primarily concerned with the economic outcomes of business decision making, which is illustrated by his famous quote "the business of business is business" (Friedman, 1970). Other academics have expanded the notion of companies' obligations beyond the economic bottom line to encompass broader societal issues. Carroll has made important contributions to the literature on CSR. He acknowledged the profit motive of companies, but extended their responsibilities to include the "legal, ethical and discretionary expectations that a society has of organizations at a given point in time" (Carroll, 1979). In later years he developed an influential framework, *the pyramid of corporate social responsibility* (figure 2.1), in which he hierarchized four forms of CSR and prioritizes the responsibilities of a company to society. According to Carroll's pyramid, business first and foremost has economic responsibilities, which refers to the basic role of the private sector to provide goods and services, generate employment, enable trade and make profit while doing so. This is the foundation on which the principle of business is built. The second layer of the pyramid extends business responsibilities to compliance with laws and regulations. The third set of responsibilities goes beyond legal requirements and involves the obligation to act according to ethical norms and values, to do what is right, just and fair as defined by local

culture and society. At the top of the CSR pyramid, Carroll places philanthropic responsibilities, referring to the voluntary activities of companies geared at generating improvements of the society in which they operate, and to being a good corporate citizen. In order to maximize their contributions to society, companies ought to fulfill all four dimensions of responsibility. In practice, however, companies often limit their focus to one or two components of the pyramid due to lack of resources or other constraints (Carroll, 1991).

Figure 1.1: Carroll's Pyramid of Corporate Social Responsibility



Source: Carroll 1991

While Carroll focused on defining different types of CSR and ranking them according to their relative priority, other scholars have concentrated their efforts to identifying and delimitating the different groups of stakeholders to which the responsibility of business extends. Stakeholder theory situates companies within a broad network of stakeholders which have interconnected interests with these companies. Freeman (1984) is generally considered as the founder of stakeholder theory. In his publication *Strategic Management: a stakeholder approach,* he argues that responsible business should take into account the interests of internal and external groups that influence and are influenced by the company's business practices. The theory suggests that companies should exercise a duty of care towards their stakeholders, and that they should thrive to balance the interest of all the different stakeholder groups in order to generate inclusive societal contributions. In practice, this balancing of interests has proven to be difficult to realize as businesses tend to prioritize their stakeholders based on the amount of influence they have on the company. The stakes of groups that are either useful or able to harm a company economically receive the most recognition (Mitchel et al., 1997; Jamali, 2008, Scherer et al., 2006). Crane et al. (2008), identify relevant stakeholders and place them into four arenas, at the level of which CSR activities can be incentivized and implemented: marketplace, workplace, community and environment. The main stakeholders involved in the marketplace are consumers, shareholders, other businesses and clients. Responsible activities within this

dimension relate to resource use and the type and quality of the products produced. The workplace incorporates the workforce and managerial staff of a company, and is associated with CSR activities which affect the internal functioning of a company, such as working conditions, wages and health and safety measures. The community arena is composed of stakeholders in the direct area of influence of the company, as well as society at large. It is associated with activities of philanthropic nature, such as donations to public institutions or community development projects. Finally, the environment is considered a silent stakeholder in itself. Responsible business practices in this field relate to pollution, energy and waste management, recycling and ecological conservation (Crane et al., 2008). The emergence and consolidation of sustainable development principles fostered increased recognition that the responsibilities of businesses should extend not only to shareholders and the society, but also to the environment. Many modern definitions of CSR explicitly include references to environmental sustainability and companies frequently adopt the 'triple bottom-line' approach as a guiding framework for developing a responsible business policy.

Other useful contributions to the body of CSR literature have focused on the determinants motivating responsible behavior among businesses. According to Wood (1991), a company's responsibility can be motivated at the institutional, the organizational and the individual level. Motivations at the institutional level denote aspirations to improve the company's credibility and social legitimacy; those at the organizational level refer to the will to address stakeholder demands through an expression of public responsibility; and those at the individual level invoke self-motivation and personal interest of the managerial staff (Carroll, 1991; Jamali & Mirshak, 2006; Gilbert, 2008). A similar categorization of the factors driving responsible business has been developed by Maignan and Ralston (2002), who identify three types of motivations: performance-driven, stakeholder-driven and value-driven. When the decision to adopt a CSR policy is motivated by improving the company's competitive position and financial performance it is performance-driven. Stakeholder-driven motivations arise when influential stakeholder groups exert pressure on a company to act more responsibly. Finally, the value-driven motivation is when responsible business practices are adopted to reflect the company's core values or as part of a company's culture (Maignan & Ralston, 2002).

2.2 CSR in developing countries

CSR is a dynamic concept which is continuously debated, revised and redefined. An important point of discussion concerns the applicability of the underlying theories in developing country contexts. It is frequently claimed that the evolution of the concept of CSR has largely been led by western academics, based on empirical evidence originating from the experiences of European and American businesses. Consequentially, CSR theories would contain a bias towards western socio-economic models and societal expectations, undermining their adequacy to be applied to the developing world. Various scholars have paid attention to this issue, the most prominent being Visser, who provides a useful overview of the application of CSR theory in developing countries. Visser underlines that companies operating in the developing world face a different set of challenges, as they are often confronted with severe environmental and social crises resulting from the rapid growth of the economies in question in the context of globalization (Visser, 2008).

The different socio-economic and cultural realities of the developing world have implications for the application of some of the established, western CSR theories and frameworks, which Visser (2006) shows in his reformulation of Carroll's pyramid. Visser acknowledges the usefulness of the four-part pyramid construct in analyzing how CSR is manifested in developing countries, but suggests that the order of the responsibility layers differs. Economic responsibility is still placed at the base of the pyramid, but philanthropic responsibility is given second highest priority, followed by legal and then ethical responsibilities (Figure 2.2). To support the positioning of philanthropy at the second level, Visser (2008) puts forward a number of arguments. Firstly, the socio-economic needs of communities in developing countries are so great that philanthropy is an expected and desired norm. Moreover, companies operating in developing countries realize they cannot succeed in a failing society and frequently adopt philanthropy as an integral part of their profit-making strategy, as it is perceived as the most direct way to improve local conditions. Furthermore, many developing countries have become reliant on donor assistance or foreign aid, often in the form of philanthropy, which has hence become engrained in local cultures. Finally, CSR is generally still at an early stage of maturity in developing countries, whereby CSR is closely linked to, or equated with, philanthropy, rather than being defined as a broader and more holistic concept.

Figure 2.2: Visser's CSR pyramid for developing countries

Source: Visser 2008

As country-specific contexts determine the type and hierarchy of business' responsibilities towards society, they also influence the driving forces behind the adoption of CSR activities. Visser (2008) identifies the principal drivers applicable to developing countries. Although not all are unique to developing countries, together they "build up a distinctive picture of how CSR is conceived, incentivized, and practiced in emerging economies". A distinction is made between internal and external drivers (table 2.1). Internal drivers refer to pressures from within the country and help to gain understanding of the local business context in which companies operate. Cultural traditions can motivate companies to meet societal expectation concerning prevailing local business ethics. The internal driver political reform is based on the notion that responsible business is linked to the socio-political context in which the company operates. The socio-economic priorities of a locality or country often shape responsible business practices. The existence of governance gaps may be a factor motivating companies to attempt to fill these

voids. The internal driver crisis response refers to the motivation of companies to address social, economic, environmental and health crisis. Finally, a company can be motivated to pursue responsible business practices as a strategy to access new markets. Visser labels market access as an internal driver, referring to business models that focus on turning the poor into consumers through 'bottom of the pyramid' strategies. However, he adds that CSR may also be seen as an enabler for companies to access new markets in developing countries. As Paraguayan soy is typically exported to the developed world, it makes sense to categorize market access as an external driver for the purpose of this research. The external drivers identified by Visser result from international influence and illustrate the global as well as the sector specific context of the company's business activities. International standardization is linked to the driver market access and is based on codes, guidelines and standards that foster responsible practices. Furthermore, the adoption of CSR activities is often driven by socially responsible investments, where funds are granted based on the company's environmental, social and ethical responsibility commitments. Stakeholder activism puts pressure on businesses to act more responsibly. Lastly, the driver supply chain integrity refers to the idea that responsible business practices may imposed on businesses by other companies or multinationals operating at a later stage in the supply chain (Visser, 2011).

Table 2.1: Drivers of CSR in developing countries

Internal Drivers	External Drivers
Cultural traditions	Market access
political reform	International standardization
socio-economic priorities	Investment incentives
governance gaps	Stakeholder activism
crisis response	Supply chain

Source: Visser 2008

Visser makes it clear that the way in which the responsibilities of business towards society are defined and perceived is context-specific and dependent on the country in which the companies operate. In line with this view, Cramer (2006) specifies that businesses that envision developing and implementing a CSR policy in a developing country, must look beyond the national socio-cultural context and also take into consideration the specific social needs and problems that exist at the local level. In order to develop an effective CSR strategy, company directors need to gain deeper understanding of the relationship between companies and local governments and of the relationship between companies and their stakeholders and the role of the citizens.

2.3 CSR and private global governance

In an era of global economic integration, value chains increasingly expand across national borders, posing specific challenges for sustainability management. Complex global production systems generate transnational environmental, social and economic impacts, which demand a coordinated response and cannot be adequately addressed by individual value chain actors alone. Despite the need for more global coordination, single nation states have tended to restrict

their roles, pursuing policies of deregulation and privatization and enhancing market-based forms of resource allocation. In developing countries, governments have moved away from restrictive toward collaborative positions in their relations with multinational corporations. Similarly, intergovernmental efforts and supranational institutions have generally been slow and ineffective in curbing unsustainable practices across global value chains (Levy, 2007). As concern at this international 'governance deficit' grows, the private sector is filling the void. Fragmented, single value chain CSR initiatives are increasingly complemented with or replaced by formalized and institutionalized new global governance structures in the form of sector-wide certification schemes and codes of conduct. Cashore (2002), developed the concept *non-state market-driven* (NSMD) governance, which refers to standard setting and certification in value chains. Many NSMD schemes are governed by cooperating non-state actors including multinational companies and NGOs. Such initiatives for global corporate responsibility standards are considered forms of private governance, because they are established without the direct involvement of governments or (inter)governmental institutions. Existing examples can be found in sustainable forest management, fair-trade commodity production, and responsible palm oil and soy cultivation (Von Geibler, 2013). Private global governance of value chains may seem promising, as it has the power to impose and enforce internationally established standards on commodity suppliers operating in developing countries with lax regulations and weak governmental control mechanisms. However, various scholars have called the legitimacy and effectiveness of certification schemes and other forms of self-regulation into question.

The concept of legitimacy in the political sense refers to the acceptance of a regime or system of authority. Various perceptions exist of what determines the degree of legitimacy of a system. Scherer et al. (2006), perceive legitimacy as being closely linked to a system's democratic foundation, and argue that this is something which private global governance mechanisms lack. They acknowledge that corporations are *legal persons* with rights and obligations, which can own property, conclude contracts, be taken to court and have political participation rights through their freedom of association. However, Scherer et al. reason, when corporations operate as *political actors*, assuming responsibility for state functions and generating global rules, then it becomes necessary to control these corporations, just as the democratic state is controlled by its citizens. Yet, under the current capitalist model, businesses and their managers are neither elected, nor democratically controlled, and therefore any system of authority governed by corporations lacks democratic legitimacy. Von Geibler (2013), on the other hand, disputes that due to the absence of state authority within the NSMD approach, the legitimacy cannot be based the degree of democratic grounds of the approach. Instead, he proposes to study legitimacy from a stakeholder perspective, considering NSMD systems as legitimate when "all stakeholders within a targeted sector recognize NSMD systems as shared political communities in which policy problems can be addresses and mediated". As a result, political legitimacy can form over time as the attitudes of relevant stakeholder groups evolve.

Despite the growing development and adoption of green labeling and certification schemes, their effectiveness in improving the long-term sustainability impacts of value chains is frequently questioned. According to Scherer et al. (2006), private global governance schemes are often implemented without any form of neutral third-party control, resulting in weak standards which enable corporations to continue their operations "business as usual" under the guise of well formulated ethical rules. Various certification initiatives have been associated with deception, window-dressing and green washing. Instead of mitigating unsustainable outcomes,

these standards are accused of legitimizing harmful business practices, restraining political struggle and drawing attention away from the structural underlying conditions which gave rise to certification in the first place (Elgert, 2012b). Von Geibler (2013) adds that assessing the effectiveness of sustainability standards poses complex challenges, because it requires taking into consideration as many relevant aspects of sustainable development as possible. The relative importance of economic, social and environmental concerns needs to be weighed, and all types of impacts need to be taken into account: positive and negative, short-term and long-term, direct and indirect, intended and unintended, local and global. Furthermore, von Geibler argues that legitimacy and effectiveness are linked and should not be considered separately. He proposes to study the concepts through the theory of input and output legitimacy. According to this theory, input legitimacy refers to procedural aspects such as transparency, participation and democracy, and output legitimacy looks at whether the result is acceptable, equitable and effective. In this view, the legitimacy of a regime also depends on how the stakeholders perceive its effectiveness, therefore, effectiveness and legitimacy can be seen as closely related and mutually reinforcing.

2.4 Private global governance in the soy sector

In recent years, soy production in Argentina, Brazil and Paraguay has become notorious for its link with deforestation, pesticide pollution, forced displacements of local rural populations and other negative impacts. Consumers in Europe began to demand more ethical, green products, which led to the development of various private global governance initiatives in the form of certification standards for responsible soy. A few examples include Basel, Organic, Fairtrade, EcoSocial, Soy Plus, Aapresid and the Round Table on Responsible Soy (RTRS) (CREM, 2011). The latter is one of the largest, most influential, but also most controversial schemes and is further studied in this research. The RTRS was formed in Switzerland in 2006 by the WWF and other founding members and is promoted on its website as:

"*a multi-stakeholder platform which aims to facilitate a global dialogue on soy production that is economically viable, socially equitable and environmentally sound. It provides stakeholders and interested parties [...] with the opportunity to jointly develop global solutions leading to responsible soy production".*

Although the certification scheme is presented as resulting from inclusive processes and ambitious objectives, various scholars demonstrated that the RTRS lacks input legitimacy, which in turn contributed to a lack of output legitimacy. Elgert (2012b) and Schouten et al. (2012), claim that, even though on paper the RTRS is open to all stakeholders and thrives to reach consensus between all relevant actors involved in or affected by the soy value chain, in practice this has not led to a representative sample of stakeholders actually participating in the decision-making processes of the standards. In order to become involved in the RTRS and participate in developing the certification criteria, stakeholders need to apply for membership in one of the following categories: producers; industry, finance and trade; or civil society. However, several broad stakeholder groups that have significant interests in the production of sustainable soy, such as governments and scientific institutions, do not fit in any of these categories. They are thereby excluded from decision-making processes, and can only apply as observing members. In total the RTRS has 157 members of which 29 are producers, 74 are from

the industry, trade and finance category, 18 represent civil society groups and 36 are observing members without voting power (RTRS, 2013). To avoid domination of one stakeholder group over the others, each of the three groups with voting power has one third of the total votes in the General Assembly. Even though the RTRS is open to all interested groups, many stakeholders did not become involved. Especially the civil society group lags behind with eleven percent of all members. Most stakeholders in this category are environmental NGOs, but the inclusion of NGOs and organizations representing small farmers, indigenous groups or consumers, has proven to be challenging. In fact, many civil society groups have been strongly opposed to the RTRS since its inception, accusing the initiative of outright greenwash. They argue that the goal of establishing sustainable soy monocrops cannot be achieved, because "sustainability and monoculture are fundamentally irreconcilable, as are the interests of peasant societies and agri-business" (Grain, 2006). Any attempt that claims to make large-scale GM soy cultivation responsible misleads public opinion and frustrates real solutions. The opponents believe that ultimately the RTRS serves to protect the wrong interests. Among the members are GM seed and pesticide producers such as Monsanto and Syngenta; large agribusiness companies like Cargill, ADM and Bunge; oil companies BP and Shell; and multinational corporations including Unilever, Carrefour and Nestle. These companies are widely known for their unsustainable practices, and skeptics strongly question the reliability and commitment of these stakeholders in formulating and respecting standards for genuinely sustainable soy production (Duurzaam Nieuws, 2011). Furthermore, the RTRS opponents criticize the fact that the initiative searches for solutions within the existing production model , while actually changes at a higher system level are necessary. Initially, the platform was called the Roundtable on Sustainable Soy, but within a few months it was re-named the Roundtable on Responsible Soy (RTRS), responding to pressure from NGOs who believed the term 'sustainable' was being misused (Elgert, 2012).

While not all relevant interest groups are represented in the RTRS, the spread of interests is also skewed within the RTRS. When comparing the origin of the members with the global patterns of soy production and consumption, one notes that Brazil and Argentina, which together produce half of all the soy in the world, are rather well represented in the RTRS with a share of one third of total membership. However, only 4,5 percent of the members are from the USA, even though this country produces 31 percent of all soybeans. China is the largest soy importer, accounting for 53 percent of the world total in 2008, but only 1,2 percent of the RTRT members come from China. In the same year, the EU imported 17 percent of global soybean imports, yet Europe has a share of 45 percent of the members (Elgert, 2012b; RTRS, 2013; USDA, 2013). With 27 RTRS members (17 % of the total), the Netherlands is particularly strongly represented. Some important members include the food companies Unilever, Friesland Campina and Ahold, the NGOs Solidaridad and Natuur en Milieu and the Dutch Sustainable Trade Initiative IDH. For a complete list of all Dutch members and a list of the number of members per country, see annex 1.

In sum, the RTRS includes a diverse range of actors, but this range of actors does not add up to an inclusive and representative sample of stakes in responsible soy production. Contrary to what the RTRS aimed for (or at least claimed to aim for), the certification standards have not been developed based on consensus among the "key stakeholders and players" about what sustainable soy production entails. Instead, they are the result of agreements between a select group of actors. According to Elgert (2012b), even within the RTRS there was a lack of

consensus, and much disagreement persisted regarding technical questions about which practices are sustainable and what constitutes 'acceptable' levels of environmental or social impact. She demonstrates that the RTRS certification criteria have been profoundly influenced by politics and power relationships between the different stakeholders, and that certain perspectives on how responsible soy certification standards should look have become marginalized. Opponents of the RTRS argue that the certification criteria are weak and do not effectively lead to sustainable soy production. Supporters of the RTRS, on the other hand, argue that in the absence of effective state regulation and compliance mechanisms, the initiative provides a means and incentive for the involved companies to act more responsibly and to be held accountable by their consumers and affected local communities (Guereña, 2013). In total, there are twenty-one RTRS criteria which fall under the following five principles: (1) Legal Compliance and Good Business Practice; (2) Responsible Labour Conditions; (3) Responsible Community Relations; (4) Environmental Responsibility; (5) Good Agricultural Practice. The complete list of criteria can be found in annex 2.

CHAPTER 3: METHODOLOGY

This chapter presents the outline and objectives of the research. It introduces the conceptual framework used and describes and explains the methodological choices made with respect to the operationalization of theoretical concepts, data collection methods and the selection of the research area and the respondents. The chapter concludes with a discussion on the main limitations of the chosen research outline and methodology.

3.1 Research questions

As explained in the introduction, this research focuses on the Paraguayan soy sector. The aim is to find out to what extent responsible business represents a solution to the negative impacts of soy production and expansion and contributes to sustainable and inclusive development. To meet the research objectives, a central question has been formulated, which is answered based on three sub questions. The research questions are formulated in box 3.1.

Box 3.1: Research questions

CENTRAL QUESTION

How do responsible soy companies in Paraguay address the negative impacts associated with soy production and expansion and to what extent do these companies contribute to sustainable and inclusive development?

SUB QUESTIONS

1. What are the characteristics of soy production and expansion in Paraguay and what are the main negative impacts of the sector on sustainable and inclusive development?
2. How and why are soy producers in Paraguay engaged in responsible business and what are the perspectives on these interventions at the local level?
3. How responsible is responsible business in the soy sector? How responsible can it be?

The first sub question is of a descriptive nature. It investigates and outlines the dynamics and characteristics of the soy sector in Paraguay and sketches the historical, geographical and institutional context in which soy production and expansion take place. Efforts are pursued to thoroughly assess the impacts of the industry to local and national development. The second sub question is explorative. It aims to find out how CSR in the soy sector is manifested, which drivers foster or impede the adoption of responsible business practices, and what the perspectives of different stakeholder groups are regarding responsible soy production. Special attention is accorded to evaluating the effectiveness and legitimacy of the RTRS certification scheme in fostering sustainable outcomes. The last sub question is analytical. It combines insights and knowledge obtained through the first two questions in order to discuss the actual and potential contributions of responsible business to development, as well as its limitations.

3.2 Operationalization of main concepts

In order to facilitate a clear understand the issues under study and allow for an adequate interpretation of the findings, several central concepts require further explanation. This section defines and operationalizes the main concepts which form the basis of the research.

Responsible business

Responsible business (or CSR) is a central concept in this research. Over the past decades, the term has been defined and conceptualized in diverse ways, for different purposes and by different interest groups, including academics, institutions, businesses and NGO's (see Dahlsrud (2008) for a comprehensive study of 37 CSR definitions). Various scholars agree that the way in which the responsibilities of business towards society are defined and perceived is context-specific (Visser, 2008; Cramer, 2006; Van Marrewijk, 2003). Therefore, an effort has been undertaken to search for a definition that can be applied to the Paraguayan context of soy production. The main selection criterion for a relevant definition, is that it needs to make explicit that CSR has two distinct but interrelated goals, namely (1) generating developmental contributions to society and (2) mitigating the company's negative impacts. Many CSR definitions only specify the first goal, but in the context of soy production, meeting the first goal is not enough to guarantee sustainability. Soy production companies in Latin-America are notorious for their negative socio-economic and environmental impacts. When such companies make societal contributions (for example through the implementation of community development projects) without making any improvements at the level of the company's core business activities, this risks to have a legitimizing and discursive effect, drawing attention away from the sector's negative impacts instead of mitigating them effectively. Another criterion for selecting a relevant definition for CSR, is that it needs to explicitly refer to the triple bottom-line approach. Most CSR definitions emphasize the social dimension of responsible business, but make no notion to companies' environmental responsibility. This research assumes that social, economic and environmental concerns are interrelated and deserve equal attention. Three CSR definitions have been selected which come closest to meeting these criteria. They have been integrated into a working definition for responsible business in this research (box 3.2)

Box 3.2: Definitions of CSR

"Corporate social responsibility (CSR) is about the core behaviour of companies and the responsibility for their total impact on the societies in which they operate. CSR is not an optional add-on nor is it an act of philanthropy. A socially responsible corporation is one that runs a profitable business that takes account of all the positive and negative environmental, social and economic effects it has on society" (Marsden, 2001)

"Corporate social responsibility (CSR) or corporate citizenship can most simply be defined as a set of management practices that ensure the company minimizes the negative impacts of its operations on society while maximizing its positive impacts" (Pinney, 2001)

"The responsibility of enterprises for their impacts on society. [...] Enterprises should have in place a process to integrate social, environmental, ethical human rights and consumer concerns into their business operations and core strategy in close collaboration with their stakeholders" (European Commission, 2011)

The definition of CSR which will be used in this research is:

Responsible business refers to the continuing commitment of companies to minimize the negative social, economic and environmental impacts of their operations, while maximizing their positive contributions to society.

Responsible soy companies

The term 'responsible soy companies' is used in this research to designate soy production companies which are engaged in CSR activities. This includes soy producers which adhere to the RTRS certification standards as well as those who apply their own CSR policies. The soy produced under both these corporate social responsibility models is termed 'responsible soy'. The research investigates the impacts of soy production and expansion, which are processes that take place at the beginning of the soy value chain. Therefore, the concept 'responsible soy companies' will be restricted to companies operating at this initial stage of the value chain, namely soy producers and groups of soy producers organized in cooperatives. Companies operating at higher stages in the value chain will not be taken into account.

Campesinos

The Spanish term *campesinos* is widely used in Paraguay and other Latin-American countries to refer to a rural population group which can be characterized by widespread use of traditional agricultural farming methods, the practice of family-based subsistence farming and the production of crops which form part of the traditional Paraguayan diet. They live and work on plots of land smaller than 20 hectares and mostly only have user right, or *derecheras*, to their land, as opposed to ownernship titles. In this research, the term campesinos is used interchangeably with the terms peasant farmers, small-scale famers and smallholders.

Sustainable and inclusive development

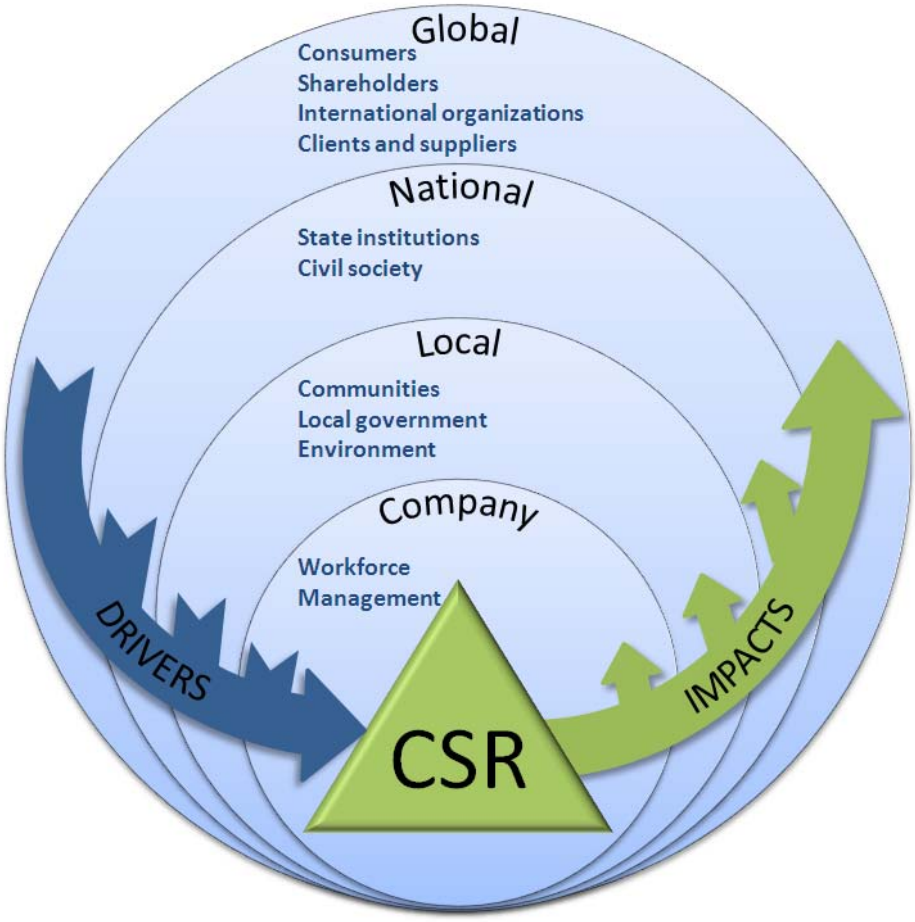
Various definitions exist for the concept of sustainable development. The one used in this research first appeared in *Our common future*, also known as the Brundtland Report, from the United Nations World Commission on Environment and Development (WCED): "Sustainable development is development that includes an economic growth component, as well as a social and environmental value, and, that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987).

Within the field of international development, a loose consensus exists that in order to effectively achieve poverty alleviation and reduce inequalities, development needs to be inclusive. This implies that all groups of people in all layers of society need to contribute to creating opportunities, share the benefits of development and participate in decision-making processes. According to the UNDP, inclusive development integrates the principles of participation, non-discrimination and accountability (UNDP, 2013).

3.3 Conceptual model

The theoretical insights gained through the literature study in chapter 2 form the basis of the construction of a conceptual model (figure 3,1). The model schematically represents the main concepts which are central to this research and shows their relationships. It contains four components: the CSR practices of soy production companies; the relevant stakeholder groups at different scale levels; the drivers of CSR; and the social, economic and environmental impacts of CSR. The combination of these four components enables to situate the responsible business practices of a company within a bigger system. The four parts are exemplified below.

Figure 3.1: Conceptual model



CSR

The CSR component in the model represents the responsible business practices of a given responsible soy company in Paraguay. It is represented in a triangular shape in reference to Carroll's pyramid (1991), which assumes that companies establish a hierarchy concerning their responsibilities to society. The order of priority of the different types of responsibilities has not been indicated, because, according to Visser (2008), this order can vary, depending on the specific contexts in which CSR strategies are constructed and implemented. The decision to engage in CSR activities, as well the choice for which types of CSR activities are undertaken, depend on a mix of internal and external drivers. The responsible business activities can impact stakeholder groups at different scale levels in different ways.

Stakeholders

Stakeholder groups involved in or affected by soy production and expansion can be found at different scale levels: within the company itself, at the local level in close vicinity of the company's operations, at the wider regional or national level, or at an international or global scale. At these different levels, the stakeholder groups can incentivize or discourage the directors of soy production companies to adopt CSR policies. According to Freeman's (1984) stakeholder theory, companies engaged in responsible business should try to balance the interests of all the different stakeholder groups in order to generate contributions which are inclusive.

Drivers

The drivers of CSR can be positive or negative and can have varying degrees of influence. Positive drivers incentivize the adoption of responsible business practices, while negative drivers form barriers which discourage company directors from acting more responsibly. In essence, the theories and classifications by Wood (1991), Maignan and Ralston (2002) and Visser (2008), all recognize that the factors which determine the engagement in responsible business stem from the preferences and interests of the different stakeholder groups. Visser's distinction between internal and external drivers is best suited for the application to developing country contexts and will be used to analyze the driving forces behind CSR in the Paraguayan soy sector.

Impacts

CSR practices can lead to a variety of social, economic and/or environmental impacts at different scale levels. Impacts can be positive and negative, short-term and long-term, direct and indirect, intended and unintended. In order to contribute to sustainable development, companies should effectively mitigate negative impacts and generate positive developmental outcomes. This research focuses mainly on the impacts of responsible business at the local level and on company employees. These are the scales at which the negative impacts of soy production and expansion are most severely felt, and thus where the most important contributions can be made. Yet, the implications of CSR in the soy sector at national and global level will also be discussed.

3.4 Data collection methods

Most of the data used in this research has been gathered during three months of fieldwork in Paraguay, from beginning of April till the end of June 2013. The findings in this report are based on a thorough analysis of primary empirical data obtained through various qualitative methods (semi-structured in-debt interviews, focus group discussions, participatory research, mapping exercises and field observations), combined with relevant available secondary data derived from public documents, academic literature, maps and agricultural censuses. The reasons for choosing for qualitative methods are both practical and scientific. The main practical reason is that qualitative research allows for more flexibility. I conducted the research independently and did not know the research sites beforehand. The use of qualitative research techniques permits

to adapts data collection methods to the specific conditions of each research site. From a scientific point of view it made sense to opt for qualitative research, as the nature of the study is for a large part exploratory. Beforehand, not much information was available on the topic and I used what I learned in earlier interviews to specify my questions in later interviews. Another scientific reason for choosing qualitative methods relates to the objectives of the research. I wanted to find out whether and how responsible business can form part of the solution to sustainability issues in the soy sector through an analysis of best practices. Three responsible soy companies have been selected as case studies, not so much to allow for mutual comparisons, but mainly to learn from their combined experiences. The results are not meant to be representatives for all responsible soy companies in Paraguay or Latin-America, but offer insight in the possibilities and challenges related to improving the sustainability of the soy value chain. Data was collected in distinct phases of the research process, which each contributed to answering one or more of the sub questions. Per phase, the data collection methods are described and justified. In annex 3 the topic lists for the conducted interviews can be found.

Phase 1: Literature research (sub question 1)

The first phase of the research process consisted of a systematic analysis of existing data and literature. Academic publications permitted to gain greater understanding of the relevant thematic and theoretical concepts related to CSR, the soy industry, and sustainable development. Country studies, statistical and geographical data, and reports from governmental and international institutions allowed to situate Paraguay within the soy value chain and characterize the national context of soy production and expansion. The literature analysis provides insight in what is known about the soy sector in Paraguay, and which information is lacking. The literature research began in the Netherlands in order to prepare for the three months of field work in Paraguay, but additional public documents and studies where gathered and analyzed throughout the entire research period.

Phase 2: Exploring the national context through interviews with key stakeholders and experts (sub question 1 and 2)

During the first month of the field work, semi-structured interviews were held with key stakeholders and experts in Asuncion. Among the respondents were representatives of important NGOs and campesino organizations, government officials from national public institutions, key players in the soy sector and academics. The aim of the interviews was to gain a more insight in the different stakes in the Paraguayan soy industry, and determine to what extent the findings from the literature correspond with the national situation, based on the respondents' knowledge and experiences. The interview format permitted to gain deeper understanding of the values and perspectives of the different groups, their roles and responsibilities, the challenges they face and the existing power relations and hierarchical structures. Furthermore, the interviews served to acquire insight in which soy production companies are involved in CSR activities and what opinions are held on the topic by other stakeholder groups. The results of the analysis of these interviews are not statistically representative, but provide a qualitative description of the functioning of the sector, its strengths and weaknesses and the main problems and possible solutions as perceived by the different actors. For each interview a tailored topic list was made, samples of which can be

found in annex 3 The results of the analysis of these interviews provide a qualitative description of the functioning of the sector, its strengths and weaknesses and the main problems and possible solutions as perceived by the different actors. Next to the organized and structured interviews, I also visited various campesino demonstrations and manifestations in the wake of new presidential elections, which permitted to learn more about the main issues at stake, get into contact with affected groups and campesino leaders, and build up a network of informants.

Phase 3: Analyzing the local impact of soy production and expansion (sub question 1)

In the second and third month of the fieldwork period, phase 3 and 4 of the research process were carried out alternately. Phase 3 consisted of an on the ground analysis of the impact soy production and expansion on local communities and their environment. In total, six groups of social, economic or environmental impacts of soy production and expansion have been researched (table 3.1). Various field visits were undertaken to rural areas in the soy production regions of San Pedro and Itapúa. Campesino settlement in the vicinity of large-scale soy fields were visited, and information was gathered through in-depth interviews, focus group discussions (FGDs) and field observations. In addition, several mapping exercises were done in which community members were asked to schematically represent the geographical expansion of the fields under soy cultivation and explain the effects this has had on the communities. The emphasis was on gathering information through detailed accounts of personal experiences and life stories. Additionally, a few local NGOs, government officials and soy producers were interviewed. The objective of this third phase of the research process was to compare, illustrate and complement existing studies about the impact of soy production and expansion with empirical findings from the field. (Note**:** Phase 3 is concerned with the mainstream soy industry. In phase 4, the impact of responsible soy companies is explored)

Phase 4: Case studies of responsible soy companies (sub question 2)

In phase 3, six groups of impacts of the soy industry have been described. With the help of literature and expert interviews, possible mitigation strategies for each impact type have been determined (table 3.1). In phase 4, the aim was to find out to what extent responsible soy companies in Paraguay implemented these, or additional, mitigation strategies and whether this has led to sustainable outcomes. The impacts and mitigation strategies were used to guide the interviews. Three soy producing companies engaged in responsible business have been selected as case studies. Their head offices and field offices were visited in phase 4 of the research process. For each company, semi-structured interviews were held with staff members from different managerial levels, including general managers, field officers, program managers, agricultural engineers, technicians and production employees. Whenever possible, participation in the daily functioning of the companies was sought in order to observe the companies' day to day activities and ask further questions. The interviews, participatory research and field observations allowed to develop a thorough understanding of the selected companies' practices and responsibility discourses. Furthermore, efforts were made to establish an open dialog with the managerial staff about their motivations to adopt responsible business policies and the challenges they are faced with. An analysis of the findings offers an answer as to how and to what extent the companies attempt to minimize their negative impacts and maximize their positive developmental outcomes. Special attention has been paid to analyzing the community development programs which were developed by each of the three companies as a means to

contribute to local development. In addition to data collection at the company level, for each case study, neighboring rural settlements were visited. Semi-structured interviews and FGDs were held with community members and village leaders in order to determine the impact of the soy companies at the local level and compare the corporate responsibility discourses with the perspectives of affected communities.

Table 3.1: Impacts of soy production and expansion and possible mitigation strategies

Impacts of soy production and expansion	Possible mitigation strategies
Growing inequalities in the distribution of wealth and resources	- Sustainable and inclusive community development programs*:* strengthening of local organizations, creation of infrastructure and services, capacity building - Provision of technical and financial support to increase smallholder productivity - Inclusion of smallholder participation in crop production for export or local market
Land concentration, conflicts and forced displacement	- Respect for existing formal and informal tenure arrangements - Halt soy expansion - Prior and informed consent, compensation
Aggravation of food insecurity	- Producing food crops for local/national market - Prevent land use change from food to feed crop production - Promote small holder food crop production.
Insufficient job creation, violation of labor rights	- Create enough employment opportunities for local populations - Adequate labor conditions*:* legal contracts, adequate salaries, labor union, safety, other benefits or services
Health threats and environmental pollution	- Legal compliance - Limit and control the amount and type of gm seeds, pesticides, herbicides
Deforestation and soil degradation	- Legal compliance - Prevent deforestation, conservation and reforestation projects - Avoid agricultural practices which generate land degradation and require expansion

Phase 5: Analysis of the findings (sub question 3)

In the final phase of the research process, the data which was gathered in the field was systematically structured and analyzed in order to determine the actual and potential contributions of responsible business to sustainable and inclusive development. First, the data was analyzed at the local level. Next, the findings were interpreted at a higher scale level by linking the results to theories from academic literature on the topic of responsible business.

3.5 Selection of the research area and respondents

Research areas

Based on information gathered in Asuncion, two soy production regions have been selected for further field research. In order to determine the impact of both soy production and expansion at the local level (phase 3), the choice was made to select one traditional soy production region, where soy has been planted since the 1970s, and one new soy frontier region, in which soy production began roughly throughout the past 10 years. For practical reasons, sufficient and suitable responsible soy companies for the case studies (phase 4) should be located in the two regions. San Pedro and Itapúa (figure 3.2 and 3.3) met these criteria and were designated by various NGOs and experts as interesting regions for research. San Pedro because of a particularly militant campesino population resisting soy expansion and Itapúa for its ethnically mixed population and relatively large share of small and medium-sized soy farmers.

Figure 3.2: Department of San Pedro

Figure 2.3: Department of Itapúa

Responsible soy companies

Through a thorough analysis of best practices within the Paraguayan soy sector, the present research aims to find out to what extent responsible business represents a solution to the negative impacts of the soy industry and contributes to sustainable and inclusive development. To determine which companies correspond to the best practices in the country, several criteria were established: RTRS membership; having in place a CSR policy; incorporation of the CSR values as an integral part of the company's core business structure; and willingness to participate in the research and have an open dialogue about the company's experiences. Based on these criteria three responsible soy companies have been selected. The choice of the first two companies was rather straightforward. Cytasa, located in Itapúa, was the only RTRS-certified producer in the country at the time of the field work, and DAP, operating in San Pedro, was in the process of becoming certified. On their respective websites, both companies state they strive to contribute to sustainable local development and view responsibility as a core value in their business activities. The general managers were contacted and agreed to take part in the

research. The choice for the third responsible soy company was somewhat less clear-cut. There is no list or database of all the soy production companies in the country which are not RTRS members, but adhere to their own CSR policies. The internet was searched and a snowball method was carried out among experts in Asuncion, who were asked for their advice on which companies to approach. The search revealed that soy companies engaged in responsible business form a minority in the country. Most of them are involved in external social or environmental programs, but do not seem to incorporate responsibility values into the company's main operations and business structure. Furthermore, various companies refused participation in the research. In the end, the choice was made to select the Cooperativa Colonias Unidas (CCU) as a third case study, based on the broad acknowledgement by a variety of experts about their serious efforts in the field of CSR, their participation in the RTRS standard setting process and their important role in the soy industry in Itapúa. In addition, the CCU is a cooperative, which is likely to represent different sustainability challenges and opportunities than the other two selected case studies, making it an interesting case to investigate. Chapter 9 gives a short description of the three selected responsible soy companies and their CSR policies. Within each company, interviews were first held with business persons at high managerial positions in order to gain greater understanding of the company's history, responsibility discourse and motivations to engage in responsible business. Subsequently, these respondents facilitated contact with field officers, program managers an lower staff members, who were interviewed to determine how and to what extent the discourses are materialized on the ground. Annex 4 contains a more detailed list of all the respondents with the date of interview

Local rural populations

In phase 3 of the research process, campesinos from the following rural settlements have been interviewed: Paraguay Pyahu, lima and Yaguareté Forest in San Pedro; and Obligado and Capitan Meza in Itapúa. The visits in San Pedro were conducted together with a representative of the NGO Cepag, who knew the region well and arranged meetings and FGDs with community members affected by soy plantations. The other visits were conducted individually. In these cases, I made appointments beforehand with community leaders, whose contact details I had obtained through the network of informants I established during the first month of field work in Asuncion.

For the case studies in phase 4 of the research process, interviews were held with campesinos living in the vicinity of the selected companies' soy fields. Miles and Huberman (1994) write that qualitative samples tend to be *purposive* rather than random. Purposive sampling means that informants are chosen consciously to shed light on the research questions. The main objective of the interviews with community members in phase 4 was to gather information on local perspectives on the practices of the selected responsible soy companies. I suspected that different groups within the local communities would have different perspectives because they are affected in different ways. In order to get a diversity of views I sought to conduct interviews with community leaders, beneficiaries of the companies' community development programs, campesinos with no direct ties to the company, and company employees. The broadest possible sampling was sought in the cases where conflicting opinions on the company's activity existed (this was mainly the case in communities affected by DAP).

Most of Cytasa's direct neighbors are large-scale soy producers, which do not qualify as affected rural communities in this research. The closest campesino community, Guarapay, is located at 5 km from the company's estate and was visited to conduct interviews for the case study. In this community all the community members have participated in Cytasa's community development program, therefore a distinction between beneficiaries and non-beneficiaries could not be made. Instead, five individual interviews with community members and a four-person group interview at the school were held, to determine the impact of Cytasa on local development and identify points of improvement. DAP has more estates and many more direct small-scale neighbors than Cytasa. Two of the company's closest neighboring campesino communities have been visited to conduct interviews: Colonia Barbero (bordering Fortuna estate) and Cañada Santa Rosa (bordering Ybycai estate). Furthermore a visit was undertaken to Aguerito where DAP provided assistance in the past. In total, 19 beneficiaries and 8 non-beneficiaries of DAP's community programs have been interviewed. As a cooperative, the CCU has a different business structure than the other two companies. The soy is not produced by the company itself, but by its associated member farmers. These mostly small and medium-sized farmers are at the same time the main beneficiaries of the CCU's assistance programs. For this case, the group of interviewed beneficiaries consists of 11 member farmers, interviewed in Obligado, Santa Rita and Pirapey. The group of interviewed non-beneficiaries consists of 6 campesinos in and near Pirapey, in the district of Edelira, whose landholdings border the soy fields of CCU member farmers. Figures 3.4 and 3.5 displays the location of the visited communities. Throughout the research, the names of rural informants have been omitted in order to guarantee their anonymity, which is particularly important when researching the soy sector, as the topic is known to give rise to conflict and violence.

Figure 3.4: visited communities in San Pedro

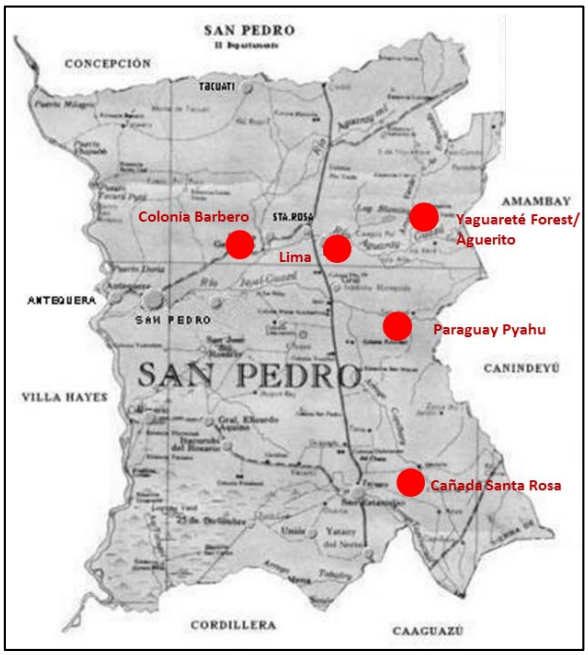
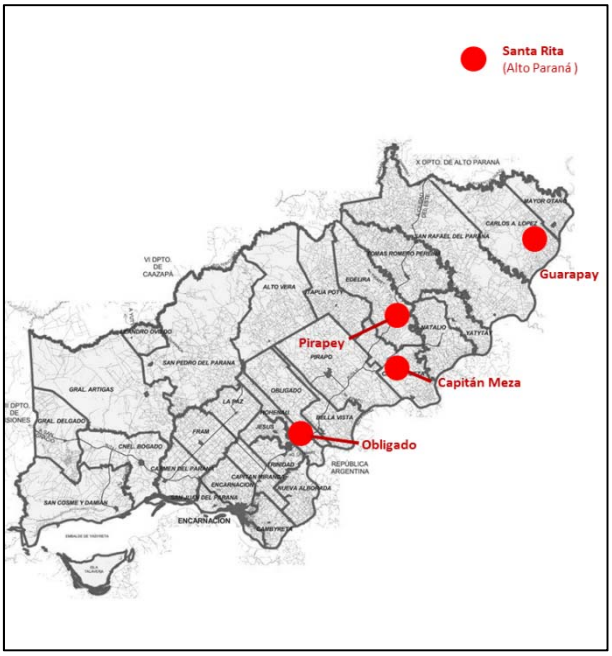


Figure 3.5: visited communities in Itapúa



Other respondents

Next to responsible soy company staff members and affected rural population groups, a variety of other respondents have been interviewed, both in Asuncion and in the research area. Care was taken to select informants from all the main stakeholder groups: the soy industry, civil society, governmental institutions and academics. The internet and the snowball method were used to select and get into contact with respondents.

3.6 Limitations

Although I was in close contact with various NGOs, I chose not affiliate myself with one organization in particular, but conduct the research on an individual basis. The reason for this is that the soy production is a highly contentious topic in Paraguay, and I wanted to retain a neutral position as an academic researcher. My independent position greatly facilitated contact with soy producers, who are generally wary and mistrustful towards NGOs. However, on the downside, conducting research independently meant I had to organize all my field visits myself, either by making use of the limited rural public transportation facilities, or through seeking voluntary, ad hoc assistance from local NGOs and informants, which obviously limited my options. Visiting the responsible soy companies and their field offices was never a problem, as the three selected companies all facilitated my transportation and accommodation. However, arranging visits to surrounding rural communities proved to be rather complicated and time consuming, and not all communities I had hoped to visit could actually be reached. As a result, the findings derived from the interviews cannot be considered representative for the communities at large, but rather portray perspectives from individual community members.

Another limitation of the research is related to the subjectivity of the information provided by the respondents. Especially the interviewees at higher managerial positions within the responsible soy companies are expected to be concerned with the company's image. It is probable that they have experience in the field of media and communication, and that they have concealed negative information or overemphasized positive aspects of their company's operations. To reduce this bias, efforts were undertaken interview lower staff members and affected communities.

A final limitation is the lack of sufficient, reliable and comprehensive secondary data. This is due to the limited body of empirical research and to the low levels of transparency regarding the processes of soy production and farmland acquisition. Most of the research on the soy sector in Paraguay is based on one statistical data source, namely the MAG (Ministerio de Agricultura y Ganaderia) agricultural census from 2008, combined with information from newspapers and media reports (Galeano, 2012; Borras et al., 2012a; Elgert, 2012). Although the soy industry has grown significantly since 2008, hardly any reliable data exists which permits to characterize the scale and scope of recent phenomena. Based on available information, expert interviews and critical judgment, efforts have been pursued to construct a comprehensive and balanced view of the current state of affairs. Still, the lack of data has to be taken into account when analyzing the findings.

CHAPTER 4: HISTORICAL AND POLITICAL CONTEXT

The present chapter presents a brief outline of historical and political developments which are relevant to understanding the context in which soy production and expansion in Paraguay take place today. An overview is given of the historical transformations of the country's rural economy in the post-war period and during the Stroessner dictatorship. Subsequently, attention is paid to characterizing the development of the campesino movement and political struggle for agrarian reform in the post-Stroessner era. The chapter ends with a description of the contemporary socio-economic realities in rural Paraguay.

4.1 War, dictatorship and transformations of the rural economy

In March 1865, after months of fighting with Brazil over their violent seizure of Uruguay, Paraguay's president Francisco Solano Lopez declared war on Argentina for refusing Paraguayan military access to the provinces of Misiones and Corrientes. Two months later, Brazil, Argentina and Uruguay (under Brazilian control) signed the Treaty of the Triple Alliance, which stated that a war was fought against the tyrant Solano Lopez, who was considered a threat to the stability in the entire region. The treaty specified that the war was not against Paraguay as a nation and that after the combat, the country's sovereignty and territorial integrity would be respected. The War of the Triple Alliance lasted five years, till Solano Lopez was killed by Brazilian troops in 1870. Despite promises that the territory would be left intact, Brazil and Argentina took over a total of almost 16 million hectares of land in Paraguay's border regions. The war had left Paraguay severely weakened demographically, territorially and economically. In the aftermath, Paraguay began looking for ways to rebuild the nation and to pay of its war debts. In order to raise funds, a law was enacted which authorized the state to sell public lands to whomever could pay within a year. Vast tracts of state-owned lands were then sold to private investors, many of which were of British, French, North-American, Brazilian or Argentinean origin. These investors developed large estates, or *latifundios,* geared at the extraction of wood, yerba mate and other natural resources destined for export. Poor peasant communities did not have the financial resources to compete and many lost their communal lands to the wealthy elites, ending up landless. This rural economic model, in which large latifundistas dominated land and markets, persisted throughout the first half of the twentieth century (McCown, 2010).

In 1954, military officer and right-wing Colorado Party leader Alfredo Stroessner became president of Paraguay after leading a successful army coup. His 35-year long dictatorship lasted till 1989 and marked an uninterrupted period of repression and violent political domination. No organization or form of association was allowed outside of official Colorado Party functions. Unions, peasant organizations, religious communities, and even the Catholic Church were viewed as suspicious and potentially dangerous (McCown, 2010). Under the dictatorship, the Instituto de Bienestar Rural (IBR) was established in 1963 as the national institution for land distribution and agrarian reform. The main function of this central government agency was to facilitate the transfer of state and private land to landless peasants and expand the agricultural frontier into previously uncultivated, mostly forested areas through the establishment of agricultural *colonies.* On paper, the new agricultural development policies established by the

IBR seemed beneficial for the country's rural poor. In practice, however, the same tradition of foreign and private interests prevailed. An important portion of the lands destined for redistribution to landless campesinos was illegally allocated to military officials, supporters of the dictatorship, Colorado Party leaders and foreign corporations. To allow for these favors, Stroessner repeatedly evicted campesinos and indigenous group who were living on the lands (Gilette, 2004; Hetherington, 2009). It is estimated that out of the 10 million hectares which were distributed through the IBR between 1960 and 1990, 8 million were passed to individuals who were not part of the target population of the land reform **(**Guere**ña, 2013**).

Stroessner's corrupt regime, combined with the promise of the Green Revolution (box 4.1), created a favorable climate for a new type of agricultural investment and led to a transformation of the county's agrarian structure. Large landowners which were operating in the country shifted their focus from purely extractive forestry activities towards the development of capitalist agribusiness firms. In addition, new land deals were signed with both national and foreign investors, mainly from Brazil, Uruguay, Spain, Italy, Germany and Japan. Most of these land deals were concentrated in the border regions with Brazil and Argentina and were dedicated the large-scale production of soy and livestock breeding (Galeano, 2012). The entrance of this new class of foreign ranchers and agro-industrialists brought new technology and capital Paraguay's to rural economy. After the Stroessner regime ended, the capital- and land-intensive agribusiness firm model continued to spread and gained importance throughout rural Paraguay. As a result, land became further concentrated in the hands of a relatively small, increasingly foreign, group of large landowners: in 2008, 77% of Paraguayan land was owned by 1% of the population, representing the most unequal land distribution in Latin America (Howard, 2009).

Box 4.1: The Green Revolution
The Green Revolution began at the end of World War II as part of the larger project of international development by the United States. In a speech, Truman declared that "improvement and growth" would occur as the result of greater application of "modern scientific and technical knowledge" aimed at increasing the production capacities of countries all over the world. "Greater production is the key to prosperity and peace". Developments in biotechnology, high-yielding varieties, modern production methods and the use of synthetic pesticides and fertilizers were (and by many still are) seen as the primary drivers of a Green Revolution, which was expected to lead to economic growth, food security and environmental protection (McCown, 2010).

4.2 The struggle for agrarian reform

The negative impacts related to the concentration and foreignization of land and to the spread of the agribusiness model have provoked severe discontent among Paraguay's rural poor. After the Stroessner regime ended in 1989, campesino groups and the Paraguayan left became increasingly organized and rights focused, debating whether those who had acquired land during the dictatorship had done so illegally (Hetherington, 2012). It was estimated that elite nationals and foreigners had illegally acquired over 64 percent of their lands through corrupt government allocations or outright seizure from peasants (Stadius, 2012). Many campesino's believe that this *tierra mal habida* (ill-gotten land) technically still belongs to them or to the state (Hetherington, 2012). With the objective of fostering an integral agrarian reform (box 4.2)

and halting the expansion of the agribusiness model, peasant groups throughout the country organized assemblies, meetings and protest gatherings; conducted road-blocks; burned plantations; and occupied large agricultural estates (García-López & Arizp, 2010). The rural social movement became structured around bottom-up peasant organizations such as the National Peasant Front (FNC), the Paraguayan Campesino Movement (MCP) and the Organization for Land Struggle (OLT) and around several NGO's (García-López & Arizp, 2010).

Box 4.2: Agrarian reform as defined by civil society organizations in Paraguay

Agrarian reform is a process of transformation and modification of the current agricultural structure, which implies a legal and institutional reorganization and promotes sustainable agricultural development. It is integral and has several components:

- Changes in the tenure and land ownership system and greater equity in the distribution of land.
- The adoption of comprehensive government policies aimed at improving the living conditions of the campesino population through infrastructure investments and the provision of adequate health, education and communication services.
- The adoption of policies to reactivate and strengthen agricultural and industrial production among small and medium-sized producers. Such policies could include the provision of credit, crop insurance, technical assistance, production services, the development of supply chains, market access, the development of clean and appropriate technologies, tax reforms, etc. The policies should also help to protect and ensure food sovereignty, which means that the rural population groups in question remain in control of what is produced and what is consumed (Martens et al., 2010).

Despite being widespread, peasant movements to induce agrarian reform have largely been weak or ineffective. Hopes for improvements rose when leftist President Fernando Lugo, popularly known as "president of the poor", took office in April 2008 after more than 60 years of right-wing Colorado Party rule. A central component in Lugo's electoral campaign was the promise of comprehensive agrarian land reforms through a redistribution of the tierra mal habida. However, Lugo and his government ran into various legal and bureaucratic barriers which impeded the reform process. The legal system in Paraguay is slow and it revealed extremely difficult to determine and prove which lands could legally be expropriated due to the long history of repeated sales since the lands were first taken and due to inconsistencies and ambiguities in the law. In fact, a focus on the legal aspects of land tenure actually left the campesinos, with their precarious legal position, vulnerable vis-à-vis the powerful large-landholders and their well-paid lawyers (Hetherington, 2012). In addition, Lugo experienced severe counter-pressure from oppositional stakeholders. The Colorado Party, who maintained a majority in the Paraguayan Congress, frequently blocked Lugo's proposals for new land reform legislation, thereby remaining loyal to the vested elite of large landowners and agribusiness corporations (Stadius, 2012). Furthermore, in October 2008, Brazilian president Lula da Silva passed a decree which defines "foreign aggression" as any threat or "hostile prejudicial act against Brazilian sovereignty, territorial integrity or the Brazilian people", whether at home or abroad (Mercopress, 2008). Da Silva's decree represented an obstacle to the realization of the promised land reforms, as vast tracts of land in Paraguay were in the hands of Brazilian investors and Lugo could not afford to initiate a confrontation with Brazil; the third largest

importer of Paraguayan goods and their partner in the Itaipú Hydroelectric dam project (McCown, 2010).

As the promised land reforms failed to materialize, a growing number of campesinos became impatient and frustrated and the president quickly lost their support, while at the same time gaining powerful enemies on the side of the elites. As a peasant and activist explain in an interview: "Lugo is alone, he is at the top, but he is alone. We need change now, and we are going to have to make it happen ourselves" (Howard, 2009). By 2010, radical organizations, such as the Liga Nacional de Carperos (LNC), were rapidly attracting members and organized large-scale land invasions which got increasingly violent (Hetherington, 2012). To protect themselves against these 'invaders', it became common for large landowners to hire teams of private armed guards to watch over their fields 24 hours a day (Abramson, 2009). The conflict exploded on June 15th 2012 in Curuguaty with a violent police-campesino clash. Around 150 *carperos* (landless campesinos living in tents) refused to leave a forestry reserve owned by the liberal Colorado Party official Blas Riquelme, and which the carperos claimed as tierra mal habida. The landowner asked the government to evict the peasants, which resulted in an eight-hour gunfight, killing 11 campesinos and 6 police men. About 80 more police and civilians were wounded (Stadius, 2012). A powerful lobby group, the Union de Gremios Productivos (UGP), representing Paraguay's soybean industry jumped on the occasion and demanded that Lugo be held accountable for the incident (Hetherington, 2012). In a process which lasted less than 24 hours, and in which the president was given just two hours to defend himself, Lugo was voted out of office on June 22nd. That same day, Colorado Party leader Federico Franco took his place (the Economist, 2012). The international community was appalled at the turn of events. Paraguay's neighbors called Lugo's impeachment a coup d'etat and suspended the country from the South American trade bloc Mercosur and from the Union of South American Nations (the Guardian, 2012). Many suspect the Curuguayty Massacre was a carefully planned plot to bring the Colorado Party, with its strong ties to the agribusiness sector, back into power. Federico Franco remained in office until businessman Horacio Cartes, who is widely accused of money laundering, cigarette smuggling and drug trafficking, was elected president in April 2013, after a campaign marked by allegations of vote-buying. Cartes' victory represents a continuation of the decade-long Colorado Party domination (New York Times, 2013).

4.3 Contemporary poverty and inequality in rural Paraguay

In spite of strong rural-urban migratory flows over the past decades, Paraguay continues to be a largely rural country and its economic development is based mainly on the export of soybeans and beef. Thanks to the agriculture and livestock sector, the Paraguayan economy grew at a record rate of 14 percent in 2010, the highest in Latin America and third highest worldwide (Guereña, 2013). Nevertheless, the country remains behind most other countries in the region in terms of human development. On the United Nations' Human Development Index, Paraguay ranks 111th (out of 186 countries). In South America (excluding Central America), only Guyana scores lower (UNDP, 2013b). Much remains to be done to reach the Millennium Development Goals by 2015: access to basic education needs to be provided for around 10% of Paraguayan children who are now not enrolled in first and second degrees in school; maternal mortality rates are still very high (112 women out of every 100,000 die in childbirth); and over 2,5 million people (almost half the population) do not have access to clean drinking water. High levels of

poverty and inequality represent important challenges for Paraguay, and are seen as significant barriers which prevent the country from reaching its national development objectives (Itriago, 2012). Although the share of Paraguayans living under the poverty line decreased from 41.2 to 32.4 percent between 2007 and 2011, the share of those living in extreme poverty only decreased from 23.2 to 18.0 percent during that same period. An analysis of data from the Permanent Household Survey conducted by the Dirección General de Estadística, Encuestas y Censos (*DGEEC)*, reveals that poverty levels are significantly higher among rural dwellers than among the country's urban population. In 2011, poverty affected almost half of Paraguay's rural families and a quarter of the urban households. When looking at the figures for extreme poverty the gap is even larger: the proportion of people living in extreme poverty is almost three times higher in rural areas (29,6 percent) than in urban areas (10 percent) (table 4.1) (DGEEC, 2011). A comparison of Gini coefficients reveals that Paraguay has the most unequal land distribution in South America (Gini coefficient of 0,94 in 2008) (Guereña, 2013) and the second most unequal income distribution (Gini index of 0,53 in 2009), after Colombia (CIA, 2009).

Table 4.1: Levels of poverty and extreme poverty in Paraguay, 2011

	Inhabitants	Poverty (%)	Extreme poverty (%)
Total country	6,464,648	32.4	18.0
Urban	3,823,364	23.9	10.0
Rural	2,641,284	44.8	29.6

Source: DGEEC, 2011

The persistent rural poverty is closely tied to the historically created disparities in access to land. Rural poverty is concentrated among families with less than 10 hectares, and studies point out a correlation between size of landholdings and poverty levels in rural areas (Guereña, 2013). The inequalities can further be explained by analyzing the country's dual agricultural model. Similar to the experiences of other Latin American countries, political developments and transformations of the rural economy over the past century have resulted in a two-tier model of agricultural production in which two sectors coexist. One can be characterized by small-scale family farmers, or campesinos, which grow food crops on plots smaller than 20 hectares. Their produce is consumed for subsistence and any surplus is sold on the local market. The small-scale agriculture sector is marginalized and lacks access to credit and production resources necessary to successfully engage in commercial activities. The sector has little capital or land, but comprises the largest number of producers in agriculture in the country. Out of a total of 289.666 producers in 2008, 83.5% had farms of less than 20 hectares. The other sector is composed of large-scale agribusiness companies which produce food crops and beef for export. This sector concentrates the country´s agricultural land and other production resources (Itriago, 2012). In addition, researchers point out that public policy is strongly biased towards agribusiness, incentivizing its expansion through subsidies, low taxation levels and other fiscal advantages. The profound imbalances between the two agricultural sectors is commonly perceived as perpetuating inequalities and forming an obstacle to inclusive rural development. Guereña **(**2013) claims that the growth of the agribusiness sector, notably the soy industry, has come at the expense of small-scale farmers who cannot compete with the agro-giants and are increasingly marginalized. Yet, paradoxically, she argues, it is these small farmers who are the key to poverty reduction and the development of sustainable agricultural production strategies.

CHAPTER 5: SOY PRODUCTION AND TRADE IN PARAGUAY

This section characterizes the soy industry at national level and situates Paraguay within the global soy value chain. It describes the importance of the soy sector for Paraguay´s economy and analyses the role of the soy industry in the foreignization of land. Furthermore, attention is paid to the drivers of soy production and the main actors involved in the soy value chain at national level.

5.1 Paraguay and the global soy value chain

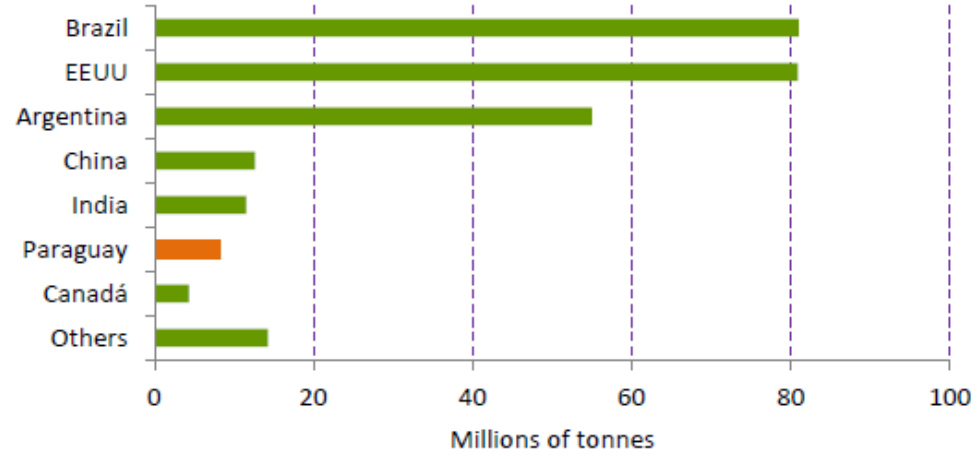
Paraguay is located in the heart of the world's main soy production region. In 2003, the multinational company Syngenta, involved in the development and commercialization of genetically modified (GM) seeds and agrochemicals, published an advertisement of a map that shaded parts of Brazil, Argentina, Paraguay, Bolivia and Uruguay and called it "The United Soy Republic" (figure 5.1). The map was accompanied by the text "Soy knows no boundaries". The advertisement has been heavily criticized by opponents of the soy sector, who view it as a reflection of the patronizing and neocolonialist position adopted by the large agribusiness companies operating in this region (Grain, 2013).

Figure 5.1: The United Soy Republic

Source: Grain 2013

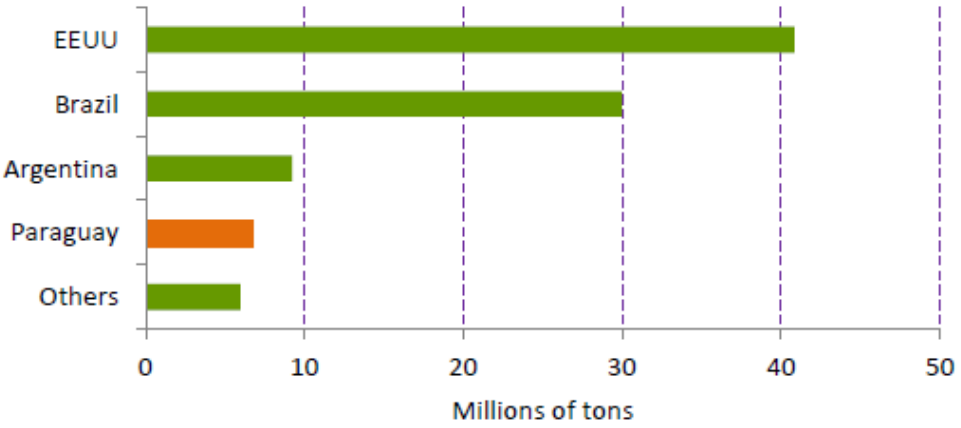
Combined, the countries of the 'United Soy Republic' produce just under 160 million ton of soy per year, which represents 55 percent of the world's total soy production (USDA, 2013). The top five soybean producer countries are Brazil, the USA, Argentina, China and India; all geographically expansive and part of the G-20 major economies. Small, landlocked Paraguay ranks sixth in the world in terms of total annual soy production, and fourth in terms of soy exports (figures 5.2 and 5.3).

Figure 5.2: Principal soy producing countries, 2012/2013



Source: Guereña, 2013

Figure 5.3: Principal soy exporting countries, 2012/2013

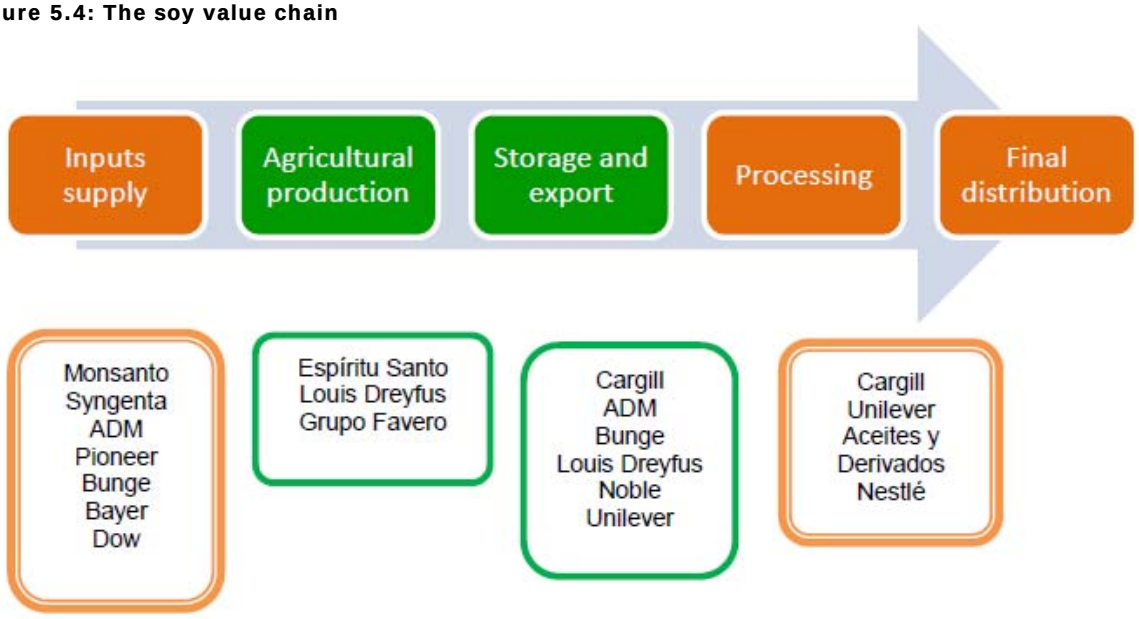


Source: Guereña, 2013

A recent study by Oxfam distinguishes five phases in the global soy value chain, two of which are essentially carried out in Paraguay (in green in figure 5.4). The first phase of the value chain involves the supply of agricultural inputs, such as seeds, agrochemicals and machinery. In the case of Paraguay, these inputs are not manufactured in the country, but imported by large multinational corporations. The second phase is the production of soybeans, which takes place in Paraguay by farmers of varying sizes, from small family-sized farms of less than 20 hectares to large landowners. The third phase also happens in Paraguay and consists of the sale of soy beans to multinational corporations who store the soy in silos and arrange the transportation of the grains by river to neighboring countries. The fourth phase of the soy value chain involves the processing of the grains. A crushing process produces soybean meal (also called pellets), oil, and fibers, which can be sold in their raw form or further refined. This phase takes place in Brazil, Argentina, or in the final destination region. Currently, around 70 percent of Paraguayan soy is exported as grains, but ADM, Cargill, Louis Dreyfus, among others, are now constructing new processing plants to increase the capacity to process soy within Paraguay itself. In the last phase, the end products are distributed to the consumers (Guereña, 2013). According to information from the Paraguayan Chamber of Grain and Oilseed Exporters and Traders

(CAPECO), the main destination for Paraguayan soy is the European Union, which imports 47 percent of the soybeans produced in the country (CAPECO, 2013). Around 66 percent of the soy produced in the world, and 93 percent of the soy imported by the Netherlands, is used for animal feed. The remainder is used to make vegetable cooking oil, food products, industrial inputs and biofuel (Dutch Soy Coalition, 2011).

Figure 5.4: The soy value chain

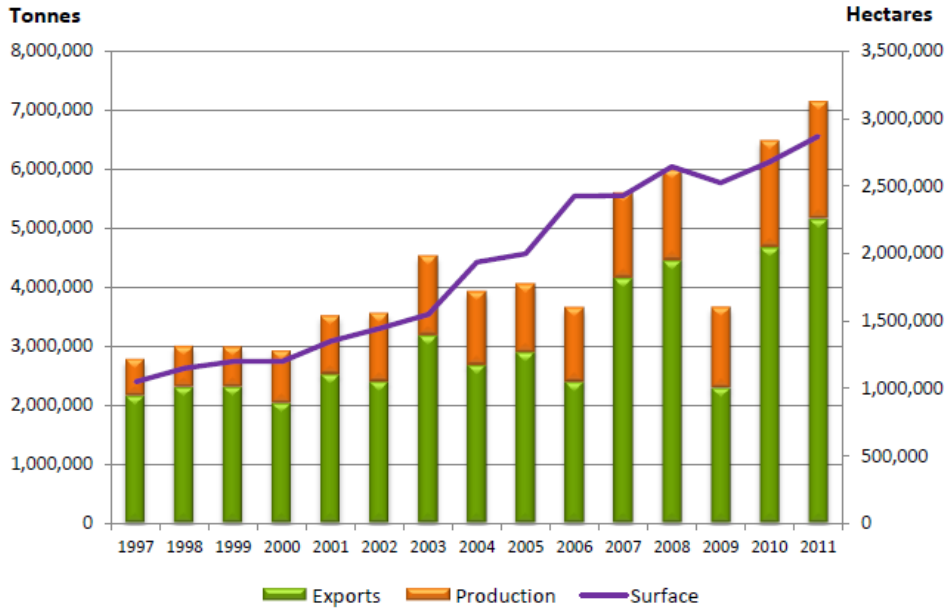


Source: Guereña, 2013

5.2 Growth of the soy industry in Paraguay

Soy production in Paraguay has increased exponentially over the past two decades. Total annual production volumes went from 2,8 million tons in 1997 to 9,3 million tons in 2013; a more than threefold increase, making Paraguay the world's fastest growing producer of soybeans worldwide (Abramson, 2009). Figure 5.5 shows that there have been some irregularities in yields in recent years. The harvest in 2009 was particularly low due to climatic conditions, mainly drought. In 2013, on the other hand, a record harvest was produced, which was well above predictions. In line with the increasing production volumes, the area of land dedicated to soy cultivation expanded from just over 1 million hectares in 1997 to almost 3,2 million hectares, an area the size of Belgium, in 2013 (CAPECO, 2013). The sector is expected to further augment in importance in the coming years.

Figure 5.5: Evolution of crop surface area, production and export of soy in Paraguay, 1997-2011



Source: Guereña, 2013

Soy is Paraguay's largest export product and one of the most important sectors for its macro economy. Although 40 percent of the population still lives in poverty, the country's GDP grew by 15 percent in 2010, which was the second largest economic growth rate in the world (Hobbs, 2012). It is estimated that the soy industry alone accounted for more than three quarters of this growth (Elgert, 2012). According to data from CAPECO, the grain and oilseed sector represents 81 percent of agricultural GDP and 55 percent of the income received from exports. Furthermore, the sector attracts 3 billion USD worth in investment and creates 250.000 jobs. The strong growth of the soy sector over the past ten years is for an important part due to the introduction of genetically modified seeds. Paraguay has the largest proportion of cropland dedicated to the production of genetically modified seeds in the world (66 percent), followed by Argentina, Uruguay and the USA. Although the Paraguayan government legalized the production of GM soy in 2004, this crop type was already illegally being produced throughout the 1990s, using contraband seeds from Argentina and Brazil. Nowadays, an estimated 95% of all soy cultivated in Paraguay is Roundup Ready (RR), which is genetically modified to resist the application of glyphosate, the active ingredient of the herbicide Roundup. The seeds and herbicide are patented by the Multinational Corporation Monsanto (Guereña, 2013).

5.3 Soy and the foreignization of land

In studying the soy industry in Paraguay, attention should go out to analyzing land acquisition by foreign investors, as the degree of foreign land ownership for the cultivation of this crop is particularly high compared to other important agricultural products (table 5.1). At country level, the majority of all agrarian firms are owned by Paraguayan nationals, but foreign firms are rapidly gaining ground, especially among middle and large sized firms. In 1991, around 14% of all agricultural exploitations larger than 1000 hectares were owned by foreigners. By 2008, this number had increased to 24%. At regional level, a far higher degree of foreign presence can be

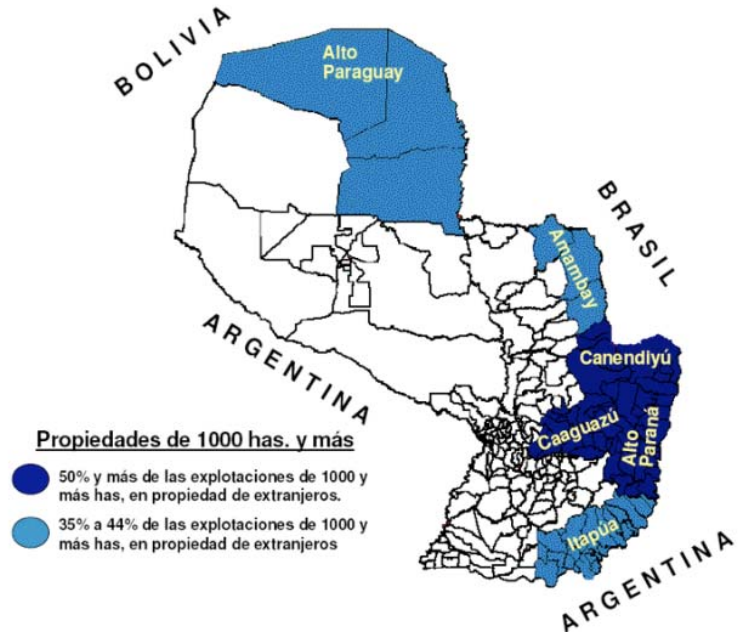
observed in certain frontier areas. In Caaguazú, Alto Parana and Canindeyú, three departments close to the Brazilian border, over 60% of all agricultural firms are owned by foreigners (Galeano, 2012)(figure 5.6). According to the international NGO Grain (2011), around 19 %, or 8,000,000 hectares, of Paraguay's total land area has been sold or leased off to foreign investors for food and feed production.

Table 5.1: Degree of foreign land ownership for four agricultural products in 2008

	Total amount of ha./cattle in 2008	Percentage owned by foreign investors	Total amount of ha./cattle owned by foreign investors
Soy	2.462.510 ha.	64%	1.576.006 ha.
Corn	858.046 ha.	54 %	463.345 ha.
Wheat	381.028 ha.	61 %	232.427 ha.
Livestock	10.496.641 cattle	18 %	1.889.395 cattle

Source: Data from Galeano (2012), own calculations

Figure 5.6: Departments with the largest degrees of foreign ownership among agrarian firms > 1000 ha

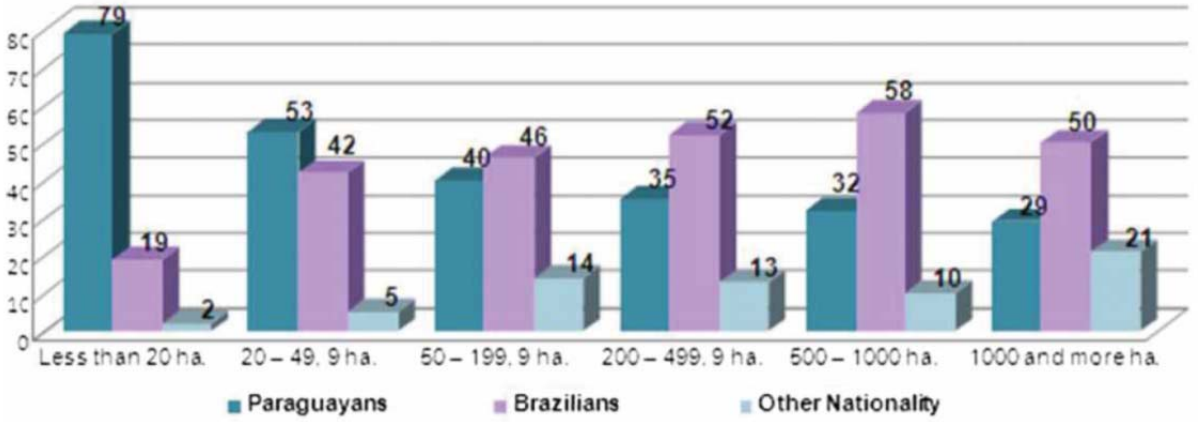


Source: Galeano, 2012

Contrary to foreign land acquisition in Africa, where actors from China, India, South Korea and the Gulf States are the main investors in land, large-scale land acquisition in Paraguay is characterized by its intra-regional nature. The key foreign investors in the country are companies from Brazil, but companies from Argentina and Uruguay are also present, albeit in smaller numbers (Borras et al., 2012a). Since the 1960's, thousands of Brazilians have immigrated to Paraguay and continue to do so. It has been estimated that currently these '*Brasiguayos*' amount to 10% of Paraguay's total population, and own approximately 5 million of the 8 million hectares of land which are in foreign hands (Itriago, 2012). They are attracted by

the low prices of land in comparison with Brazil, by the 'availability' of land, and by increasing soy prices (Elgert, 2012). Looking specifically at the soy sector, it is interesting to note that 80 percent of the land cultivated with soy belongs to farms larger than 200 hectares and 63 percent to farms exceeding 500 hectares. At the same time, figure 5.7 shows that foreign investors are predominant in medium and large soy farms: among farms smaller than 20 hectares, the level of foreign ownership is 21%; on farms larger than 1000 hectares, 71% of the landowners are have a foreign nationality. These findings show that for land under soy cultivation there is a correlation between the foreignization and the concentration of land. Figure 5.5 further highlights the important role played by Brazilian investors in the soy sector. Not only is this group dominant among foreign soy producers, but also among all soy farmers together. Brazilians represent over fifty percent of all soy producers owing 200 hectares of land or more. The remaining foreign investors come from other countries in Latin America, from European countries (mostly Germany and Spain) and from Japan (Galeano, 2012). The foreignization of land is has left a noticeable mark on the demographic structure and characteristics of areas with a high degree of foreign presence. Santa Rita for example, a town of around 25.000 inhabitants in the major soy production department of Alto Parana, is almost completely inhabited by Brazilians. Portuguese is the standard language spoken on the streets and there are various Brazilian shops and restaurants which set the scene.

Figure 5.7: Percentage of hectares cultivated with soy, by nationality of producers and farm size, 2008



Source: Galeano, 2012

The 'Brasiguayos' are notoriously considered hard workers with an entrepreneurial mentality who continuously seek to expand their landholdings, without much regard for national rules and regulations. They are often being contrasted to Paraguayan campesinos, who are depicted as more laid-back and less well suited to the highly competitive environment of export crop production, even by Paraguayans themselves. "*The Paraguayan does not want to work*", is a frequently heard expression to explain the domination of Brazilians in soy cultivation regions. By conceptualizing such a clear separation between the two groups, Brazilian supremacy is justified and becomes accepted as an inevitable consequence of Brazilian presence. A medium-sized Paraguayan soy producer from Itapúa describes how 40 years ago Brazilian and Paraguayan farmers alike acquired small plots of forested land in the region, which they deforested and turned into soy fields. But times were rough, as there were hardly any roads, services or machinery available. The farmer recalls how under the difficult conditions, many of the Paraguayan colonizers sold their land to the Brazilians and moved elsewhere. The Brazilians

took advantage of the situation and bought all the land they could get. He explains his personal experience in box 5.1.

Box 5.1: Experience of a Paraguayan soy farmer

"I bought some land too, but at a very slow pace. I did not envision it would become so expensive over the years. The Paraguayo does not hurry. Now there is hardly any land available, because the Brasiguayos bought everything. They have a different mentality. My Brazilian neighbor and I both came here in the same period, and started with the same amount of land, around 10 or 20 hectares. Now I own 300 hectares, but he has 1500 hectares and the latest generation machines".

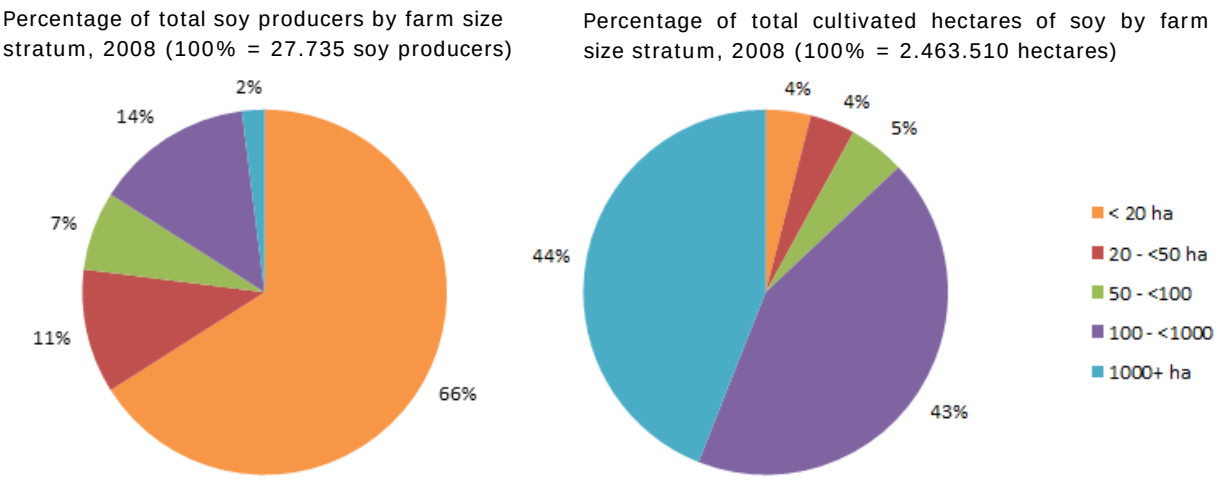
- Medium-sized Paraguayan soy producer, Obligado, Itapúa

5.4 Stakeholders

The key stakeholders involved in soy production and trade in Paraguay are soy producers and the companies which purchase the soy from the farmers and arrange further storage, transportation and exportation. The first group, as has just been described, consists for an important part of foreign, mainly Brazilian, entrepreneurs. One of the largest and most known Brazilian producers is Tranquilo Favero, who owns around 140.000 hectares of cultivated soy lands throughout the country (Guereña, 2013), and it is estimated that the total size of all his landholdings in Paraguay exceeds 1 million hectares (Latinamerica Press, 2012). Favero is popularly known as the 'King of Soy' and is one of the most extreme cases. Most soy producers are considerably smaller. In fact, 66 percent of all soy farmers in the country own 0 to 20 hectares of land and are mainly of Paraguayan origin, while just 16 percent of all soy producers have landholdings exceeding 100 hectares. However, the cited group of smallholders only owns 4 percent of the total land area dedicated to soy, whereas the 18 percent medium-large and large sized farmers own 87 percent of the land under soy cultivation (figure 5.8). These findings reflect the highly unequal land distributions in the country.

Soy producers have varying origins. Paraguayan farmers in the lower strata in terms of size of landholdings are usually descendants of rural families. Paraguay has a young, growing and a highly rural population: 61,3 % is younger than 30 (UGP, 2010) and 41% of the total population lives in rural areas (DGEEC, 2011). According to the traditional system, when the sons in rural areas grow up they seek land to produce and live with their family. They increasingly turn to mechanized soy production for export (often combined with subsistence farming) as this is perceived as their only profitable option. Small or medium-sized Brazilian or other foreign producers are either descendants of immigrant families, or first generation immigrants who, in many cases, previously owned land in Brazil, but sold this in order to buy cheaper, fertile land in Paraguay. Concerning middle and large sized soy producers, there are roughly 2 types. The first type are farmers which started off small, but accumulated various plots of land over time. The other type are large, often foreign, agribusiness companies or investment funds, with a variety of international shareholders, which buy or lease large plots of land at once.

Figure 5.8: Number of soy producers and cultivated hectares, by farm size, 2008



Source: MAG 2008 data, own elaboration

Next to the soy producers, multinational companies play a key role in the soy industry. The American commodity traders ADM, Bunge and Cargill and the French company Louis Dreyfus control an important part of the production and procession chains in both exporting and importing countries. They are known as the 'ABCD' or the 'big four of the soy value chain (Dutch Soy Coalition, 2011). In Paraguay they are generally referred to as 'the multinationals' and it is estimated that they manage around 80 percent of all the soy produced in the country (Speranza, personal communication, 26-06-2013). The companies own branch plants throughout soy production regions where the soy is purchased and stored in silos before it is exported. The multinationals have access to their own infrastructure and transportation including fleets of vessels, ports and processing plants. Apart from the export, logistics and marketing of the grains, the companies are also involved in the import and supply of agricultural inputs, such as seeds, fertilizer and pesticides. Combined, the four multinationals accounted for 2203 million USD worth of soy exports in 2008 (Palau et al., 2012). Other important multinational companies operating in the agribusiness sector in Paraguay are Basf, Bayer, Conti Group, Dow Agrosciences, Nestlé, Noble, Parmalat, and Unilever. Monsanto and Syngenta market their transgenic seeds and agrochemicals, through their associate companies Agrofertil, Dekalpar and Agrosan. This small group of powerful actors dominates the soy value chain through their control over the necessary inputs and outputs for production, processing and marketing. They determine the production model and play a decisive role in Paraguay's economy (Rojas Villagra, 2009). Further groups of stakeholders which are involved in or affected by soy production and expansion are local and national governments, NGOs, financial institutions, the real estate sector, consumers, local campesinos and indigenous populations. Due to the diverse range of actors involved, issues concerning the soy industry often become highly politicized and competing claims emerge between different groups of local and long distance actors.

5.5 Drivers

The growth of the soy industry in Paraguay over the past years can be explained by a combination of external, global drivers and internal, national factors. Firstly, is related to the

process of globalization and the increasing worldwide demand for cheap food crops. Growing populations, increasing urbanization rates and changing diets are pushing up global food demands, while the limited availability of water and arable land, as well as the expansion of biofuel production, are posing food supply problems (Zoomers, 2010). Notably the global food crisis and the broader financial crisis of 2008 gave rise to widespread uncertainties and fuelled the trend towards large-scale land acquisition for outsourced production of food and feed crops. Investors from both Northern and Southern countries rushed to take control of farmland in Africa, Asia and Latin America, claiming their actions necessary to ensure food security (Grain, 2010). However, some say food security is merely used as an excuse by foreign investors to justify their often unsustainable practices (Grain, 2010b). According to the international NGO Grain, much attention in the land grab debate is focused on the involvement of states, while in fact the lead investors are not countries or governments, but large corporations and joint ventures. Although governments may be facilitating the land deals, private companies get the control of the land, and do not have the same interests as governments: "Private investors are not turning to agriculture to solve world hunger or eliminate rural poverty. They want *profit,* pure and simple". Globalization, the spread of the neoliberal model and the increasing demand for food now make it possible to make big money from investments in farmland (Grain, 2010).

Next to external drivers, the historically formed inequality of land distribution as a legacy of the Stroessner regime is an important factor in shaping land acquisitions for soy expansion today. During the dictatorship, vast areas of land were illegally allocated to friends of the regime, thereby evicting indigenous groups and campesinos who happened to be living on these lands. Rural groups who stood up for the protection of their land rights were forcefully relocated to undesired plots of land by the government or subjected to attacks, death threats and harassment by police forces or armed civilians working for landowners and private companies (Duckworth, 2012). By the end of the dictatorship in 1989, Stroessner's land-use practices not only left large groups of people landless, but had also created an obscure land ownership situation with fake land sales and duplicate and triplicate titles to a single pieces of land; a situation which no doubt contributed to the complexity of contemporary land deals and the concentration of land in the hands of a few wealthy agribusiness companies (Stadius, 2012).

While corruption and lack of law enforcement facilitated the illegal seizure of large parcels of land, neoliberal policies and market liberalization further contributed to creating a favorable climate for investment in the soy sector. The Paraguayan government supports large agribusiness firms by imposing few regulations to conform to, charging low taxes for soy exports and providing fiscal incentives to foreign investors. An Argentina-based real estate company promotes land sales in Paraguay by referring to the country's "freedom from bureaucracy" (Elgert, 2012). Likewise, the soy production company DAP explains their choice to invest in Paraguay by stating on their website that "no restrictions to foreign capital flows and land ownership and one of the lowest corporate-tax structure in the region are a few of country's underlying attractiveness" (DAP, 2013). Furthermore, under its development policy, the government took over fifty million dollars of loan, principally from the World Bank, to build hundreds of kilometers of roads, providing easy access to cheap and fertile land for Brazilian immigrants (Duckworth, 2012). The combination of the appealing physical characteristics of the soil and the country's advantageous institutional framework appears to generate an effective competitive advantage for Paraguay in terms of attracting agricultural FDI, vis-à-vis its neighboring countries (Elgert, 2012).

CHAPTER 6. INSITITUTIONAL FRAMEWORK

This chapter elaborates on the role of public institutions in controlling the processes of soy production and expansion and fostering rural development. Insight is provided in the functioning of the main institutions involved in farmland distribution, agrarian reform and environmental protection. Some of the main laws and policies are highlighted and attention is paid to issues of institutional incapacity, corruption and political favoritism towards the agribusiness sector.

6.1 Ministry of Agriculture and Livestock (MAG)

The Ministerio de Agricultura y Ganaderia (MAG) is in charge of drafting the national agrarian policy and is the main state institution responsible for rural development in the country. According to Andres Wehrle, vice-minister of agriculture during the Lugo presidency, the MAG has traditionally focused on stimulating cattle ranching and large- scale cash crop production, while largely ignoring the peasant sector of the agricultural economy. Various programs and projects related to small-scale family farming exist, but they have been insufficient to effectively reach the poorest population groups and foster inclusive rural development (Wehrle, personal communication, 27-05-2013). Itriago (2012) calculated that public investment in family farming represented 5 percent of public expenditure in 2009, and that technical assistance programs and agricultural credit respectively reached only 12,4 and 15 percent of the farmers with less than 20 hectares in 2008. In line with the vision of many NGOs, Wehrle advocates for the development of a differentiated public policy specifically designed to meet the needs of campesinos. He recognizes that there exist structural inequalities between large landholders and peasants regarding their possibilities to develop themselves at their own scale level, and that without stronger support for the campesinos the struggle for land and resources will remain highly unequal. Yet, those in power at the MAG at the moment have strong ties with the agribusiness sector and do share this vision. Invernizzi, the vice-minister which replaced Wehrle after the coup, holds a much more liberal view. He claims that state assistance during the Lugo presidency has made campesinos passive and suggests that the main cause of poverty is their own lack of will and effort:

"The Paraguayan campesinos lost a lot of dignity. Now they have become a people of beggars who wait for the state to give them everything. We have to make them understand that they really have to work in order to produce, that they have to put effort into it. Many people in Africa die for same reason. They are not capable of working" (Invernizzi, personal communication, 28-06-2013).

By systematically conceptualizing campesinos as lazy, second class citizens, leading groups in Paraguayan politics reduce rural poverty to productive factors and ignore the structural forces which generate and perpetuate inequalities. If the agrarian policies of the new government will be formulated according to this one-dimensional vision, without ample attention for a redistribution of wealth and land, equal access to adequate public services and greater protection of human rights, there is little hope for inclusive rural development in the near future.

Another problem which limits the poorer segments of society from benefiting from state assistance through the MAG is the widespread corruption within the institution, which seems to be a characteristic of Paraguayan politics in general. According to Wehrle, who spent several years working for the ministry, the whole institutional structure is built up in such a way that corruption can go unnoticed by controls. The corruption mainly benefits the politicians themselves and transnational capital, which together form such a powerful group that programs to reduce corruption have had little effect (Wehrle, personal communication, 27-05-2013). Furthermore, since the beginning of the 1990s MAG has experienced a weakening of its administrative capacity due to a restructuring of the agrarian public sector. Part of the functions of the ministry became attributed to a range of newly formed, autonomous institutions without an effective integrating framework (Pereira Fukuoka, 2011). The main institutions which were created during this process were:

- The Environmental Secretariat - SEAM (2000)
- The National institute of rural development and land – INDERT (2003)
- The National Service for Animal Quality and Health – SENACSA (2004)
- The National Service for Plant and Seed Quality and Health - SENAVE (2004).
- The National Forestry Institute – INFONA (2008)
- The Paraguayan Institute of Agricultural Technology – IPTA (2010)

SEAM, INDERT and SENAVE are the institutions most closely involved in processes related to soy production and expansion. Their functions will be studied in the subsequent paragraphs of this chapter.

6.2 Institutes for land distribution and agrarian reform (IBR/INDERT)

In 1963, under the Stroessner regime, the Instituto de Bienestar Rural (IBR) was established as the national institution for land distribution and agrarian reform. Its principal function was to facilitate the transfer of public and private land to campesinos. The Congress provided a budget, with which the IBR funded the purchase or lease of land and the administration, establishment and maintenance of agricultural colonies (Gilette, 2004). In 2003, the IBR was replaced by INDERT (Instituto de Desarollo Rural y de la Tierra). INDERT (like the IBR in the past) has to operate according to the land reform bill, or *Estatuto Agrario.* The first version of the Estatuto Agrario was adopted in 1963 and consisted of a body of laws which consolidated the land rights of the Paraguayan people, dictated the conditions and requirements under which the reform process was to be carried out, and shaped land policies and practices throughout the second half of the 20th century (Nagel, 1999).

Hetherington (2009) analyses the land tenure system in Paraguay and explains how a loophole in the system has allowed large investors to privatize campesino lands that were already considered private under the Estatuto Agrario. According to Hetherington's findings, campesinos in the colonies own and trade land in three ways: as *mejoras* (improvements), *derecheras* (use rights), or *tıtulos* (titles). They can be placed along a continuum, with the titulo being the most valued form of property. During the Stroessner land reform which began in the 1960s, campesinos could participate in the agricultural colonization by laying an ownership

claim on a tract of unoccupied or non-intensively used land. Once the colonies were established, land that was being used could be sold among campesinos or other landholders at informally arranged prices. What is actually being bought is not the land itself, but the human improvements of the land, such as clearings, wells, structures and gardens. Although the colonization process and trading of these mejoras was authorized by the IBR, the land ownership remains informal from a legal perspective. From the beginning, the IBR promised to provide legal state recognition to the settlements acquired by the pioneers. However, establishment of many colonies was complicated, because although the land colonized was previously unused, if often did belong to someone. Expropriation was not always possible, therefore many colonies remained unofficial. In the colonies where expropriation did happen, the IBR issued nontransferable occupancy permits, which became known as derecheras, to solicitants. The permits represent the first legal documentation of campesino land use rights, thereby raising the value of the plots. As part of an attempt to limit campesino "self-dispossession", selling derechas is technically illegal. However, in practice it was often carried out as a transfer of rights instead of as a sale, with a local IBR representative as witness. This process of illegally selling derecheras continues till today, now in complicity with corrupt INDERT officials (Riquelme, personal communication, 24-04-2013). Holders of derecheras are required to make annual payments to the State for their land, in order to arrive at the ultimate degree of ownership. Once the derecheras are fully paid off, the campesinos receive titulos, but during the first ten years these are also non-transferable. It is only after these ten years that the title ceases to fall under the jurisdiction of the Estatuto Agrario and is transferred to the public registry, under the jurisdiction of the Civil Code.

The land tenure system of mejoras, derecheras and titulos initially suggested the protection of campesino rights to land. However, the institutional system presents strong contradictions. Large investors seeking to appropriate land administered by INDERT can do so by adopting the Civil Code, which overrides the Estatuto Agrario. The Civil Code treats all land as though it were already titled according to the public registry. In the absence of a formal title to a particular piece of land, a new title can be issued through an "act of possession", a communication of intent to own the land. In this case, the Civil Code looks for other makers that denote possession, such as a fence, a sign, a house or a field of crops. The problem encountered by Hetherington is that in case of a land dispute, campesinos' attempts at communicating possession are not as strong as the attempts of soy farmers: "Huts, tents, and manioc gardens do not signal possession as successfully as a nice field of beans planted in straight rows." The identified loophole implies that rights acquired by one set of rules, the Estatuto Agrario, can be made invalid by taking on another legal regime, the Civil Code. A regime which in this case protects the interest of an elite at the detriment of the rural poor (Hetherington, 2009).

The Estatuto Agrario was first revised in 2002 and again in 2004. One of the most important modifications was that plots in the colonies could from then on only be sold to natural born Paraguayan citizens. The main objective of this modification was to limit naturalized Paraguayans, most of who were originally Brazilians, from gaining access to INDERT-administrated land as this has proven to lead to social and political problems and conflicts with difficult solutions. The modifications of the Estatuto Agrario indicated a policy shift towards limiting foreign, especially Brazilian, presence in the colonies. They were complemented by *Ley 2532* from 2005, which determined a so-called *Frontier Security Zone*: a 50km wide strip of land

which runs all along Paraguay's national borders and in which foreigners from neighboring countries are not allowed to own, lease or use agricultural plots. In some of these border regions, foreign landownership is higher than 60%, with the majority of the investors being Brazilian. In 2008, INDERT strengthened the regulations with Resolution 0395, which prohibited the sale of lands throughout the whole country to foreign nationals or bi-nationals not subject to the Estatuto Agrario. However, the regulations are weakly enforced or not at all. Restructuring the ownership situation in the frontier zone according to Ley 2532 has not yet begun and the sale of land to foreign investors continues (Galeano, 2012; Itriago, 2012).

6.3 Environmental Secretariat (SEAM)

The Secretaria del Ambiente (SEAM) is charged with the development and implementation of policies concerning the preservation, conservation, reorganization and management of natural resources. Furthermore, it is responsible for supervising compliance with environmental legislation at national level (SEAM, 2014). Since 1993, farmers and agribusiness companies are required by *Ley 298/93* to conduct an environmental impact study prior to implementing an agricultural project, such as the establishment of a soy plantation. The environmental impact study needs to be submitted to the SEAM for approval. If approved, the applicant can apply for a Licencia Ambiental, an environmental license which is mandatory for all ongoing agricultural projects (Baretto, personal communication, 22-04-2013). SEAM grants the Licencia Ambiental if the proposed project respects a set of environmental laws and regulations (box 6.1).

Box 6.1 : Conditions for obtaining a Licencia Ambiental for agricultural projects

Caballero, functionary at the SEAM and in charge of evaluating incoming applications, explains that the Licencia Ambiental is granted if the planned project … :

1. Does not affect zones which are classified by the SEAM as protected areas
2. Does not affect the *Reservas de Biosfera* (fragile regions between protected areas)
3. Does not affect indigenous communities
4. Respects decree 888/08, which states that farmers and landholders who own properties larger than 20 hectares should maintain a tree cover of 25% of the total forest cover on the land in reference year 1986. Control of compliance is done by comparing satellite images of tree cover in the year of application with images from 1986.
5. Respects the *Ley de Deforestacion Cero 2524/04* (Zero Deforestation Law), which prohibits all deforestation in eastern Paraguay from 2005 onwards. Control happens by comparing satellite images from 2005 with images from the year of application. The Zero Deforestation Law does not apply to the country's western Chaco region.
6. Respects decree 18.813/86, which states that farmers need to plant a strip of 100 meters of forest on both sides of rivers or streams, in order to protect water quality.
7. Respects decree 2048/04, which prohibits farmers from spraying agrochemicals within a safety zone in a radius of 100 meters around villages, schools, health centers and water bodies. Furthermore, this decree compels farmers to plant a barrier of green foliage between their field and public roads, in order to protect passersby from fumigations. Barriers between the applicants fields and neighboring private properties are not required.

Caballero, personal communication, 22-04-2013

In practice, there is little monitoring and control to determine whether farmers are in the possession of a Licencia Ambiental, nor whether environmental regulations are complied with. Under the Lugo presidency, widespread field inspections were held for the first time. Alfonso, government functionary during that period, performed some of the inspections in San Pedro and recalls that the large majority of the soy producers could not present a valid Licencia Ambiental. According to him, many companies do not meet the requirements for the license, but pursue their practices anyway, knowing that effective controls are rare (Alfonso, personal communication, 29-04-2013). Garcia, director of the environmental control department of SEAM, recognizes the problem and ascribes the lack of law enforcement to the institution's limited financial resources and low technical capacity. He states that the department which he works for only has one vehicle do perform controls throughout the whole country, while they receive 80 to 90 complaints of environmental violations per month (Garcia, personal communication, 22-04-2013). Environmental protection does not seem to be among the State's priorities. SEAM is attributed a mere 0,06% of the country's general budget, which is described by Speranza, director of the NGO Fundacion Moises Bertoni, as "an absolutely absurd and ridiculous budget for an organ which is charged with the application of 30 different laws and the environmental management of the whole country" (Speranza, personal communication, 26-06-2013). The low level of interest for environmental issues in the political sphere and the resulting weakness of the SEAM form important challenges to achieving environmental sustainability in Paraguay's rural economy.

6.4 National Service for Plant and Seed Quality and Health (SENAVE)

The Servicio Nacional de Calidad y Sanidad Vegetal y de Semillas (SENAVE) is the implementing body of national policies and international agreements related to the quality and health of agricultural plants, seeds and plant varieties and biotechnology species. It has a variety of functions, including the regulation of seed and plant trade, maintaining the registry of authorized varieties, granting approval for new varieties, commercializing agricultural products and derivates, monitoring and controlling agricultural practices, and regulating the use and trade of agricultural inputs (SENAVE, 2013). The SENAVE has a greater operational capacity than the SEAM. It is the public institution with the highest number of technicians and scientists in Paraguay and has regional offices throughout the country. The SENAVE plays a key role in the soy industry as it proposes, implements and controls laws and regulations concerning GMOs and agrochemicals. Although it is officially an autonomous entity, it is under close watch of the soy lobby, which frequently exerts pressure to influence its actions.

Under Lugo's administration, the SENAVE tried to put limits to some of the harmful impacts of large-scale soy production. One of the measures which gained ample media attention was the introduction in 2009 of *Ley 3742*, the law on the Control of Phytosanitary products for Agricultural use, popularly known as the 'ley de agrotoxicos'. The law was intended to regulate the use of agrochemicals. Through various resolutions and field inspections, the SENAVE compelled producers to warn neighboring communities before fumigating, and respect protective barriers and safety zones. Moreover, they eliminated the possibility to commercialize agrochemicals which were in their experimental phase and which had not been accepted to the permanent registry of authorized products. Before, the trade of products which figured on a

transitory registry was allowed. Furthermore, the SENAVE refused to register new GM varieties of corn and cotton due to lack of approval from the Ministries of Health and the Environment. A plantation of 44 hectares of unauthorized GM corn was destroyed by SENAVE officials during field inspections. The new regulations and stronger law enforcement prompted sharp criticism from the powerful agribusiness sector, grouped under the UGP and the APS (the Association of Soy Producers). They released a media war against the government and Miguel Lovera, president of the SENAVE at the time. Lovera recounts that he had to live with death threats, slander, sabotage and publicity campaingns calling for his dismissal (Lovera, personal communication, 16-04-2013) (box 6.2). In the end, the Curuguaty massacre of june 15th 2012, was advanced by the UGP as a pretext to vote Lugo out of office. With him went Lovera and all the other public officials which had allied with Lugo. Shortly thereafter, they were replaced by agribusiness-friendly officials, who stalled progress regarding stricter agrochemical regulations and approved the cultivation of GM cotton and five varieties of GM corn in the weeks that followed (Torres, 2012).

Box 6.2: Reactions from the soy sector to stricter laws and enforcement mechanisms introduced by the SENAVE during Lugo's presidency

"Currently it is sad look across the ocean and see inhabitants of other countries starving, while we are doing everything possible to produce less, with internal obstacles, exaggerated laws and regulations which instead of encouraging production place barriers. […] *I would like to ask the government to leave us at peace and let us work. With less interventions and less regulations. That they let us demonstrate that we have the responsibility to do our job well".*

Regis Mereles, president of the APS, 2011

On 8 June 2012, the UGP published an article in the newspaper ABC color (which has strong ties to the agribusiness sector) entitled "*12 arguments for getting rid of Lovera*". The article accused Lovera of being "opposed to modern farming production", of permitting peasants to use common cotton seeds (i.e. seeds not purchased from seed companies, but recovered from previous harvests), of harming national interests by participating in a debate about biotechnology, and of traveling abroad to a climate change conference which was an area deemed outside his competence.

ABC color, 8 June 2012

Overall, the investigation of some of the main institutions in Paraguay's agrarian public sector reveals a high level institutional incapacity due to a lack of financial, technical and human resources. However, worse than the weakness of these institutions is that they tend to function at the service of the agribusiness sector, while largely ignoring the needs of poorer population groups and the environment. Policies and laws are influenced by powerful soy lobby groups, and corruption favoring agribusiness interests is the order of the day. As the state fails to represent communities in the struggle for resources and agrarian reform, inclusiveness and sustainability in rural Paraguay remain a long way ahead.

CHAPTER 7: GEOGRAPHIES OF SOY EXPANSION AND LAND USE CHANGE

Soy production and expansion affect distinct regions in Paraguay in different ways. In order to greater gain understanding of the geographical scope of soy cultivation, this chapter studies the importance of the sector in terms of land use, examines in which areas soy is produced and describes how and in which direction the soy frontier is expanding over time. Furthermore, an analysis is made of the types of land use changes which have been induced by soy expansion.

7.1 Land use in Paraguay

Paraguay has a surface area of approximately 40 million hectares, which is ten times the size of the Netherlands. The river Paraguay divides the country into two different regions. The Occidental Chaco region in the West comprises 61 percent of the national territory, but houses only 3 percent of the population. The main natural habitats of the Chaco are savannas and thorn forests. The Oriental region in the East is the agricultural and economical heartland of the country and the area where the large majority of the Paraguayans live. This region forms part of the highly endangered Atlantic Forest (Dutch Soy Coalition, 2009) (figure 7.1). According to the latest agricultural census from 2008, 32,5 million hectares of Paraguayan territory are classified as agricultural lands. Around 54 percent of these lands consist of pasture fields for livestock breeding and 10 percent is used for crop farming. The remainder is forest (productive or native), lies fallow or has other uses. Almost all the cropland (99,3 percent) is located in the country's Oriental region, therefore the present research focuses on that area. Livestock farming occupies large areas of land throughout the country, but the sector is rapidly expanding in the Western region, while it is stagnating in Eastern Paraguay (MAG, 2008) (table 7.1).

Figure 7.1: Geographical map of Paraguay and division into two regions

Source: Rojas Villagra, 2011

Table 7.1: Land use in Paraguay and per region, 2008

	Croplands		Pasture lands		Forest		Fallow / other	
	Ha.	%	Ha.	%	Ha.	%	Ha.	%
Oriental region	3.342.080	99,3	7.059.771	39,6	1.700.351	22,7	1.340.080	55,7
Occidental region	23.252	0,7	10.777.819	60,4	5.776.935	77,3	1.066.606	44,3
Total Paraguay	3.365.332	100	17.837.590	100	7.477.286	100	2.406.686	100

Source: Data from the agricultural census by MAG (2008), own calculations

The map in figure 7.2 gives a representation of the land use in Paraguay's eastern region. Large-scale mechanized crop farming (yellow) is predominant in the eastern and south-eastern departments, in some areas complemented with smallholder mechanized crop production (purple). Livestock breeding (grey and light blue) is principally practiced in the north and in the south-west. The bulk of non-mechanized family farms are located in a strip from north to south in the middle of the region, roughly separating livestock farming from crop production. These farms correspond to traditional campesino agriculture. Remainders of native forests (green) are mainly scattered throughout the northern half of the region. The research area Itapúa is characterized by its high degree of small-scale mechanized crop production, alternated with large-scale crop farming . In the other research area, San Pedro, campesino agriculture, large-scale crop farming and livestock breeding are intertwined, resulting in a highly diversified and fragmented land use pattern. This helps to illustrate why conflicts over land use, between large landowners and campesinos, are particularly common in this region.

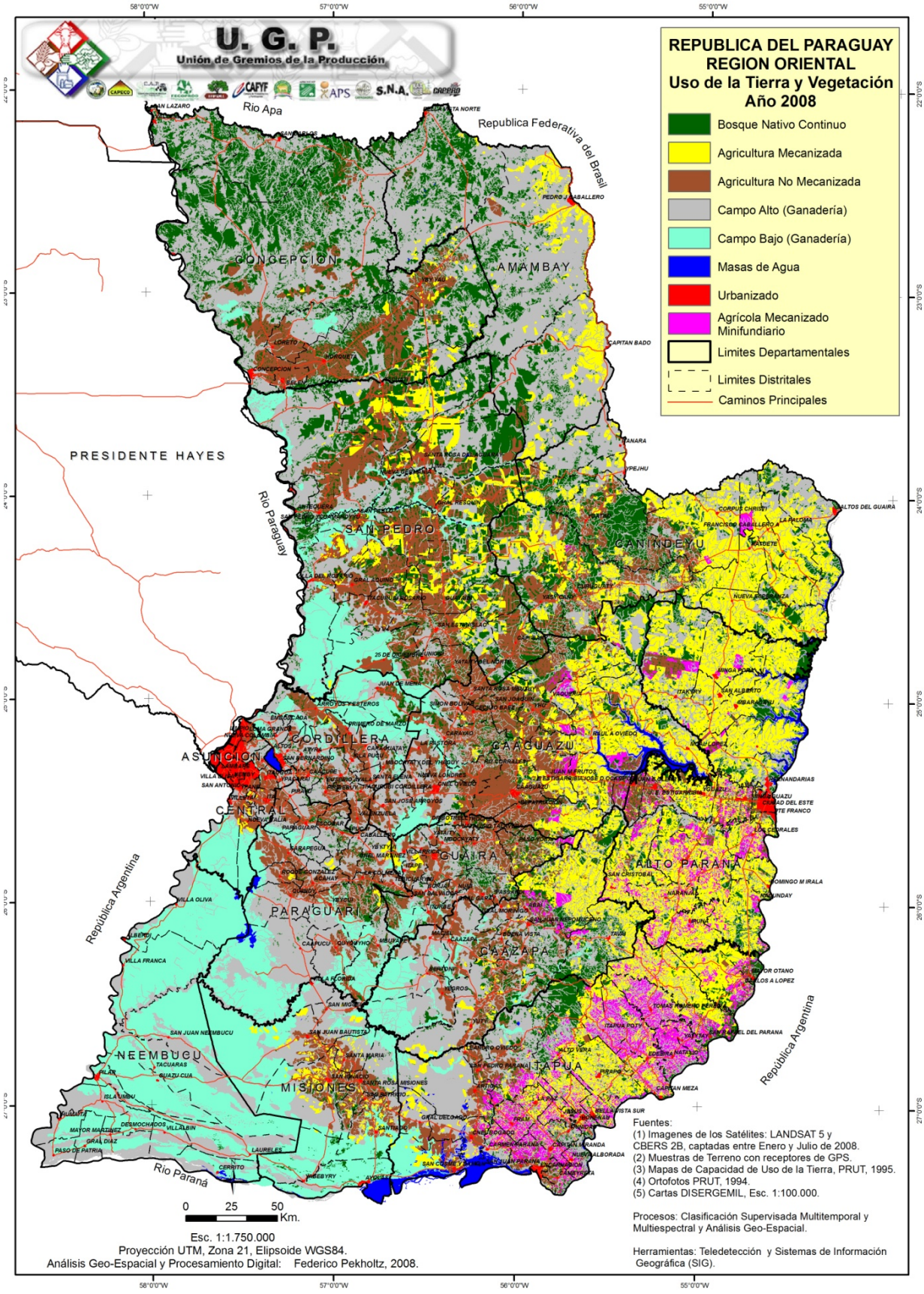
Soy is by far Paraguay's major agricultural crop in terms of land use, as 80 percent of all the cropland is dedicated to the production of this grain. Table 7.2 shows the main agricultural crops produced in the country and size of the territory they occupy. After soy come corn and wheat, which are generally planted on the same lands used for soy, by means of crop rotation. Like soy, they are chiefly produced for export. Products which form part of Paraguayan traditional diet, such as manioc, kidney beans and peanuts, are grown on much smaller surfaces and represent less than 17% of cultivated lands (Riquelme, interview, 24-04-2013).

Table 7.2: Cultivated hectares and production volumes of Paraguay's main agricultural crops, 09 / 10

	Cultivated surface (Ha.)	Production volumes (Ton)
Soy	2.700.519	4.567.926
Corn	597.400	1.540.000
Wheat	415.860	1.169.520
Sunflower	203.700	215.600
Manioc	198.000	2.772.000
Sugar cane	105.000	5.241.600
Sesame	100.000	59.400
Kidney beans	84.750	56.100
Rice	55.000	247.500
Cotton	50.000	27.500
Peanuts	32.000	24.970
Yerba Mate	18.750	103.125
Stevia	2.000	3.300

Source: UGP, 2010

Figure 7.2: Land use map of Paraguay's eastern region, 2008



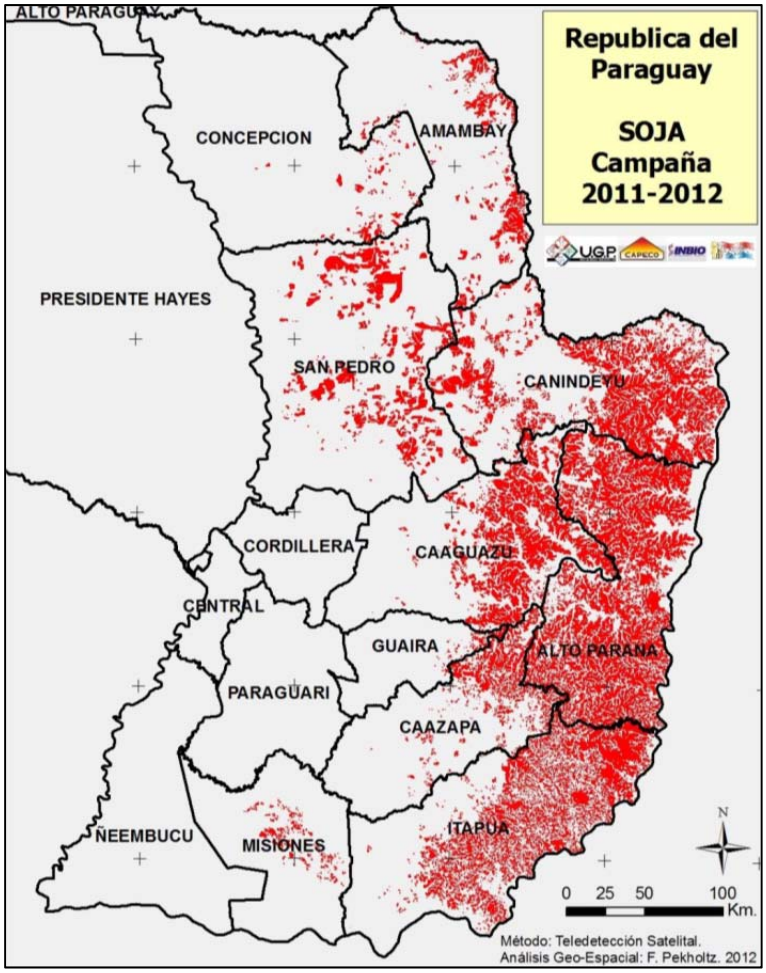
Source: UGP, 2008

7.2 Expansion of the soy frontier

The first soy boom in Paraguay began in the 1970s in the border departments of Alto Paraná and Itapúa, and, to a lesser extent, parts of Canindeyú and Amambay. Many Brazilian soy farmers crossed the border, attracted by the fertile soil, the low prices of land and lax regulations on deforestation. Soy production expanded rapidly till the mid-1980s, when agricultural prices on the international market collapsed. In the decade that followed, the area under soy cultivation remained relatively stable, between 500.000 and 800.000 hectares. Soy expansion gradually took off in again in the mid-1990s under the neoliberal policies of president Wasmosy. At the start of the new millennium began the second soy boom, but this time with genetically modified seeds which were illegally imported from Argentina and Brazil. Between 2000 and 2013, Paraguay's soy areal increased by 167 percent, from 1,2 million to 3,2 million hectares, implying an unprecedented average increase of 150.000 hectares per year. During this period, the soy frontier expanded westwards into the provinces of Caaguazú, Caazapá and San Pedro (Maeyens et al., 2007). According to data from CAPECO, the departments of Alto Paraná, Itapúa and Canindeyú, where soy production initially began, still have the highest total surface dedicated to the cultivation of this crop, as can be seen in figure 7.3. However, other regions are catching up. Between 2004 and 2013, that the growth rate for the increase in soy lands was the greatest for Misiones and San Pedro (Table 7.3).

It is expected that the area under soy cultivation will continue to increase. Some estimates point to goals of 7 or 8 million hectares (Guereña, 2013), which would require expansion of the soy frontier into new areas. Various experts have identified the Chaco as a future soy production region. Up to a few years ago, the Chaco's semiarid climate had always been a barrier for soy expansion, but through research and experiments new varieties of soy are being developed which are resistant to dry hot weather. Today, the soy sector promotes the Chaco as a region with a high agricultural potential for the production of soybeans, reasoning that, if soy can be produced successfully in the Argentinean Chaco, this should be possible in Paraguay too (ABC Color, 2013). According to Arevalos from Guyra Paraguay, several large soy producers, among whom 'the King of Soy' Tranquilo Favero, already own land in Occidental Paraguay and have started producing soy there. In 2011-2012, 5000 hectares of soy were harvested in the country's western region (Ultima Hora, 2012), and this figure is expected to increase to 12.000 hectares in the coming harvest (Tardaguila Agromercados) and to 1,5 million hectares in the coming years (Arevalos, personal communication, 22-04-2013). While environmental NGOs are worried about the loss of natural habitats these developments are likely to induce, UGP vice-chairman Hector Cristaldo actively encourages the process, glorifying soy cultivation in the Chaco as "a new motor for development in this part of the country" and "the new vision for this region"(ABC Color, 2013).

Figure 7.3: Map of areas under soy cultivation in eastern Paraguay, 2011/2012



Source: INBIO, 2012

Table 7.3: land under soy cultivation per department, 2004 & 2013

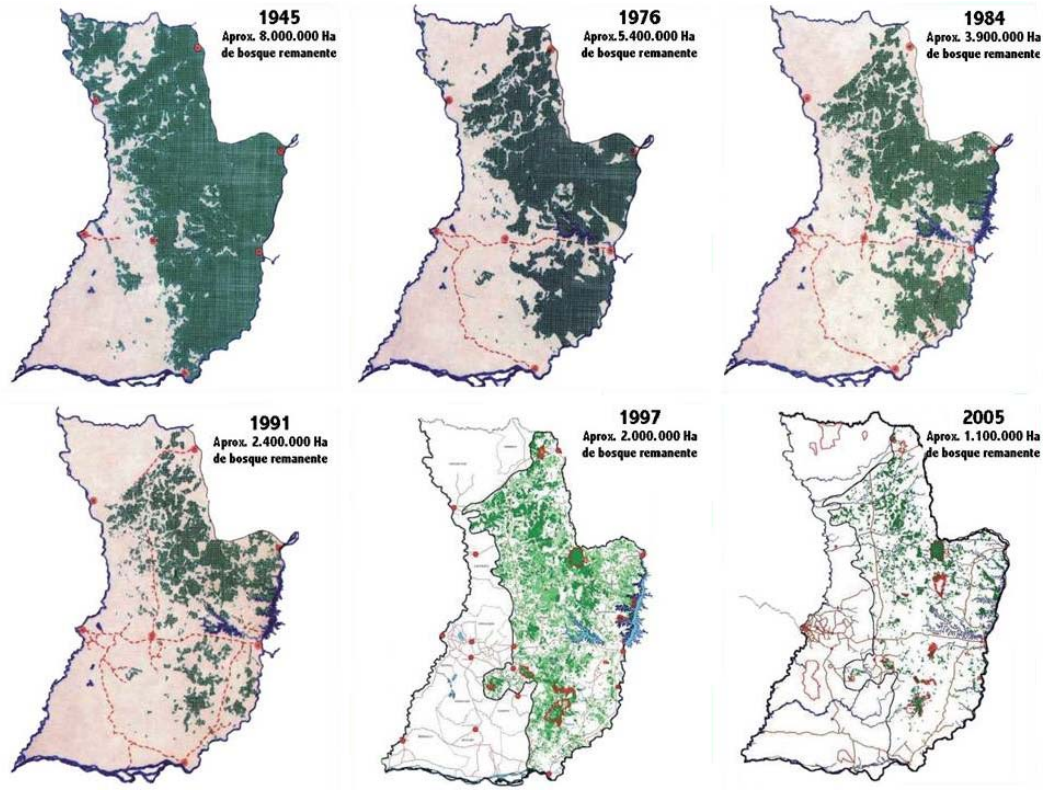
	Hectares of land cultivated with soy		Increase in ha.	Increase in %
	2004	2013		
ALTO PARANA	584.396	881.853	297.457	51
CANINDEYU	244.236	601.677	357.441	146
ITAPÚA	328.982	595.186	266.204	81
CAAGUAZU	150.572	402.336	251.764	167
SAN PEDRO	43.856	263.331	219.475	500
CAAZAPA	77.287	176.723	99.436	129
AMAMBAY	49.983	159.657	109.674	219
MISIONES	3.625	45.396	41.771	1152
CONCEPCION	6.993	16.674	9.681	138
GUAIRA	4.353	14.767	10.414	239
TOTAL	1.494.283	3.157.600	1.663.317	111

Source: Data from CAPECO (2013), own calculations

7.3 Land use change

Increasing the soy areal requires the conversion of land with other uses into soy fields. Over the past decades, the expansion of the soy frontier in Paraguay has roughly resulted in three types of land use change: forest to soy fields, pasture land to soy fields, and traditional campesino lands to soy fields. In 1945, the Atlantic Forest of Alto Parana covered 8 million hectares of the country's oriental region. Today only 700.000 hectares of this forest are left (WWF Paraguay, 2012). Comparing the area under soy cultivation today (figure 7.3) and the map of the Atlantic Forest in 1945 (figure 7.4) it is clear that almost all of the current 3,2 million hectares of soy plantations are located within the limits of the original Atlantic Forest. However, no figures exist to prove which share of the existing soy fields have directly caused deforestation and which have induced other types of land use change. According to interviewed soy producers from Itapúa and Alto Paraná, soy expansion during the first soy boom in the 1970s and 1980s mainly happened at the expense of native forest cover in the border regions with Brazil. Brazilian, but also German and Japanese farmers were able to buy forested land at low prices which they deforested and on which they initiated soy production. By the beginning of the second soy boom at the turn of the millennium, less than 2 million hectares of Atlantic Forest were left. From that period onwards, soy expansion took place both through deforestation of the remaining parts of forest and through the conversion of pasture fields or campesino lands which had been deforested in earlier years. In 2004, the Zero Deforestation law came into force, as an attempt to protect the last remnants of Atlantic Forest. Since that year, deforestation rates in Eastern Paraguay dropped and soy expansion mainly happened onto lands dedicated to other forms of land use. Chapter 8 further analyses the role of the soy sector in fostering deforestation and pays attention to the broader implications of these processes for sustainable development.

Figure 7.4: Maps showing deforestation of the Atlantic Forest in eastern Paraguay, 1945-2005



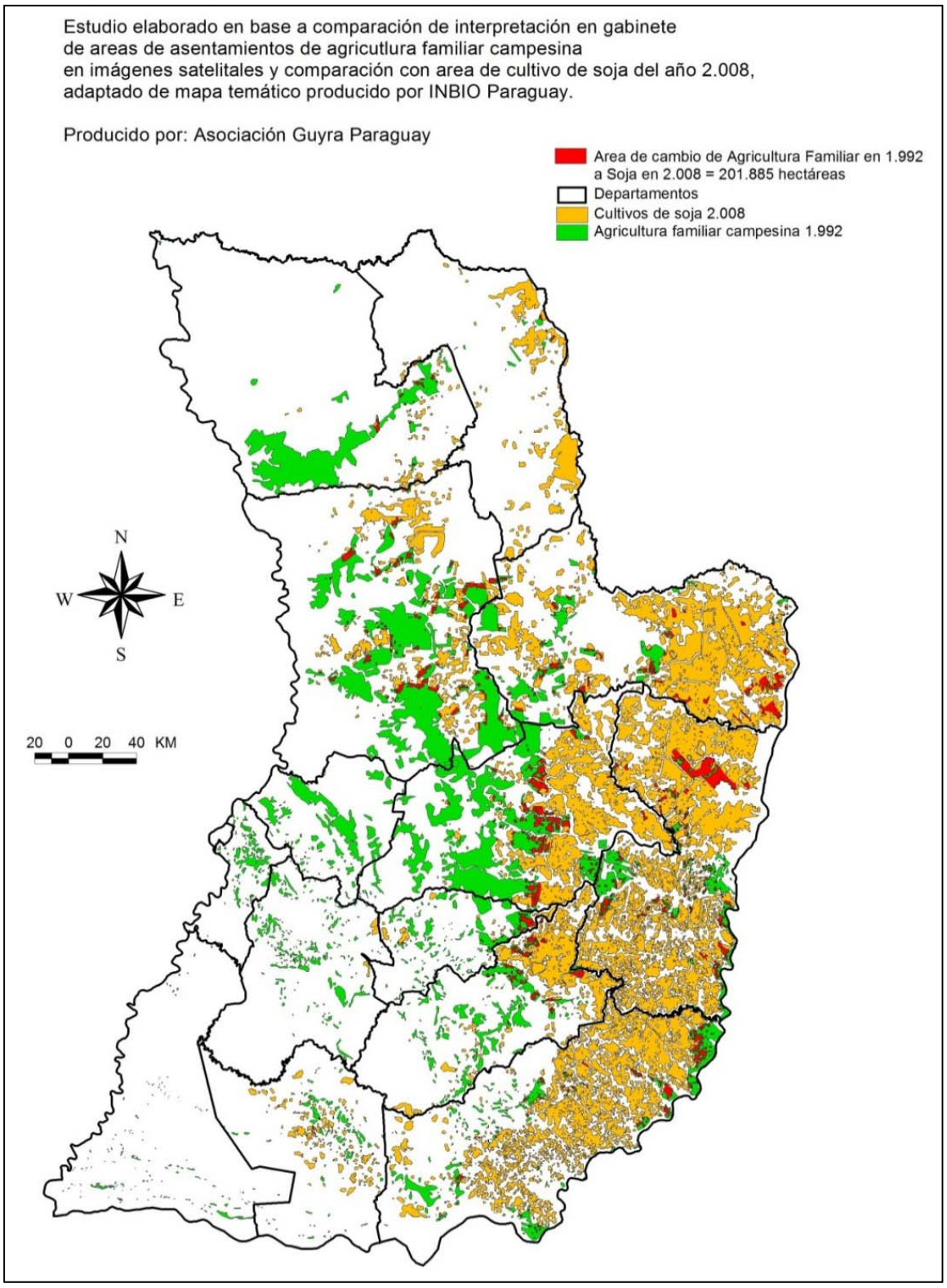
Source: Fundación Moisés Bertoni, 2007

Around the year 2000, the major part of the native forests in eastern Paraguay had been converted into soy fields, pasture lands or campesino settlements. The soy sector was booming again and in the most fertile areas, land was becoming scarce and increasingly expensive. Many cattle farmers took advantage of the rising land prices and sold their estates to soy producers, after which they moved to the Chaco where land is cheaper and the regulations concerning deforestation more lax. According to Arevalos (personal communication, 22-04-2013), livestock farmers can sell their land for 3000 to 8000 USD per hectare in the oriental region and buy new land in the Chaco for as little as 200 USD per hectare, although prices there are also on the rise. The soil in Western Paraguay is less fertile and the climate is hot and dry, which make the conditions unsuitable for soy production (although this is changing, as seen in paragraph 6.2), but for livestock farming this poses less problems. The conversion of pasture land to mechanized plantations significantly increases the value of the land and enables soy expansion into new regions. In the soy frontier zone, the process of agricultural transformation has become a profitable business. The company Frontera Agropecuaria del Paraguay S.A. and the investment fund Mercosur Agro Frontiers Fund have both been created to invest in the acquisition of cattle ranches and transform these lands into plantations for intensive grain production. They are closely affiliated with the soy production company DAP, which operates in San Pedro.

From a socio-economic perspective, the most worrying form of land use change induced by soy expansion, is the conversion of traditional campesino lands into soy fields. This type of land conversion has been taking place since the 1970s, but has intensified during the second soy boom as soy production increasingly expanded into departments corresponding to campesino territories. In some cases, land use change is voluntary and the control over the land remains in the hands of the campesinos. It happens that smallholders, motivated by the success of the soy sector, decide to exchange their traditional farming practices for mechanized soy production, often with credit provided by large soy producers or one of the big multinationals. Despite the fact that soy production on small parcels of land requires significant upfront investments and entails high risks of becoming indebted, it has generally become to be perceived as the only way to generate capital in rural Paraguay. In most cases, however, the conversion of campesino lands to soy fields entails a transfer of control over the territory from smallholders to medium or large soy producers. This transfer of control can occur through the forced expulsion of the original population, or through rental or purchase of the land, which can have profound implications for local development. Moreover, as traditional campesino lands are generally used for food crop production, replacing these crops by export crops risks to aggravate food insecurity in the country (Riquelme, personal communication, 24-04-2013) (more on this topic in chapter 8). Figure 7.5 indicates that between 1992 and 2008, 201.885 hectares of campesino lands have been converted into soy fields. During that same period, the total area under soy production increased by almost 1,9 million hectares (MAG, 2008). This implies that 11 percent of the increase of the soy areal happened at the expense of campesino lands, while the remaining 89 percent involved the conversion of pasture lands or forest. The map shows that soy cultivation is particularly taking over traditional campesino lands in San Pedro and Caaguazú as the soy frontier gradually moves westwards. During field visits in San Pedro, cases have been encountered of whole campesino settlements which got forcefully evicted over night to make way for soy plantations. More common however, is for soy producers to acquire campesino land one plot at a time. Accumulating large areas of land this way may take various

years. Three frequently occurring geographic expansion models have been observed at the local level and are represented schematically in box 7.1. The schemes have been constructed based on mapping exercises with the affected campesino groups in question.

Figure 7.5: Conversion of traditional campesino lands into soy fields, 1992-2008

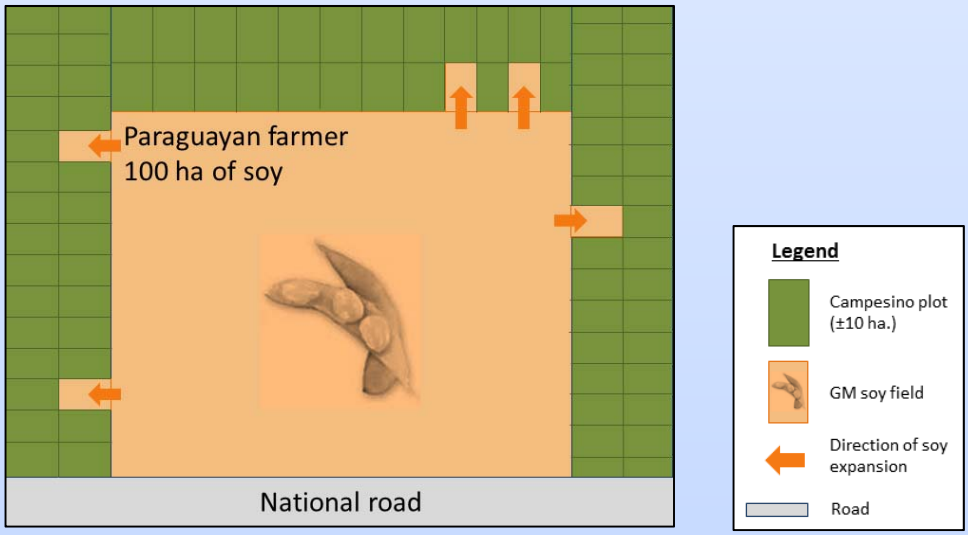


Source: Glauser, 2009

Box 7.1: Soy expansion models encountered in San Pedro

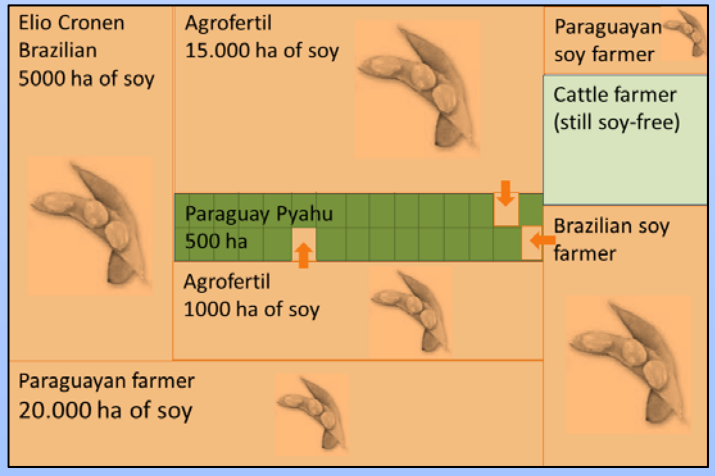
Outward expansion

Soy producers frequently expand their fields by purchasing plots of land from their adjacent neighbors. They spray pesticides close to the perimeters of their landholdings and pressure neighboring campesinos to sell their land. Seduced by the good price they get offered for their plot or disturbed by the fumigations, the campesinos end up selling their land, enabling the soy field to expand in an outward direction. This situation has been observed in Lima district in central San Pedro.



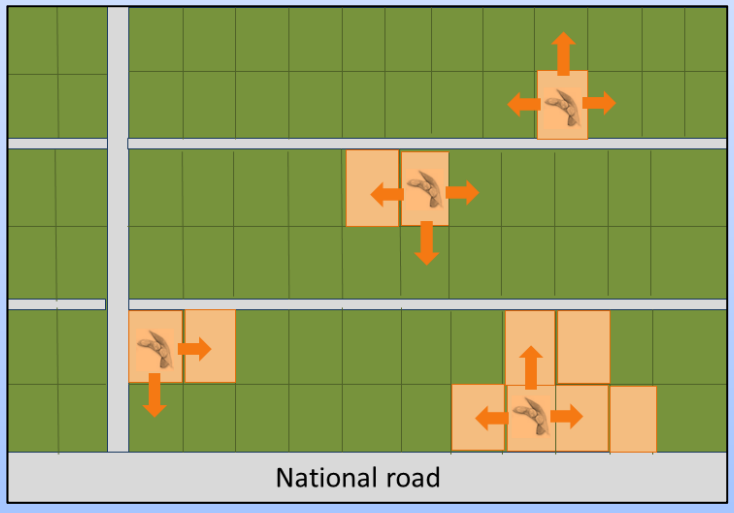
Enclosure

This situation occurs when all the forest or pasture land surrounding a campesino community have become converted into soy plantations. It was the case for the community of Paraguay Pyahu in Eastern San Pedro. The community members explain how during soy season, they are highly bothered by the fumes of pesticides entering the community from all sides when the soy farmers spray their fields. In order to escape the toxic sprayings, several community members have already sold their plot to one of the soy producers and have moved elsewhere. The remaining villagers fear they will have to move too if their 'island in a sea of soy' will shrink further.



Expansion from within

Sometimes soy producers seeking to acquire campesino land infiltrate into a settlement and initiate soy expansion from within. They seek contact with a trusted person within the community, through which they gradually acquire plots of land over time. On these plots, the soy farmers initiate GM soy production and spray toxic agrochemicals, pushing campesino families on neighboring plots to sell their land and move out. This expansion model is said to be particularly applied by Brazilian farmers. A detailed description of how a soy producer managed to take over the whole community of Ybype using this model can be found in chapter 8.1.



CHAPTER 8: THE NEGATIVE SOCIAL, ECONOMIC AND ENVIRONMENTAL IMPACTS ASSOCIATED WITH SOY PRODUCTION AND EXPANSION

A critical assessment of six claims

The advance of the soy frontier is currently a strongly politicized and widely debated topic among academics, policy makers, entrepreneurs and civil society groups in Paraguay and beyond. A central point of discussion concerns the implications of the spread of the monocrop agribusiness model for sustainable and inclusive development. This chapter highlights the main claims which are put forward about the negative social, economic and environmental impacts of the soy industry in Paraguay. At academic level, mainly in the field of social sciences, various scientific articles and research reports exist to substantiate the claims. On the ground, however, general consensus is often lacking due to conflicting research outcomes from other studies and fueled by the strong opposing interests at stake. Proponents and critics of the soy model accuse each other of spreading lies about the impacts of this production system in order to pursue their own agendas. In the following sections, each claim is critically examined, elaborated upon and underpinned by scientific evidence from academic literature and official data. The data from the literature is illustrated with examples from the field and opinions from key informants, which serve to either strengthen and confirm the claim or add necessary nuances.

8.1 *' The soy industry widens the gap between rich and poor'*

On a macroeconomic scale, the soy industry has contributed significantly to the growth of Paraguay's GDP in recent years. Proponents defend the sector as being a key feature of the country's economic viability (Cristaldo, personal communication, 25-04-2013). Critics, however, argue that this generated wealth has hardly been distributed, remaining in the hands of a few large landowners and multinational companies, thus increasing inequalities (Elgert, 2012). Despite being second-fastest-growing economy in the world in 2010, over 32 percent of the population lives in poverty (Hobbs, 2012). Various NGO's and academics advocate a fairer and more consistent taxation system as a means by which the soy industry could contribute to poverty alleviation and other national development goals. According to a recent study by Oxfam, the soy sector has received a preferential treatment by the country's fiscal policies over the past decades (Itriago, 2012). The tax levied on soy exports remains at 2,5%, which is extremely low compared to the 35% export tax for soy in neighboring Argentina. Due to this, taxes on agricultural exports account for only 2,5% of total tax revenues (Elgert, 2012). Furthermore, the direct contribution from soybean producers through the IMAGRO (tax on income derived from agricultural activity) amounts to less than 1% of total tax revenues, the intake through land taxes is almost nonexistent and there is no personal income tax. Apart from low tax rates, the Paraguayan tax system loses additional revenues through tax evasions, loopholes in the tax system and a large number of exemptions (Itriago, 2012). It has to be noted however, that diverting more resources to the public sector is not enough in itself to reach development goals.

Decrease in corruption levels and an increase in the effectiveness of public expenditure are needed to ensure that the funds are spent for the benefit of the Paraguayan poor.

McCown (2010) emphasizes the importance of the Paraguay's extractive economic model in aggravating inequalities. Soy production is largely extractive in nature, which means that the soybeans produced are mainly being exported as primary commodities without significant value addition. In 2010, 5,7 million tons of the total harvest were exported as raw soybeans, while only 1,5 million tons were processed in the country (Hobbs, 2012). This implies that actors in other countries are gaining more through the value addition of Paraguayan soy than Paraguayans, strengthening inequalities between already more advanced and industrialized nations and less-developed Paraguay. Furthermore, critics of extractive economies argue that this model of development creates a relationship of dependence between producer countries and consumer countries and that the lack of industrial development in poorer countries makes them vulnerable to fluctuating international commodity prices and economic hardships (McCown, 2010).

A factor which perpetuates inequalities at the local level is that the soy sector is highly exclusionary. It is extremely difficult for local campesinos and indigenous groups to participate in the soy value chain and thus directly benefit from the newly accumulated wealth. Compared with other agricultural crops, soy is more capital intensive, requiring mechanization and technological inputs in order to compete. Smallholders often lack access to capital and production experience (Itriago, 2012). Moreover, the pressure on Paraguay's land resources has resulted in exponential increases in land prices, excluding most rural Paraguayans from access to land (Elgert, 2012). Due to the high upfront investments and the substantial amounts of land and assets required, soy production is dominated by medium and large producers. In 2008 almost 90 percent of soy was planted on farms larger than 100 hectares and 63 percent on farms larger than 500 hectares (Guereña, 2013). If the agribusiness sector is to contribute to sustainable local development, focus should be on a redistribution of wealth and land instead of on absolute economic growth.

8.2 *'The soy industry contributes to land concentration, conflicts and the forced displacement of rural populations'*

Paraguay has a highly rural population which is dependent on agriculture for their livelihood. Research has shown that the lack of access to land for many farmers is closely related to poverty among farm households (Elgert, 2012). Greater equality in land distributions could be an important factor in reducing rural poverty, yet data show that land in Paraguay is becoming increasingly concentrated. Comparing data from the 1991 agricultural census and the latest 2008 census (MAG, 2008), it can be observed that the total number of farms (livestock and crop production together) decreased by 5,7%. During this period, the number of small and medium sized farms (0-100 ha) decreased, while the number of farms between 100 and 500 hectares and those larger than 500 hectares increased by 34,8% and 56,9% respectively (table 8.1). These figures indicate that land is increasingly concentrated on large-scale landholdings. In this same period, while the total number of farms decreased, the share of Paraguayan territory devoted to farming increased from 59% in 1991 to 76% in 2008. Farms of 20 hectares or less went from occupying 6,2% of the total agricultural land area in 1991, to occupying 4,1% of this

area in 2008. Farms of 500 hectares or more already occupied 81% of the agricultural territory in 1991, and by 2008 this figure had risen to 85%.

Table 8.1: Quantity and surface area of livestock and crop farms, 1991 & 2008

Farm size (Ha.)	Number of farms			Total land area (Ha.)		
	1991	2008	Variation (%)	1991	2008	Variation (%)
<20	255.578	241.956	- 5,3	1.468.765	1.340.096	-8,8
20-<50	31.519	22.866	-27,5	857.909	620.016	-27,7
50-<100	7.577	6.879	-9,2	502.648	459.555	-8,6
100-<500	7.782	10.487	34,8	1.619.203	2.300.193	42,1
500+	4.765	7.478	56,9	19.369.213	27.807.215	43,6
Total Paraguay	307.221	289.666	-5,7	23.817.737	32.527.075	36,6

Source: MAG (2008) own calculations

When the soy sector is studied in isolation, the figures from the two latest agricultural censuses also indicate increased concentration of land. Between 1991 and 2008, the number of soy producers increased by only 3,8%, while the area devoted to soy cultivation increased by 345% reaching a total of 2,4 million hectares. In this period the number of soy producers cultivating less than 20 hectares of soy decreased by 30,1% while the number of producers cultivating more than 1000 hectares of soy increased by 2603,8% (table 8.2). Although the latter group is still relatively small in numbers (703 producers, or 2%, out of the 27.735 soy producers in total) they cultivated 44% of the total area under soy cultivation at the time of the last census, compared to 11% in 1991. In contrast, the share of land under soy cultivation which was held by small producers (20 hectares or less) decreased from 20% to 4% over the same period. The general trends are thus, that the area under soy cultivation is expanding significantly faster than the number of soy producers, and that soy is increasingly being produced on larger farms while the number of smallholders and their share of landholdings is declining. These trends reinforce the concentration of capital and aggravate the already highly unequal land distributions in the country

Table 8.2: Number of soy producers and land area dedicated to soy production, 1991 & 2008

Farm size (Ha.)	Number of soy producers			Land area under soy production (ha.)		
	1991	2008	Variation (%)	1991	2008	Variation (%)
<20	21.353	14.918	-30,1	110.740	98.442	-11,1
20-<50	3.044	5.187	70,4	91.597	97.014	5,9
50-<100	1.304	2.424	85,9	86.904	133.906	54,1
100-<1000	993	4.503	353,5	203.050	1.408.693	416,5
1000+	26	703	2603,8	60.364	1.085.453	1.698,2
Total Paraguay	26.720	27.735	3,8	552.656	2.463.510	345,8

Source: MAG (2008) own calculations

As seen in chapter 7, increases in the numbers of large-scale soy-producing farms and in the land area they occupy are partly due to the conversion of large parcels of grasslands or forest

into cropland, and partly to the conversion of traditional campesino farms into soy fields. Researchers and stakeholders concerned with the negative impact of the soy industry frequently point out that soy expansion triggers conflicts over control over land and in many cases leads to the displacement of the campesinos living in the expansion areas. Displacement of the rural population has been found to happen in various ways. Some researchers and informants stress the forced and often violent evictions during which campesinos who refuse to leave their land are attacked and harassed by private security forces of the large landowners (Howard, 2009) or by official, often corrupt, police forces. The "Paraguayan mafia", a campesino leader from the organisation Movimiento Campesino Paraguayo (MCP) calls them as he explains how paramilitary troops enter settlements and destroy the crops, steal the chickens and burn all the houses of the inhabitants to make way for soy plantations. "Human rights don't exist in Paraguay" he adds dismal (personal communication, 31-05-2013).

Quintin Riquelme, researcher at the Centre for Documentation and Research (CDE) in Asuncion, recently conducted an extensive study on the impact of agribusiness on campesino agriculture and highlights three main strategies which soy-producing companies deploy to obtain land from small-scale farmers. In the first strategy, the company offers campesinos production packages consisting of seeds, herbicides, credit, mechanization of their land and technical assistance, thereby creating a situation of dependency. When the company stops providing the package, or when the campesinos cannot pay their debts, they find themselves in financial problems and eventually end up with no other option than renting or selling their land to the company. In the second strategy, the soy producing company plants the soy till the outer-boundary of neighboring settlements and uses little or none of the legally required protective barriers, thus exposing the villagers to frequent pesticide and herbicide fumigations. After a year or two the families start to experience the consequences of the use of these agrochemicals on their health and their environment. Eager to leave the area to escape the fumigations, they accept the offers from the company to buy their land. The pressure and unbearable conditions created by the companies leave the campesinos with few other options than selling their land. The third strategy evoked by Riquelme is the illegal purchase of user rights from campesinos, often in complicity with INDERT (Riquelme, personal communication, 24-04-2013). In box 8.1 a campesino from San Pedro explains how a Brazilian soy farmer managed to take over a whole community using a combination of the identified mechanisms.

Part of the rural families which are displaced due to soy expansion build a new home elsewhere in the countryside. Those who sold their land are able to buy a new plot in a different, often more secluded, area, while the less fortunate who have lost all their assets and belongings become landless and move with their families into tents which they set up next to the roadside (Howard, 2009). According to a popular saying, Paraguay is home to "campesinos without land and land without campesinos" (Lambert, 2008). Another part of the expulsed campesinos migrates to other countries, mainly Argentina and Spain, in the hope to find better job opportunities. However, the majority of the displaced families migrates to cities within the

Box 8.1: The community of Ybype

"Since the beginning of the '90s I lived in the community of Ybype, a campesino settlement of 44 houses. Each family owned a plot of 10ha on which we practiced subsistence farming. In 2004, Felipe Solosinqui, a Brazilian soy farmer, got acquainted with one of the community leaders, who became Felipe's prestanombre. Through the community leader, Felipe bought 60 hectares of land from campesinos willing to sell their plots for personal reasons, such as the need to pay doctor's bill, other financial problems or a desire to migrate to the city. These lands were mechanized and GM soy was planted. Internal conflicts emerged and the community became divided into two groups. One group wanted to plant soy as well as they saw it as a new opportunity to earn increased financial income. They accepted credit (around* 100.000.000 G [21.236 USD] *per family) and technical assistance from Felipe in order to mechanize their plots and started planting GMO soy. The villagers had no experience in soy production, they had to buy agricultural inputs and hire all the necessary machinery and had no idea of the high costs involved. After investing in the preparation of their field, the GMO seeds, the sowing, the harvest, the spraying and the transportation, little money was left to provide for their family income and pay of their depts. Over the years, many of these people became heavily indebted and had to cede their land to Felipe.*

The other group, including myself, always remained opposed to soy cultivation. However, the glyphosate sprayings of our neighbors reached our fields and our houses. Our animals became sick, our crops died and our children started suffering from headaches, nausea, vomiting and skin diseases. We protested, but the police forces were on the side of Felipe. They employed violence against us, sued us and some of us even ended up in prison. We were left with no other options than selling our land and leaving the community or enduring the agrotoxic sprayings, threats and intimidation. More and more people sold their land and left. I never wanted to leave and continued protesting and resisting. By 2012, only 12 families remained. The school had closed due to decreasing numbers of children and our terrain was completely surrounded by soy fields. One night in the beginning of 2013, Felipe's private guards entered my house and shot my cousin 6 times in his legs and arms. We had to bring him to the hospital where he nearly died. Fearing for the safety of my family I decided to sell my land soon after that incident. I bought my land for 5 million G [1062 USD] *per hectare in 1994 and sold it to Felipe for 15 million G* [3185 USD] *per hectare. From the money I was able to buy a new plot of land here in Lima, but I fear that, sooner or later, the sojeros will come this way too and the problem will start all over again.*

Felipe started off with 60 hectares in 2004, and now, almost 10 years later, he owns more than 500ha of what once used to be the community of Ybype. Around 10 families continue resisting, but for how long will they be able to endure the threats, violence and toxic sprayings?"

- Campesino, Lima district, San Pedro

*A 'prestanombre' is a commonly used term to refer to a community member who conducts transactions on behalf of a soy farmer to disguise the source of the funds. The prestanombre is generally someone who is trusted within the community.

country, thereby accelerating the process of "decampesinization"[1] (Maeyens et al., 2007). It has been estimated that over the past years, around 9000 families (45.000 people) migrated from the countryside to urban centers every year (Ortega, 2012), where they often end up living in slums. For these campesinos (and indigenous communities in some cases), the loss of their land means the loss of their autonomy and their complete livelihood systems. They are forced to abandon their traditional production schemes, residence patterns and kinship systems and are confronted with a saturated urban employment market. Many are left with no source of income and ultimately fall into poverty (Duckworth, 2012). Campesino struggles to halt the developments and to get the "ill-gotten lands" back have often lead to more violence and Human Rights violations. Numerous examples exist of anti-soy protests and land occupations which have resulted in armed conflict, imputations and deaths (Palau, 2009). The "Curuguaty massacre" of June 2012, during which eleven campesinos and six police officers died as a result of open conflict, is emblematic in this respect, as it gained world-wide media attention and lead to the impeachment of former president Fernando Lugo.

In linking soy expansion to the concentration of land and the expulsion and migration of campesinos, it is necessary to make a few specifications. The existing data from official agricultural and population censuses show that over the past few years the area under soy production has increased significantly (table 8.2) while the share of people living in rural areas has declined (from 50% in 1992 to 41% in 2009) (Doughman, 2011).Yet the censuses only provide quantitative information. Based on the given data it is not possible draw a causal relationship between soy expansion and decampesinization. Qualitative research reports exist which show that soy expansion has indeed led to the expulsion and relocation of campesinos, but quantitative data is lacking to determine the exact contribution of the soy industry to the rural-urban migration process at a national level. As the geographer Fabricio Vasquez points out, the move from rural dwellers to the urban centers seems to be a general trend in Paraguay, occurring both in soy-producing departments, as in regions free from soy (personal communication, 25-04-2013). The study conducted by Riquelme (2013) for example, shows that the rural population of the department of Paraguarí declined between 1992 and 2012, despite the absence of soy fields. This shows that, although the advance of the soy frontier accelerates the rural-urban exodus, the migration of campesinos to the city is in part caused by a variety of other push and pull factors, such as the lack state support to rural communities, the lack of education and employment opportunities in the countryside and the perceived attractiveness of city life. due to the lack of sound quantitative data, it is difficult to determine the exact contribution of the soy sector to nation-wide processes as land concentration and rural-urban migration. Evidence shows that soy does play a role in intensifying these processes, but care should be taken in adopting the often biased claims about the importance of this role.

[1] The term 'decampesinization' is used by Riquelme (2013), among others, to designate the process of the departure of peasants from the countryside. It is mainly used in the context of describing the impacts of this exodus on the region of origin, whereas the more widely known term 'urbanization' is generally used when describing the impacts of the growing population numbers in the destination cities. Although both terms are similar they cannot be considered synonymous.

8.3 *'The soy industry aggravates food insecurity'*

"Paraguay feeds the world", the soy lobby group UGP states proudly in one of their publications (UGP, 2013). Soy producers often say they respond to food insecurity by investing in the agribusiness sector. However, as economic growth does not necessarily lead to poverty alleviation, so does increased food production not necessarily lead to improved food security; at least not for the local populations. To begin with, most of the soy is produced for export and directed mainly towards the animal feed and, to a lesser extent, the biofuel market. The soybeans are not destined for local consumption (Howard, 2009). Furthermore, part of the expansion of the land area dedicated to soy production takes place at the expense of smallholder agriculture. Campesinos increasingly sell or lease their land to soy producers, or they are forcefully expulsed, while remaining small-scale farms in the vicinity of soy fields are plagued by crop losses due to agrochemical leakages and fumigations. Some of the main traditional staple foods which form part of the Paraguayan diet are essentially produced on small farms. At the time of the latest agricultural census, farmers owning 20 hectares of land or less were responsible for 85% of the kidney bean and 82% of the manioc production in the country and owned the major part of the total land area devoted to tomato (89%), pepper (80%), pumpkin (86%) and banana (77%) (Doughman, 2012). Some researchers argue that the expansion of soy production onto the lands of smallholders causes declines in the production of these staple foods and thus undermines local food security. According to a recent study by Riquelme (2013), the decline in the number of smallholder farms and the conversion of part of these lands into soy fields, have resulted in a considerable decrease in the production volumes and cultivated surface area of various traditional crops in the 10 districts which were investigated. Since 2000, manioc production declined in 8 of the 10 districts studied, kidney bean production declined or stayed constant in 8 districts and peanut production declined in some districts and slightly increased in others. Likewise, studies published by the research institute Base IS explicitly link soy expansion to decreases in the absolute production volumes of manioc, kidney beans and peanuts at national level, reporting reduction rates over the past 20 years ranging from 16 to 30 percent for each of these crop types (Doughman, 2012; Ortega, 2012).

However, when analyzing official statistics by the ministry of agriculture, the stated decreases are not that evident. Comparing the two latest agricultural censuses of 1991 and 2008, one can see that the production volume of peanuts indeed declined over this period (-11,9%). For manioc, the figures of the production volumes in 1991 are not available, but the cultivated area decreased slightly (-2,8%). For kidney beans on the other hand, production increased, not only in terms of volume (+10,30%), but also in terms of cultivated area (+17,71%) and number of small-scale producers (+124,58%). Contrary to what one would expect based on the claims by Riquelme (2012), Doughman (2012) and Ortega (2012), the increases in kidney bean production were the highest in San Pedro, Caaguazú, Canindeyú, and Alto Paraná, departments which also experienced strong increases soy cultivation area over the same period. The production of kidney beans declined in the departments Cordillera, Central, Ñeembucú and Amambay, which, with the exception of the latter, have largely remained free from soy. Likewise, declines in the production of peanuts and manioc can be observed both in soy production regions as well as in departments where soy is not grown (MAG, 2010). These findings indicate that even though soy expansion may play a role, staple food production in Paraguay is also strongly affected by other factors.

At the very local or household level, soy expansion certainly causes reductions in the production of certain staple crops (if a campesino family is expulsed due to soy expansion and moves to the city, the agricultural production output of this particular family declines). Yet, an analysis of statistical data from the agricultural censuses does not permit to draw the same conclusion at higher geographical scales. Galeano (2012b), makes the same observation, noting that the supply of food from the family farming sector has not been significantly affected by land concentration and foreignization[2]. However, the relationship between soy expansion and food security, is more complex and difficult to characterize, as food security does not only depend on food production, but also on access and demand. An important factor which influences demand and which needs to be taken into account is the effects of population growth. Between 1991 and 2008 the total population of Paraguay increased by 43% (from 4,36 million to 6,24 million inhabitants) (UN, 2012) thereby increasing the overall demand for food. Other factors which play a role in determining access and demand for food include income, food prices, access to land and agricultural inputs, education, employment and access to markets (Elgert, 2012). Determining the exact direct impact of the soy industry on food security, taking into account all other relevant factors, is a complicated task and requires further research. Nevertheless, assuming that the soy industry indeed contributes to land concentration, accelerates the process of decampesinization and perpetuates inequalities, (as discussed in the previous paragraphs of this chapter), one can logically reason that the soy industry has most likely impacted food security of the poorer segments in Paraguayan society in a negative way.

8.4 *'The soy industry creates few jobs and violates labor rights'*

A claim commonly put forward by critics of the agribusiness model is that the soy industry in Paraguay generates only a meager amount of jobs for the rural poor and therefore its contribution to local and national development remains limited. Most soy is produced on highly mechanized farms which require little labor, except a few skilled managers and equipment operators (Duckworth, 2012; Elgert, 2012). According to Maeyens et al. (2007), only two people are needed to handle the entire production process of 1000 hectares of soy. In comparison, Elgert (2012) states that a family farm between 10 and 20 hectares can employ more than four or five people. In some cases the workers on soy plantations are local Paraguayans, because the producer wants to stay on good terms with neighboring communities. However, many Brazilian producers have been found to bring in workers from Brazil. Campesinos living in soy production regions explain that in earlier years, soy producers employed a higher number of people, but that this changed dramatically with the adoption of new agricultural technologies and mechanization. Not only the production stage of the soy value chain employs few workers, little labor is also required for the provision of technological inputs, the logistics and the exportation of the soy. These activities are controlled by a few multinational companies, such as Cargill who employs 380 workers in Paraguay, ADM with 450 workers and Bunge and Dreyfus with similar numbers of employees (Palau et al., 2012).

[2] Note that these findings are based on the latest official and reliable statistics, which are from 2008. The situation may have changed since then, as the area under soy cultivation has increased significantly over the past 5 years.

Furthermore, research points out that many soy producers and silos (mostly owned by the multinationals companies) mainly provide temporary jobs during harvest season (box 8.1) and that they only employ workers younger than 30 years with a good physical condition. Working days can be long and exhausting, as workers are often required to work 10 hours per day. Health and safety measures are not always sufficient and workers frequently experience respiratory problems due to exposure to toxic agrochemicals. Many workers work on an informal basis without an official contract and associated benefits and protection. Moreover, their salaries are often under the legal minimum wage. Due to high poverty levels and the lack of alternative job opportunities in the countryside, rural dwellers have no other option than to accept the exploitative working conditions and the violation of their labor rights (Maeyens et al., 2007; Palau et al., 2012).

Box 8.2: Employment at Agrofertil

"Five years ago, the company Agrofertil bought a 15 thousand hectare plot of grass land right next to our community. During the first months the company offered a lot of jobs. I, and seventeen other men from the community, went to work there every day. We had to remove all the tree trunks in order to prepare the field for mechanization. The work was heavy, but at least there was work and we got paid minimum wage. When the land was cleared, they brought machinery and started producing soy. Only one of us managed to get a permanent job at the company, as a tractor driver. The others were not needed anymore. Sometimes Agrofertil still hires manual labor for 'carpida' [removing weeds which have become resistant to herbicides], *but this is only a few days per year."*

- Campesino, Paraguay Pyahu, San Pedro

8.5 *'Soy production poses serious health threats and causes environmental pollution'*

Most of the soy produced in Paraguay (as anywhere else in Latin America) comes from Monsanto's Roundup Ready soybeans. These beans have been genetically modified to resist the application of Monsanto's herbicide Roundup, or "Mata-todo" (Kills-all) as locals call it in Spanish, because its active ingredient glyphosate kills all plants which are not genetically modified to resist (Elgert, 2012). In addition to GM soy, Paraguay's former president Federico Franco (who was temporarily put in power after the impeachment of Lugo), has recently approved the cultivation of GM corn and cotton from the companies Monsanto, Sygenta and Dow Agrosciences (Torres, 2012). Environmental organizations calculate that in Paraguay, around 30 liters of agrochemicals are used in each crops cycle (Benitez, personal communication, 17-05-2013). These include several pesticides and herbicides which are classified by the World Health Organization (WHO) as 'extremely hazardous' and 'moderately hazardous', such as Paraquat (a toxin with no antidote), 2,4-D, Gramoxone, Metamidofos (reduces sperm count) and Endosulfan (causes birth defects) (Howard, 2009).

Through frequent fumigations and leakage of agrochemicals, campesinos and indigenous groups living in the proximity of large soy production farms become exposed to the toxic substances and numerous cases of intoxication have been reported. The most known example is the case of Silvio Talavera from Itapúa who died in 2003 at the age of 11 years old due to intoxication

through fumigations (Palau, 2009). Since then, several other cases of deaths have been reported and there has been a strong increase in the number of people who believed to be sick due to the use of agrochemicals used in soy production. They suffer from various types of health problems and chronic illnesses, such as headaches, vomiting, stomachaches, diarrhea, dizziness, fever, skin rashes, respiratory problems and birth defects (Maeyens et al., 2007). Between 2006 and 2007, the Paraguayan doctor Stela Benítez Leite conducted a study in the regional hospital of Encarnación, Itapúa, revealing a correlation between congenital malformations and exposure to pesticides. Malformations occurred significantly more often on newborn babies when their mothers lived within a radius of one kilometer from soy fields where pesticides where being used, when pesticides were stored in the home, or when the mother had been in direct or accidental contact with pesticides (Benitez et al., 2007). However, few attention for the matter is obtained by the authorities and no official diagnostics exist regarding the health impacts agrochemicals can cause on people exposed to them (Ortega, 2012). To make matters worse, law enforcement is often insufficient and laws intended to protect local communities from exposure to fumigations (protective barriers, rules about when not to fumigate, etc.) are constantly being violated (Palau, 2009).

Next to the impacts on human health, the large quantity of agrochemicals used on soy plantations have also been found to have significant environmental impacts. The contamination of rivers, streams and groundwater is an important topic of concern in certain areas where soy is produced. According to villagers living in these areas, water previously used as drinking water becomes unsuitable for consumption and fish populations decrease. They believe the waters become contaminated because soy producers fill and wash their spraying tanks (with remainders of agrochemicals) directly in the streams. Leakage and fumigations are also likely to play a role in transporting the toxic substances to the water bodies (Palau et al., 2012). Despite the apparent severity of the situation, comprehensive studies by the national government assessing the state of drinking water sources in these areas do not exist (Ortega, 2012). Furthermore, rural communities in the vicinity of soy fields often claim the frequent fumigations cause the loss of their subsistence crops: fruit trees do not grow fruits anymore and the productivity of staple foods like manioc and kidney beans decreases strongly. Roundup is designed to kill all plants which are not genetically modified to resist, so when this herbicide reaches the fields of neighboring small-scale producers it can negatively affect their crops. Also, the agrochemicals used by large soy producers are said to be the cause of illnesses, malformations and deaths among the animals of neighboring campesinos. Cows, pigs and chickens drink contaminated water and eat from grass with traces of agrochemicals, thereby ingesting the toxic substances which make them sick (Maeyens et al., 2007). Due to the severe impacts of soy production on human health, traditional food resources and the environment, Paraguay figures on the United Nations Food and Agriculture Organization's (FAO) list of countries of concern since 2003 (Itriago, 2012).

Although part of the authorized agrochemicals are classified by the WHO as extremely hazardous, some powerful actor in the soy sector deny that this poses sustainability issues on the ground. Hector Cristaldo, vice president of the soy lobby group UGP, justifies the use of the different types of agrochemicals by stating that the products are authorized by law and that they cause no harm when used correctly and in the right quantities. He dismisses the criticisms by concerned civil society groups as "exaggerated", and claims: "Agrochemical use is not a real problem in Paraguay. There are more deaths due to dengue than to the use of agrochemicals"

(personal communication, 25-04-2013). In line with this view, soy producers always use the neutral term 'agroquímicos'. Many NGO's, resistance leaders and anti-soy activists, however, systematically use the more pejorative term 'agrotóxicos', putting emphasis on the noxious nature of these products and explicitly condemn their use. Likewise, campesinos generally use the term 'veneno', which is Spanish for poison.

Global consensus on whether the consumption of genetically modified products might be harmful to human health or not, has yet to be reached. However, based on the situation in Paraguay, a few things can be said about the negative impacts of GM soy production. René Klein-Holkenborg, a Dutch soy producer living in Paraguay for over 40 years, sheds light on the matter based on his personal experiences. He explains that the original idea behind Monsanto Roundup Ready soy was that less active ingredient of herbicide would be needed, as one product would be enough to eliminate all different types of weeds. When introduced around 15 years ago, the new technology was promoted as a way to reduce the use of agrochemicals, which would be beneficial to the environment and it would mean a financial advantage of around 50 USD per hectare for the soy producers. However, as the years went by, it became clear that GM soy failed to bring the benefits initially promised (Box 8.3).

Box 8.3: The downsides of GM soy production

Soy farmer Klein-Holkenborg uses his own experiences to explain why GM soy production entails higher risks for farmers and has led to an increase in agrochemical use, as opposed to the promised decrease:

- GM soy plants are a lot more sensitive to climatic extremes, which increases the risk of a poor yield. Fifteen years ago there were 3 or 4 types of soy which were relatively well resistant to drought and frost, and would generate a constant productivity of 2500 to 3000kg/ha each harvest. Now, there are 50 to 75 types of soy. They have a higher productivity potential of around 4000kg/ha if the circumstances are good. However, under unfavorable weather conditions, productivity levels can easily drop to 1500kg/ha, causing strong fluctuations in annual yields. This lack of stability mainly affects smaller and medium-sized farmers who do not always have a financial buffer to cope with the frequent poor harvests.
- GM soy plants have become weaker and more prone to get fungi on their roots and stems, requiring increased fungicide spraying.
- The growth cycle of GM soy plants has become altered: when the soybeans are ready for harvest, the leaves have not yet fallen off as they should have, making it impossible to harvest the soy. To overcome this problem, additional agrochemicals are being applied, such as Metsulfuron, a very strong defoliant, stronger than glyphosate.
- Certain weeds have become resistant to glyphosate. To eliminate them, farmers add additional agrochemicals to their tank.

Due to these developments, the volumes of agrochemicals applied have increased instead of decreased, and continue to increase each year. Soy producers no longer benefit from the initial 50 USD reduction in production costs per hectare and the environmental and health situation is more likely to have worsened than improved.

- Klein-Holkenborg, personal communication, 21-06-2013

8.6 *'The soy industry causes deforestation and soil degradation'*

Some of the first criticisms of soy production concerned the issue of deforestation. In the early 2000's, environmental NGOs and consumers in industrialized nations in Europe blamed the soy industry for the destruction of vast areas of rainforest throughout South America (Elgert, 2012). Throughout the history of the advance of the soy frontier in Paraguay, soy production has expanded into areas previously covered by forest. The Atlantic forest of Alto Paraná in Paraguay's eastern region declined from 8 million hectares in 1945 to around 700.000 hectares today (WWF Paraguay, 2012), due to slash-and-burn for cattle ranching and for agricultural use. As can be seen in table 8.3, most of this deforestation took place before 2004, when there existed few legal barriers.

Table 8.3: Deforestation rates in eastern Paraguay, 1960-2011

Year	Deforestation rate (ha/year)
1960	123.000
1970	212.000
1986	289.000
1995	113.000
1997	85.000
2002	110.000
2005	20.000
2006	6.400
2007	5.600
2008	9.503
2009	10.876
2010	6.230
2011	12.017

Source: WWF Paraguay, 2012

In 2004, Paraguay introduced the *Ley de Deforestación Cero* (Zero Deforestation Law), which prohibits land use change from native forest to other uses (agriculture, livestock, human settlements) in the eastern region of the country. By 2006, the deforestation rate in this region had been reduced by 85% and Paraguay and received international recognition for these achievements (Dutch Soy Coalition, 2009). Some experts claim soy expansion is not a cause of deforestation anymore nowadays. As Vasquez stated in an interview: "Saying that soy causes deforestation is a lie" (personal communication, 25-04-2013). However, evidence from the field suggests that illegal deforestation for soy cultivation continues in Oriental Paraguay, yet in a disguised form. Several producers in Itapúa explain that many farmers in the area still own parcels of land covered with native forest. These parcels were bought before the implementation of the Zero Deforestation Law, with the intention to convert them into

agricultural lands over time. To be able to execute their original plans without risking a fine for cutting down trees, the interviewees state that some farmers deploy the following strategy: they hire people to start a forest fire on their plot to clear the trees, then they deny any form of involvement, blaming the fire on natural causes or on the work of intruders. A likely example of such a case was encountered during a field visit to the northeastern part of the department of San Pedro. A few months earlier, in August 2012, there had been a massive forest fire on the properties of the Brazilian large landowner and soy producer Ulises Teixeira. The fire destroyed 7477 hectares of forest, which were considered the largest forest remainders of the whole department. Campesinos and village leaders living in the vicinity of these lands are convinced that the fires had been lit intentionally to clear land for soy production. Several NGOs, including Alter Vida and Base IS, visited the area a few days after the incident and ascertained that the property had been prepared intentionally for the fire. Teixeira denies all accusations (Alter Vida, 2012; personal communication with campesinos in Yaguareté Forest, 01-05-2013). Even though the Zero Deforestation Law has helped to reduce the deforestation rate in eastern Paraguay, it has not managed to bring deforestation down to "Zero", for which it was intended. Table 8.3 shows that from 2005 to 2011, between 5000 and 20.000 hectares of forest were still cleared every year, and it is highly plausible that soy expansion continues to play a role in this process.

While some actors tend to deny the contribution of the soy sector to deforestation processes, others have been found to overstate this role. Palau et al. (2012) declare that "the main cause of deforestation in [the eastern] region is the exponential expansion of soy cultivation". Likewise, Itriago (2012), highlights the strong deforestation which occurred in the Atlantic Forest of Alto Paraná and claims that "this staggering decline is mainly due to soy production". It is doubtful whether these claims are true. In total, 7,3 million hectares of forest have been lost since 1945. The area under soy cultivation is currently 3,2 million hectares, which implies that at least 4,1 million hectares of land have been deforested due to other causes than soy expansion. Furthermore, not all soy fields required direct deforestation, as soy also expanded onto pasture fields and campesino lands. In fact, the deforestation rate was highest between 1984 and 1991 (Fundación Moisés Bertoni, 2007), which was after the first soy boom and before the second, in a period when the area under soy cultivation remained relatively stable (Maeyens et al., 2007). Although evidence exists that soy expansion has caused deforestation in eastern Paraguay, it seems that another factor, most likely livestock farming, has played a larger role in the disappearance of the Atlantic Forest of Alto Paraná.

As stated earlier, the deforestation rate in eastern Paraguay strongly declined after the introduction of the Zero Deforestation Law. Yet, paradoxically, alongside this decline there has been a significant increase in deforestation outside the limits of the Atlantic Forest area, notably in the western Chaco region. Researchers suspect that this is, at least in part, due to 'leakage' whereby deforestation is not reduced, but simply displaced. Since land use change from forest to agriculture has become illegal in eastern Paraguay, soy expansion increasingly takes place through the conversion of pasture lands into soy fields. The livestock farmers who sell their land have been found to move their activities to the Chaco, causing deforestation there (Arevalos, personal communication, 22-04-2013; Elgert, 2012; Doughman, 2012). According to the monitoring carried out by the organization Guyra Paraguay, 268.084 hectares of forest disappeared in the Paraguayan Chaco region in 2012, which implies an average deforestation rate of 735 hectares per day (Guyra Paraguay, 2013). As the direct causal relationship between soy expansion and deforestation declines in importance, the indirect impacts deserve greater

attention. Another worrying tendency, is that soy production itself is also gradually expanding into the Chaco, inducing not only indirect, but also direct deforestation. Agrofertil, a major soy producing company in the country and official supplier of Monsanto products, has recently been linked to the illegal purchase and deforestation of 25.000 hectares of indigenous land in the Chaco and the expulsion of its native peoples (Mendieta, personal communication, 12-04-2013). Environmental NGOs worry this trend will intensify in the future if no measures are taken to effectively protect the natural habitats of Occidental Paraguay. Although the Zero Deforestation Law might seem like an ecologically desirable initiative at first, further analysis shows it mainly helps to protect a region with hardly any forests left while shifting deforestation to an ecologically sensitive region elsewhere in the country.

Deforestation has various implications for sustainable development. The transformation of native forests into "green deserts" of soy causes fragmentation of nature areas and biodiversity losses and contributes to climate change, affecting not only local areas, but also the wider region. Many indigenous communities and campesinos are directly dependent on the forests for food resources, such as meat, wild fruits and firewood. According to earlier studies, various rural communities in soy production regions note a drastic diminution of fish and wild animals, which they believe is mainly due to deforestation (Palau et al., 2012). Furthermore, according to Doughman (2012), native forests represent an integral component of traditional food production systems, as they regulate rainfall, maintain soil conditions and provide natural pest and plague control.

Next to deforestation, soy production has also been associated with desertification and soil erosion. Some anti-soy activists claim soy producers only use their land for around five years, after which the soil has become exhausted and production is moved to a new plot of land, leaving the previous plot barren and desertified (Castillo, personal communication, 06-06-2013). Others believe desertification is a slower process, and depends for an important part on geographically specific factors and deployed farming practices. In part, soil degradation is the result of diminishing tree cover. Natural ecosystems such as forest, bush and savanna, fix water to the soil and limit evaporation. When this vegetation is removed, the balance is disturbed, causing erosion, which leads to infertile soils. In addition, soil degradation is caused by the intense soil use in soy cultivation and the use of unsustainable farming techniques (Dutch Soy Coalition, 2011). Agricultural practices which protect soil quality are important to ensure that land does not get exhausted, but that it can be cultivated indefinitely, thus reducing the need for land abandonment and the associated need for replacement fields. Research has shown that 'good agricultural practices', such as no-till agriculture (or the direct sowing method), can help to maintain, and even enhance, soil quality. In no-till cultivation, tillage or plowing is eliminated from the production cycle. The soybean seeds are planted directly on a green cover crop, causing little soil disturbance and reducing the release of soil nutrients. However, no-till cultivation also has its downsides. In traditional agriculture, tillage serves to control pests, so once tillage is eliminated from agricultural production, increased pesticide spraying becomes required (Elgert, 2012).

8.7 Conclusion

The soy industry in Paraguay has been held responsible for causing a variety of social, economic and environmental impacts, including decampesinization, deforestation, food insecurity, health risks, pollution, land concentration, conflicts and inequalities. A thorough analysis and assessment of a number of claims concerning these impacts, shows that there are a lot of gaps in reliable data and information on the topic. Added to that, existing data is sometimes misinterpreted and analyses may contain errors, whether accidental or deliberate. Causal relationships are drawn without sufficient evidence and conflicting claims are made by different interest groups without reliable proof to substantiate the assertions. Most uncertainties exist with respect to the exact role the soy industry plays in provoking or enhancing certain processes at a large scale. Various qualitative studies describe the impacts of soy production and expansion at the local level, but there is insufficient statistical data available to be able to extrapolate the results to a broader regional or national level. The question which remains is not so much whether the soy industry causes a certain impact, but how important the role of this industry is compared to other parallel factors. It seems that the debates between supporters and opponents of the soy sector result in the spread of misinformation and perpetuate misunderstandings, thereby diminishing our capacity to fully grasp the complexities of the issues at stake. More objective research is needed to determine the real impact of soy production and expansion and gain greater understanding of the underlying structural causes of the problems.

CHAPTER 9. RESPONSIBLE SOY INITIATIVES IN PARAGUAY

In recent decades, there has been growing attention for the harmful consequences of soy production and expansion under the current monoculture model. Media reports and studies by academics and civil society organizations have documented the negative impacts of this production system on humans and the environment, fuelling criticism among concerned consumer groups. The negative reporting triggered a corporate response among companies keen on enhancing the sustainability of their activities or simply looking to improve their image. Soy producing companies are increasingly engaged in voluntary certification schemes or develop their own standards for responsible soy production. This chapter explores the extent and nature of different private sector responsible soy initiatives undertaken by large-scale soy producing companies in Paraguay. A distinction is made between members of the RTRS and producers who adhere to their own CSR standards. The term 'responsible soy' is used to designate soy produced under both these corporate social responsibility models. The chapter concludes with a characterization of the three selected case studies and their CSR policies.

9.1 The RTRS and its members

The RTRS is described on its website as a "*multi-stakeholder initiative*" which promotes the responsible production of soy through the "*commitment of the main stakeholders of the soy value chain*" (RTRS, 2013). Although the situation is somewhat different at the global scale, in Paraguay, these statements have not been materialized, nor has the initiative managed to gain sufficient popularity to attract a large number of members. Despite the country's high position as 6th largest producer and 4th largest exporter of soybeans, only 4 out of the 157 RTRS members in total come from Paraguay. In comparison, Brazil has 33 members and Argentina 22. Paraguay's members consist of two civil society organizations (the environmental NGOs Guyra Paraguay and Fundación Moisés Bertoni) and two soy producers (DAP and Cytasa). No companies from the Industry, Trade & Finance category or Observing Members joined the initiative, which implies that only part of the relevant stakeholder groups in the country are represented. Initially, the list of members counted a third producer, Tupa Renda, but this company ended its membership in 2012. There are no indications that any company or organization will join anytime soon (RTRS, personal communication, 16-09-2013).

In terms of company size and volumes of soy produced, the two soy producers on Paraguay's member list do not add up to constitute the 'main stakeholders of the soy value chain'. Among the large soy producing companies in Paraguay, Cytasa with its 2707 hectares of soy fields is considered one of the smaller companies. DAP, which cultivates 19.000 hectares of soy is among the largest companies, but still remains far behind the biggest producers in the country, like Grupo Favero (140.000 hectares of soy) and Grupo Espíritu Santo (120.000 hectares) (Rojas Villagra, 2009). Together, DAP and Cytasa produce less than 1% of Paraguay's soy, and only the soy produced by Cytasa is RTRS certified, although it has to be noted that at the time of writing DAP is in the final phase of the certification process. Yan Speranza, director of the Fundación Moisés Bertoni, describes the lack of growth in terms of members and the lack of adherence and commitment of the main players in the field as disappointing. He believes that, in order to enhance the sustainability of the sector as a whole, it is important that the RTRS criteria become

adopted at mainstream level, not only at niche level (personal communication, 26-06-2013). This has clearly not happened in Paraguay, where adherence to the criteria has remained confined to a few isolated cases. The experiences, business practices and developmental impact of these cases will be analyzed and discussed in the following chapters.

9.2 Independent CSR standards for responsible soy

While the RTRS in Paraguay fails to upscale its activities, independent corporate responsible soy programs are gradually expanding. The first CSR activities in the country began by the end of the 1990s, but the concept started to gain importance during the second half of the last decade (Guereña, 2013). There is no data on the number of companies currently involved in the self-proclaimed responsible production of soybeans, but the search for case studies for this research reveals that, although increasing in importance, soy producers engaged in responsible business remain a minority. These companies are located throughout the soy production regions in the country and provide a heterogeneous mix of access to credits, agricultural inputs, technical assistance and donations to communities located in their area of influence. They may also be involved in environmental conservation or reforestation programs. For all holds that the CSR programs are self-regulated, implying that they are not tied to a certain set of predefined standards or subjected to external control mechanisms, raising questions about the quality and legitimacy of such programs.

The extent to which the CSR activities are formalized and structured varies from company to company. Some soy producers form alliances with NGOs or have a separate CSR department with a detailed written policy, while others operate more informally and ad hoc. A few companies explicitly state they aim to incorporate CSR principles as an integral part of their core business activities and management structure. Rioforte, mother-company of Sociedad Agrícola Golondrina and part of the Grupo Espírito Santo, states on their website that the company proposes to "[i]ntegrate sustainability concerns in the definition and implementation of its management strategy and business practices". Likewise, the company Cooperativa Colonias Unidas, which was selected for this research, emphasizes their motivation to contribute to social and environmental sustainability and claims that responsibility values represent and integral part of their management structure. Most companies, however, tend to separate their CSR activities from their core business practices, allowing for a 'business as usual' approach, with additional involvement in social and/or environmental programs. Agrofertil, one of Paraguay's main agricultural input distributers and official representative of Monsanto products, created a separate NGO, CETEDI, for the implementation of the company's CSR policy. CETEDI operates in San Pedro where it organizes a variety of activities for campesino communities, ranging from cooking classes and assistance in building vegetable gardens to setting up committees of small-scale farmers for the mechanized production and sale of export crops like GM soy and corn. On Agrofertil's website no mention is made to any CSR commitments affecting the company's internal organization or business practices. The same might be said about other large-scale soy producing companies, such as Frutika, Trociuk and Tupa Renda, all of which are involved in community development programs. The cited companies have not been visited personally, but accounts from local informants suggest that, apart from the social programs, the enterprises' business practices are not much different from any other soy producer's.

Finally, next to the large companies involved in CSR, there seems to be a trend among medium-sized soy farmers to provide technical assistance to neighboring communities and small farmers. These medium-sized producers usually do not have a website or an official CSR strategy, but provide assistance on an informal basis. The motives of these producers are questionable. While some might mainly be concerned with avoiding conflict and keeping peace in the area, others have been found to use such assistance programs as a strategy to get campesinos indepted in order to seize their land (as was described in box 8.1) (Riquelme, personal communication, 24-04-2013).

9.3 Characteristics of the selected case studies and their CSR policies

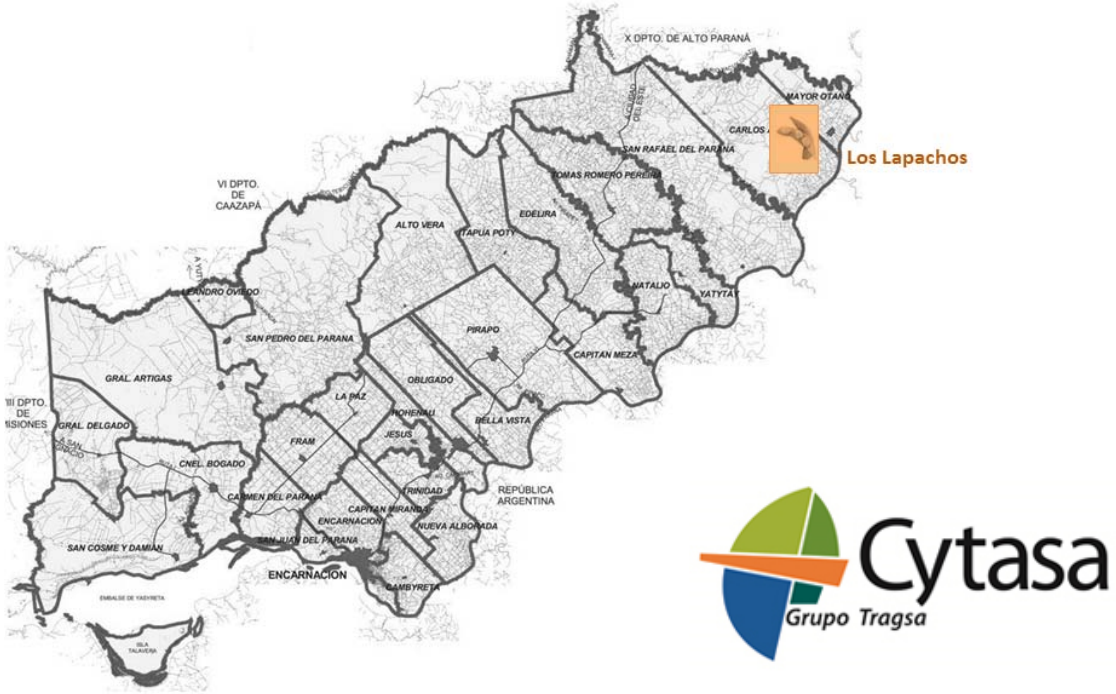
Three corporate responsible soy initiatives have been selected for further analysis. The aim is to determine whether responsible soy could provide a solution to the negative impacts of the soy industry and contribute to sustainable and inclusive development in the region, based on a study of best practices within the sector. In their discourses, all three selected companies state that they strive to contribute to sustainable development and that their responsibility values represent and integral part of their business practices. Each company is briefly outlined below.

Cytasa

Cytasa, which stands for Empresa de Colonización y Transformación Agraria, S.A., is a Spanish company which was established in 1978 through the publicly-owned parent company Tragsa. Tragsa is active in the field of nature conservation, rural development and the provision of emergency services, and has a head office in Madrid and various regional offices throughout Europe, Africa, Latin America and Asia. Cytasa's main administrative office is in Asuncion, but the agricultural production site and field office are located on the company's estate 'Los Lapachos' in the district of Carlos Antonio López, northeastern Itapúa (figure 9.1). The estate measures 6820 hectares, of which 2707 hectares are dedicated to the production of soy alternated with wheat, 251 hectares to livestock breeding, 962 hectares to wood production and 2845 hectares to forest conservation. In total, the company produces around 8.000 ton of soy per year (Sanchez, personal communication, 18-06-2013).

In June 2011, Cytasa was the first producer in Paraguay to become RTRS certified, and during the first two years remained the only one. In addition to the RTRS standards, Cytasa is required to comply with the general CSR policy of the Tragsa Group, which can be found online. The website states that Tragsa is "committed to sustainable development [and aims] to increase the quality of life of the inhabitants of rural […] areas". A number of core values are defined, including responsibility, integrity, global vision, respect for the environment, and engagement with society. These values are to be integrated at all levels of the company so that CSR becomes a part of business culture. Tragsa publishes a yearly sustainability report about its activities carried out in line with its sustainability principles. Through the development and implementation of an integrated CSR strategy, and by offering transparency concerning the nature and impact of the activities undertaken, the company aims to set an example as a "model of a responsible and sustainable business" (Grupo Tragsa, 2013).

Figure 9.1: Map showing Cytasa's estate in Itapúa

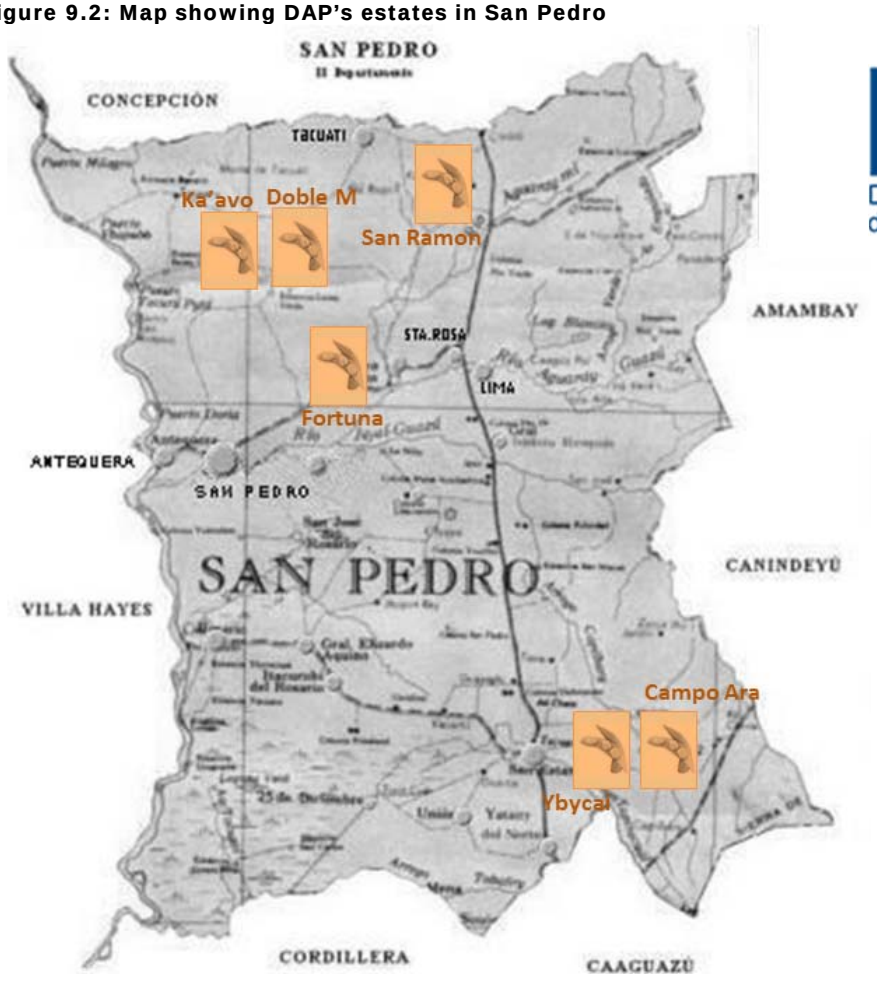


DAP

DAP, short for Desarrollo Agrícola del Paraguay, was founded in 2005. It forms part of NF Developers, an agribusiness development corporation based in Argentina and which operates in Paraguay through subsidiaries. DAP's initial investment capital mainly came from Argentinian and Paraguayan investors, but in more recent years, international investors from the United States, other Latin American countries and Europe also became involved (Guereña, 2013). DAP has a head office in Asuncion, four field offices and six agricultural estates in the department of San Pedro: Fortuna, Ka'avo, Doble M, San Ramon, Ybycai and Campo Ara (figure 9.3). Together, the estates comprise of 39.208 hectares of land, of which 19.316 hectares are used for the production of soy, alternated with corn and sunflower seeds. The remainder consists of forests, roads, water bodies and field office areas. The company produces around 40.000 ton of soy per year (RTRS, 2013b; Terol, personal communication, 26-04-2013; Production manager, personal communication, 03-05-2013).

DAP promotes itself as a leader in sustainable agribusiness in Paraguay and claims to operate along three lines of outcomes: "long-term profitability, environmental care and social inclusion" (RTRS, 2013). Pascual Rubiani, DAP's former president, states the company is actually one step ahead of CSR, asserting that CSR is not just part of the enterprise, it is the company's main strategy (Rubiani, 2008). On its website, DAP emphasizes its engagement with rural communities around the farms as a means to achieve shared-value creation and inclusive local development (DAP, 2013). DAP has always been very active in the RTRS negotiations. The company was a member from the beginning and Rubiani was RTRS vice president. During the field visit the company was still in the process of applying for RTRS certification, but in June 2013 it became officially certified (RTRS, 2013).

Figure 9.2: Map showing DAP's estates in San Pedro

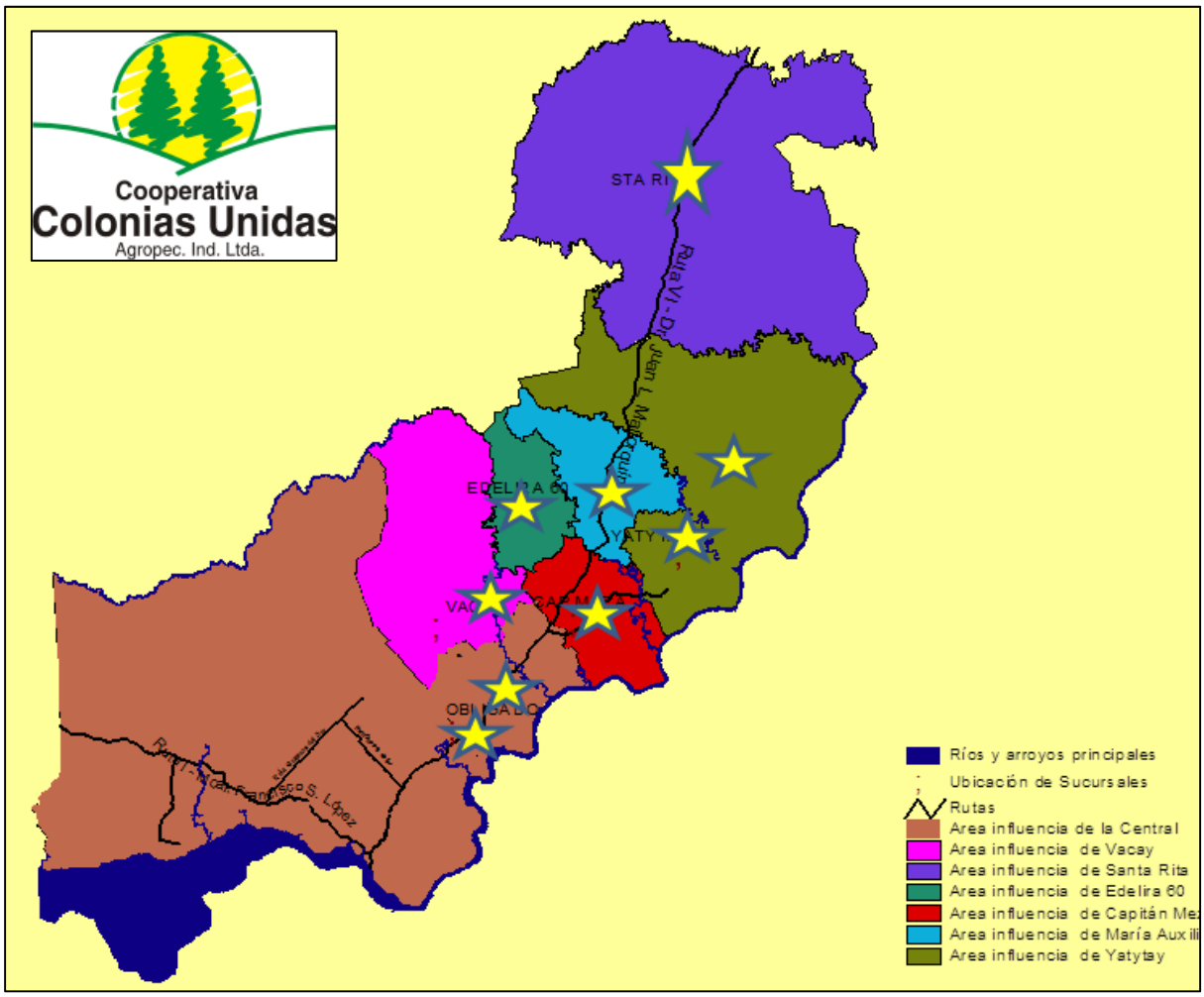


Cooperativa Colonias Unidas

In 1953, a group of 78 farmers, mainly German descendants from the United Colonies of Hohenau, Obligado and Bella Vista in Itapúa, founded the Cooperativa Colonias Unidas (CCU). Over the years, the company grew out to be the most important cooperative in the southeastern region of the country, and now counts 3800 member farmers, referred to as associate producers, who together own and rent around 160.000 hectares of land. Around 120.000 hectares of these lands are used for soy cultivation, leading to a yield of around 300.000 ton of soy per year (Kutzke, personnal communication, 21-05-2013). Among the associates are farmers of Paraguayan and German origin, but there are also important numbers of Brazilian, Japanese, Ukrainian and Russian descendants. The CCU has its headquarters in Obligado and eight branch offices: Siete de Agosto, Capitán Meza, Capitán Miranda, Edelira, Maria Auxiliadora, Yatytay and Vacay in Itapúa; and Santa Rita in the department of Alto Paraná (figure 9.3). The company describes itself as a "multiactive cooperative" referring to the multitude of corporate activities undertaken: alongside its involvement in the production, purchase and sale of soy, corn, wheat, sunflower seeds, tung, rape, sorghum, yerba mate, milk, meat and eucalyptus wood, the company also owns several processing plants and offers various economic and social services (Cooperativa Colonias Unidas, 2013).

The CCU adheres to a set of company values: responsibility, honesty, ethics, cooperation, efficiency, reliability and innovation and creativity. The website cites that the purpose of the cooperative is to improve the quality of life of its associates, their family and their community. It stresses the importance of responsible management and claims the CCU contributed to the progress and development of the area and of the country as a whole. Furthermore, the cooperative emphasizes its commitment to environmental sustainability, aiming at integrating productivity and quality with environmental preservation (Cooperativa Colonias Unidas, 2013). The CCU is not a member of the RTRS, but was nevertheless part of Paraguay's National Technical Group. This group consisted of nine different stakeholders from the industry, producer and civil society categories, which together were in charge of developing national interpretations of the international RTRS certification standards between October 2009 and August 2010 (RTRS, 2013).

Figure 9.3: Map showing the Cooperativa Colonias Unidas' offices in Itapúa and Alto Paraná



Source: Cooperativa Colonias Unidas, 2013

CHAPTER 10: ADDRESSING THE NEGATIVE IMPACTS OF SOY PRODUCTION AND EXPANSION

In chapter 8, an analysis has been conducted of the negative social, economic and environmental impacts of soy production and expansion in Paraguay. This chapter explores how and to what extent the three selected responsible soy companies address these sustainability issues. Visits have been undertaken to the head offices and field offices of Cytasa, DAP and Cooperativa Colonias Unidas. Through observations, in-depth interviews and the study of company documents, insight has been gained in what the companies have done to minimize their negative impact on local communities and their surroundings. The aim is to determine in which areas the companies can set the example for other soy producers, and gain deeper understanding of the challenges the responsible soy companies are faced with. Furthermore, interviews have been held with neighboring community members, local NGOs and government officials in order to compare and complement the corporate discourses with local perspectives.

10.1 Land acquisition policies and practices

Paraguay is the country with the most unequal land distributions in Latin America and conflicts over land are common. Soy expansion is one of the most important factors driving land concentration and forced displacement of campesinos, which in turn perpetuate poverty levels. To avoid enhancing these processes, the responsible soy companies should have in place land acquisition policies which take into account the interests of local communities and respect existing formal and informal tenure arrangements. Cytasa was a pioneer in northeastern Itapúa. According to the field manager, there were no communities living in the area when the company arrived in 1977. Everything was forest. During the years that followed, the estate got occupied a few times by landless campesinos who claimed the land was 'malhabida', acquired illegitimately during the Stroessner dictatorship. None of the current managers could make clear at which price the land was bought and from who exactly, although one believed it was purchased from an Italian company. The exploitation manager explained that Cytasa has always had official titles, but that they were highly fragmented and that there were differences between the registry sytem in Encarnación and the one in Asuncion which caused confusion and led to occupations. In 1992, all loose land titles were unified into one, and since then the company's estate has not been occupied anymore. Whether the land can be considered tierra mal-habida is extremely difficult to ascertain many years later and falls outside the scope of this research. Land titles may be official, but that does not mean the sale of the land to a private company was legitimate in the first place, as it might have been destined for campesinos through the land reform. Without entering further into this discussion, a positive note can be added concerning Cytasa's expansion history and future plans. In 1985 a smaller parcel of land was added to the original estate, but since then there have been no more changes in size, nor does the company have plans to expand in the future. The main reason for this is that Cytasa is a publicly-owned company, therefore there is less need for continuous growth as with a privately-owned company. It has little to do with the Cytasa's RTRS membership, as the RTRS standards do not prevent or discourage soy expansion.

Contrary to Cytasa, DAP initiated its agricultural activities in 2005 in a region mainly dedicated to livestock production and with an important campesino population. In the beginning there was a lot of resistance. Many local smallholders opposed the arrival DAP, and more general of soy production, in their area, fearing this production model would lead to agrochemical contamination and deforestation, and concerned that the company would not provide enough work. In response to these concerns and in order to prevent conflicts, DAP established land acquisition policies which were intended to avoid harming campesinos living in the area. The company limits its purchases to large private properties and does not buy land from campesino communities or small producers, in order to prevent the displacement of these often vulnerable population groups. However, DAP does not have in place any policies restricting further soy expansion. On the contrary, Terol stated in an interview: "If the possibility exists to buy more land we will buy more land". The RTRS standards demand certified companies to provide documented evidence of the legal rights to use the land, but do not impose any restrictions on soy expansion as such, thereby rather legitimizing than halting soy expansion.

The Cooperativa Colonias Unidas owns some plots of land for their offices, silos, industries and reforestation program, but all the land used for productive activities is in the hands of their associate farmers. Despite presenting itself as a company with strong responsibility values, the CCU does not exert any influence on the land acquisition practices of their members. Being in the possession of official land titles is a requirement to become member, but the company does not impose any restrictions regarding how the land was acquired and from whom. In practice, one of the company's technicians explains, associate producers often start out with small plots of land and when they have enough money they buy land from other small farmers and grow little by little. The contribution of the CCU to local development has two sides. On the one hand the company assists their members, the majority of which are small and medium-sized producers, in improving their incomes and capacities (more on this in chapter 11), on the other hand, in doing so the CCU enables and encourages these farmers to expand their productive activities (mainly GM soy cultivation) through the purchase or lease of more land. Interviews among the associate farmers reveal that indeed, given the financial means and the lack of restrictions from the CCU or the government, the members tend to manifest the same attitudes and behavior towards soy expansion as any typical soy producer in Paraguay (box 10.1). The interviewed associate producers claim land sales usually happen upon mutual agreement between buyer and seller. To what extent this is true is difficult to determine. Campesinos from Edelira district, whose plots border the fields of CCU associates, state that one of these neighbors comes to the community every now and then because he wants to buy land from the peasants. He does not force anyone to sell, but keeps insisting. There is a lot of pressure, and the campesinos are poor, so after some time many end up selling their land. The illegal sale of derecheras is common in such cases.

Box 10.1: Land acquisition practices of a CCU member farmer

"I came to Paraguay with my parents in 1978 when I was 5 years old. Initially, my father purchased 24 hectares of land and little by little he bought more. We started very poor with only a cow cart. Now we have all the necessary machinery for ploughing, sowing, spraying and harvesting. We mainly buy land from small producers and Brazilians who return to Brazil. By now, I own 577 hectares of agricultural land, but I want to buy more. I want to produce more, and more, and more! For the world, because the need for food is growing. There is not much land left for sale here in the area, and what is left is very expensive. But the Chaco is big. There is a lot to explore there"

- Brazilian soy farmer and CCU associate, Santa Rita, Alto Paraná

The growing demand for Paraguayan farmland has contributed to the commodification of land and has significantly driven up land prices, which puts more pressure on smallholders to sell and at the same time excludes this group from the land market. Land is increasingly concentrated in the hands of a few farmers. Some of the CCU members recall that in the seventies and early eighties, they paid only 6 to 30 USD per hectare of (forested) land under the land reform program. Ten years ago market prices had risen to over 2000 USD/ha (for deforested land). Currently, land prices in the main soy production regions of Itapúa and Alto Paraná are as high as 20.000 or even 30.000 USD per hectare. In San Pedro, they have reached 6000 USD per hectare. CCU's production manager explains that there are less and less land conflicts in the departments Itapúa and Alto Paraná, as an important portion of the productive land has already been converted to soy fields. There are still campesino communities, but they are not as militant as in soy expansion regions like San Pedro. Representatives from the Itapúa-based NGO Gacii confirm this tendency, stating that over the years many campesinos have lost hope for more equitable land distributions. They abandon the struggle and move to the city or abroad in search for better opportunities. The CCU largely distantiates itself from land issues involving their members and indirectly supports the processes of land concentration and decampesinization; processes which have proven to enhance poverty levels among the affected communities. The cooperative is an extremely large and influential actor in the region, which could potentially do a lot more to prevent illegitimate land sales and promote the respect for formal and informal tenure arrangements. Such a position would match the CCU's claims of being a responsible company, but apparently protecting the interests of non-member campesinos is not among its priorities.

10.2 Food security

Soy expansion is frequently linked to perpetuating food insecurity in producer countries, as land used for local food production is often converted into fields for export soy production. Moreover, as campesinos or indigenous groups lose their land (through sale or dispossession) they not only lose their productive means, but in many cases they are also unable to find jobs which enable them to earn enough money to feed their family and compensate for the loss in land. As seen in the previous paragraph, out of the three case studies only the CCU contributes to the direct conversion of campesino lands into soy fields. CCU associates describe how Itapúa

and Alto Paraná have changed over the years, as small subsistence farms became replaced by a green sea of soy. Considering the large number of CCU members, their combined share in contributing to these developments is likely to be important. Paradoxically, next to being the only company studied which contributes to the purchase of campesino lands by soy producers, it is also the only company out of the three which is involved in the production, processing and trade of food products for the local market. Next to a market for soy, the CCU also offers their member farmers technical assistance and a market for milk, beef, pork, chicken and yerba mate. These products are processed and packaged in the industrial plants of the company and sold in stores throughout the country under one of the company's brand names, the most known one of which is 'Los Colonos'. Despite the CCUs involvement in food production, the company's main focus still remains on soy, as this is what they consider to be the most profitable crop. Out of the 3107 producers in total, 2284 produce soy, whether or not in combination with other agricultural products. Although the interviewed member farmers (all soy producers) are mostly satisfied with the company's assistance, a few remark that they would like to receive assistance for the production of subsistence crops (box 10.2).

Box 10.2: Lack of assistance in subsistence farming

"The technicians from the cooperative mainly help with soy, wheat and corn, but not with tomatoes, onions, peanuts and other subsistence crops. I asked them a few times for fungicide for tomatoes, but they don't have this and the technicians don't have knowledge about this. Paraguay imports tomatoes, but we shouldn't have to. We have a good climate for tomatoes, we just need technical assistance".

- CCU member, Obligado, Itapúa

In terms of the types of products produced, Cytasa and DAP resemble most other soy producers in the country. In the soy season, all their agricultural lands are dedicated to soy production, and in the winter season these same lands are cultivated with corn, wheat or other grains (also mainly for export). They do not produce food for the local market, nor do they have any processing plants. Both claim to be responsible companies, but the choice for the type of products they produce is made on the basis of economic, not moral grounds. As Guillermo Terol puts it: "We don't produce for export or for the national market. We produce in order to sell". In their community projects (which will be elaborated upon in chapter 11), the two companies do provide assistance to smallholders for the construction of vegetable gardens for subsistence farming, contributing to improving the local food security situation of the families involved. Yet the sustainability of these projects on the long run is doubtful. Land conversion and the production of food crops are not the only ways through which local and national food security can be affected by the soy industry. Soy farmers throughout Paraguay have also been found guilty of destroying the food crops of neighboring farmers through herbicide spraying. To what extent this is the case for the companies studied will be examined in paragraph 10.4

10.3 Employment

Earlier studies point out that the soy industry in Paraguay provides only a meager amount of jobs for local rural populations and that those who do manage to get employed are often exploited. Upon inquiry among company managers, it appears that Cytasa and DAP each employ approximately one permanent agricultural laborer per 250 hectares of farmland. In addition, they employ a few dozen permanent staff members to work in administration, logistics and forestry. DAP follows the system of a 'sowing pool'[3], an agribusiness investment group which contracts all the services needed for ploughing, sowing, fumigating, harvesting, storage and transportation externally. Groups of Mennonites own all the machinery and employ a large part of the workforce. According to one of DAP's production managers, roughly half of the permanent agricultural workers are employed by the company itself and the other half by contractors. During busy periods such as harvest time, the contractors hire additional seasonal or day laborers. Cytasa owns all of the agricultural machinery and directly employs the machine operators and most of its laborers, but relies on contractors for employing workforce for the forestry part. In total, Cytasa employs 42 permanent laborers and around 20 more are employed by contractors. DAP employs 53 permanent workers and the contractors another 40 or so (in both cases these numbers exclude the office workers in Asuncion and the seasonal workers). Cytasa has relatively more workers than DAP in relation to the size of the landholdings. However, most of these workers work in the forestry part. When considering only the laborers employed for soy production, the relative numbers are similar between the two companies. An overarching recurrent complaint among the interviewed campesinos living in vicinity of Cytasa and DAP is that the companies provide too few jobs, and more specifically, that many of these jobs go to people from other areas (box 10.3).

Cooperativa Colonias Unidas is a much larger and more diversified company than the other two. It assists farmers in the production of soy and other crops, has various industrial plants and provides a wide range of social and financial services to their members. In addition, the company owns a supermarket, a hypermarket for agricultural inputs and various gas stations. Due to this multitude of activities, many more employees are needed. The company employs around 1300 permanent employees, of which 30% have a job in administration and 70% in production or industry. Up to 200 extra seasonal workers are employed during busy periods of the year. The CCU is an important employer in the town of Obligado, the company's headquarters. However, in the areas where the associate producers live, few jobs are created for local campesinos. The company does not have a record of the number of laborers working in the production fields of their member farmers, but one of the technicians explains that only the associates with more than 200ha tend to have permanent employees. Those with 50-200ha generally do not have permanent workers, but may hire daily wagers during harvesting season. Smaller farmers mostly do all the work themselves together with family members. As the average size of landholdings of the members is 45 ha, one can imagine that the total number of permanent jobs provided by these members is likely to be low.

[3] Guereña (2013) defines a sowing or planting pool as: "a method of association for large-scale production that began with soy production in Argentina. It consists in mega-contracts or groups of contracts with the participation of land owners; contractors who contribute machinery to engage in production; agronomists who direct the process on a technical level; and investors who provide the capital, frequently through a trusteeship. There is no specific legal body for this type of association or legislation that regulates it."

For all three companies studied there is a marked difference between the working conditions of the laborers employed by the companies themselves, and those of the workers employed by contractors or, in the case of the CCU, by associate farmers. For the workers employed by the companies, the working conditions seem to be largely in order. All have a contract according to national IPS (Instituto de Previsión Social) standards, which guarantees them social and medical security, adequate working hours and a salary in accordance with the nationally established minimum wage. However, the companies do not request the contractors/associates to give the same contracts to the workers employed externally. In the case of DAP, none of the daily wagers (around 575 people per day for 30 days per year[4]) receive a contract, which means they do not fall under any form of legal protection. DAP pays the contractor a fixed amount of money per hectare and the contractors decide how much they pay their workers. In the case of Cytasa, seasonal workers employed by the contractors to cut eucalyptus trees need to buy their own equipment and do not have a contract. They receive few restrictions regarding working hours, so many end up working long days (10 to 12 hours) in order to make as much money as possible (box 10.3). The RTRS certification requires companies to respect with a set of 'responsible labor conditions', but apparently the level of compliance and enforcement is low for labor contracted externally. The CCU does not require their associate producers to apply certain labor conditions to their farm workers. Members are free to carry out their own labor policies. One of the technicians estimates that half of the laborers employed by the members have a contract and the other half work according to informal verbal agreements.

Box 10.3: Working conditions at Cytasa and DAP

"For ten years Cytasa only employed one permanent worker from our community. Three years ago they employed two more, but these are young single men who don't have a family to feed. Others need the work more. Most workers employed by the company come from Carlos Antonio Lopez or Siete de Agosto. The contractors bring many workers from Minga Guazú, which is all the way in Alto Paraná. We are the closest community, Cytasa should give us more jobs."

- campesino, Guarapay, Itapúa

"To work as a daily wager for one of the contractors you need to buy your own safety equipment (helmet, boots and gloves), your own chainsaw for cutting eucalyptus trees, and your own fuel. My chainsaw broke so I cannot work anymore. The repair costs are too high. You decide on your own hours, so we usually try to make as many hours as possible. the contractor pays us per kilo of wood. If you make very long days it is possible to earn up to 80.000 G [17 USD] *daily. We never signed a contract, but they say we have a health insurance. We got a plasticized piece of paper which is supposed to be our insurance form. We don't trust it so much, it is better not to get an accident. Last year I worked for 2 or 3 months in total. I would prefer a permanent job at the company, because then you get more work and more benefits ."*

- daily wager at Cytasa, employed by contractor, Guarapay, Itapúa

[4] This figure is an estimation. According to the production manager at Fortuna estate, DAP employs around 3 temporary workers per 100ha during 30 days per year, at harvest time. This would amount to 575 temporary workers per 19.000 ha.

"When DAP arrived here I got an employment contract. We had to remove tree trunks from the land to prepare the fields for soy cultivation. After 2 years there was no more work for me. Now I work for a contractor on an irregular basis. Sometimes 15 days in a row, sometimes only one or two days a month. Between September and May there is a lot of work, but the other half of the year there is almost nothing. As a daily wager I mainly work in 'carpida', removal of weeds. The work is not very heavy. I usually get paid 40.000 to 50.000 G per day [8,93 to 11,16 USD]. *None of the daily wagers have contracts or medical insurance. Everything is informal. I would like to work more often. In the beginning DAP held a meeting in the community. They promised us work. But now the contractors are bringing a lot of workers from other regions. This was not the deal."*

- daily wager at DAP, employed by contractor, Colonia Barberos, San Pedro

10.4 Health threats and environmental pollution

One of the most serious problems frequently associated with soy cultivation is the damaging impact of the use of agrochemicals on the health of people living in the vicinity of the production fields and their natural surroundings. All of the three investigated companies primarily produce GM soy which is resistant to Monsanto's Roundup Ready herbicide. DAP has produced GM soy since the company's inception in 2005, as this had become legalized by the Paraguayan government a year earlier. Some of the CCU member farmers state they illegally produced GM soy long before that year. Cytasa's exploitation manager states that the company cultivated conventional, non-GM soy up till 2012, but recently switched to GM production for pragmatic reasons. He explains that conventional soy has higher production costs, but that farmers do not get paid more than for GM soy. Moreover, all the capital in research and development goes to GMOs: the seeds are constantly being improved and they are made resistant to diseases and drought, while seeds for conventional soy become more and more difficult to find. Many local seed suppliers do not sell them anymore. Furthermore, the exploitation manager believes that conventional soy might be more damaging for the environment than GM soy as it requires more agrochemicals. The agricultural engineers and technicians working for the three companies all agree with the latter claim that there is little difference between producing conventional soy and GM soy; both are perceived as about equally harmful (or harmless) to the environment. They also agree that organic production is significantly less harmful, but do not consider switching to organic production as a potential or viable option. Profit and convenience are the main motives for the choice of GM soy over organic. Organic soy is believed to cost more work, have smaller markets, generate less profit and have lower productivity levels than its genetically modified variant. Furthermore, logistically the trade of organic soy is perceived to be more complicated as a separate transportation and sales channel should be created to avoid the contamination from GM soybeans.

Like any other producer involved in monoculture GM soy cultivation in Paraguay, the three responsible soy companies regularly apply a variety of herbicides, insecticides, fungicides and chemical fertilizers to their fields. The main difference is that the selected case studies all have a policy to limit their use of agrochemicals to certified, legally authorized products, while among regular soy producers in the country the usage of contraband agrochemicals is fairly common. Furthermore, the studied companies aim avoid or limit the use of products on the 'red list', which are the most harmful ones. In all three cases, weeds are increasingly developing

resistance to the herbicide glyphosate. To eliminate these 'super weeds', the companies frequently use additional products, which drives up the total use of agrochemicals. Also, the producers from Itapúa which have been producing soy for several decades assert that soy plants are increasingly prone to fungal diseases, especially 'roya', which further increases the use of fungicides. Managers at DAP and Cytasa claim the companies respect all national environmental laws. The CCU advises their member farmers to use legalized agrochemicals and comply with environmental regulations, but does not strictly demand or control this. Although striving for legal compliance is noble, and mandatory for RTRS certification, respect for national laws should be the norm and does not deserve the term 'responsible'. Besides, when regulations become less strict, as recently happened when the corrupt government under president Franco authorized new varieties of GM crops, this gives the companies a carte blanche to use potentially more dangerous products.

Various laws and regulations exist to minimize the negative impact of the agrochemicals on the environment and on the health of neighboring communities. One of the most important environmental laws states that soy producers need to plant a strip of dense foliage between their fields and public roads, neighboring houses or water bodies. This green barrier serves as a shield to protect local communities from the herbicides and pesticides sprayed onto the fields. Judging from observations and interviews, DAP seems to respect this law. The barriers are there and they are in a good condition. In some areas where communities live very close to the production fields, DAP reinforced the mandatory green barrier with a strip of eucalyptus trees in order to broaden and heighten the barrier for increased effectiveness. Despite these measures, some of the interviewed community members complain of the smell of the company's agrochemicals and the effects they believe these products generate. Other respondents complain about the effects on their food security situation. Apparently, the existing legal requirements are not sufficient to protect local communities. In response to the complaints, DAP is in the process of further improving some of the barriers (box 10.4).

Box 10.4: Campesino complaints about DAP's agrochemical sprayings

"Sometimes when DAP fumigates, a strong smell reaches the house. The agrotoxins are bad for our health, they give me stomach aches, headaches and spots on my skin. And my children often get diarrhea. The company does not inform us before spraying, but when the smell is too strong we call them and they stop".

- campesino ,Canada Santa Rosa, San Pedro

"The poison DAP sprays causes respiratory infections on my cows and pigs, once a calf was born dead. And my fruit trees used to carry 500 fruits, now only 100. They do have a lot of protective barriers since the beginning. We don't complain to the company. It will not help anyway."

- campesino ,Colonia Barbero, San Pedro

Near Ybycai estate, villagers complained that glyposate destroyed their crops. We conducted a study which concluded the crop losses were the result of fungal diseases. We have protective barriers everywhere, but villagers still complain of the smell sometimes. We plan to reforest the barrier at Ybycai, which will hopefully help. We have received no reports of health problems up till now.

- Samaniego, DAP's socio-environmental field coordinator, San Pedro

Cytasa has few direct neighbors. Most of the properties which border the estate belong to other soy farmers. The closest campesino community does not border the company's production fields, and the interviewed community members believe the Cytasa's agrochemicals do not reach their houses. However, they do complain that the company did not place green barriers along the public road which goes from the community through the soy fields (box 10.5). Cytasa's exploitation manager claims officials from the public institution SENAVE said barriers were not needed. Yet, the law is very clear: green barriers along public roads are mandatory.

Box 10.5: Campesino complaints about Cytasa's agrochemical sprayings

"Cytasa used to fumigate with an airplane, until about 7 yrs ago. Back then, the wind blew the smell of their agrochemicals up to our community. Since they stopped aerial spraying their poison does not reach us anymore, because we do not directly border their fields. We do have problems with the fumigations of various other, direct neighbors. Especially one Brasiguayo who does not respect any environmental law."

"Cytasa did not plant a protective barrier along the public road we use a lot. When we walk or drive a motorbike on that road during spraying times, the smell of poison is very strong. They should respect the law. We never complained. We don't know where to do this".

- campesinos during FGD ,Guarapay, San Pedro

The CCU has an environmental manager who organizes information meetings and field visits to inform and educate the member farmers on environmental legislation and assist them in complying with these laws. However, the CCU does not perform controls or sanctions, nor is compliance with environmental legislation a requirement to be a member. As a result, legal compliance among the associates remains sporadic. 6 out of the 11 interviewed associate farmers claims to comply with all environmental regulations. The threat of a potential fine can motivate producers to comply with environmental regulations. However, respondents from all three investigated companies state that inspections from government officials are extremely rare. One of the farmers adds that in case they do come, one can easily avoid a fine by paying a bribe. It may not come as a surprise that campesinos living in the vicinity of the soy fields of CCU associates complain about the impacts of the agrochemicals on their subsistence crops (box 10.6).

Box 10.6: CCU associates and environmental regulations

"I did not plant green barriers along public roads. Nobody around here wants them. People are afraid criminals will hide in the dense foliage and assault passersby. It is safer without barriers. And besides, SENAVE and SEAM never come here to control".

- CCU member, Santa Rita, Alto Parana

"Last year, the government gave out many fines in this area. A Brazilian neighbor got a fine of 50 million Guarani [approximately 10.670 USD] *for cutting down 15 hectares of forest. Now I am up to date with all the environmental laws, I don't want a fine like him".*

- CCU member, Santa Rita, Alto Parana

"A few years ago I produced everything organic: manioc, peanuts, corn, yerba mate and a few hectares of organic soy. But the pesticide sprayings by my neighbors [CCU members] *increasingly drove the insects from their fields to our community, which forced me to apply insecticides too. Silvio Talavera used to live not far from here, but died due to agrochemicals. This brought a lot of publicity to the area. Now the sojeros respect spraying times and more and plant green barriers".*

- Campesino, Edelira district, Itapúa

10.5 Deforestation and soil degradation

Over the past decades, the area dedicated to soy cultivation in Paraguay has increased sharply. Part of this increase has happened at the expense of native forests and other natural habitats, causing biodiversity losses and contributing to climate change. Any soy producer that aims to be environmentally sustainable should have in place policies which prevent deforestation effectively. When Cytasa bought the land in 1977 everything was forest. The company deforested part of the estate and converted it to agricultural land. At that time, deforestation was still legal and the Paraguayan government encouraged the expansion of the agricultural frontier as a strategy to foster economic growth. Since deforestation became prohibited, Cytasa has complied with this law. Furthermore, native forests cover 40% of the estate's total surface, which is well above the required minimum of 25%. These forests are meant to be conserved in their original state. In addition, 10% of the total surface of the estate consists of non-native eucalyptus trees which have been planted by Cytasa for wood production. The company started to produce eucalyptus in 2000 as a diversification strategy. It provides more stable returns than agriculture as it is less dependent on climatic factors and inputs. Moreover, per hectare it provides more jobs than soy cultivation. However, around eight years of investment are needed before the first wood can be harvested. Cytasa does not have expansion plans, which prevents the conversion of more natural habitats into soy fields. DAP is a much younger company than Cytasa and was founded when the Zero Deforestation Law was already in place. It has always been a policy of the company to comply with the law and only expand soy cultivation onto pasture lands, not forests. The problem is that such practices might indirectly contribute to deforestation in the Chaco, as this is the destination of many cattle farmers which sell their land in the eastern part of the country. Like Cytasa, DAP retains a forest cover of more than 25% of their land area and has also reforested part of the land with eucalyptus trees. RTRS certification requires producers to comply with national deforestation laws. DAP and Cytasa claim they do this, but that these policies were already in place before becoming RTRS members.

Between the 1960s and 1980s important parts of Itapúa and Alto Paraná became colonized. Land use change took place at a large scale as forests were converted into agricultural lands. The eleven CCU associate farmers which were interviewed for this research are all first or second generation colonizers who have been living in Itapúa for at least 30 years. Three of them are native Paraguayans, the others are Brazilian, Italian or German descendants. They describe the context in which they took an active part in the deforestation process in box 10.7.

Box 10.7: Deforestation by CCU associates

"Forty years ago I bought 10 hectares of land from the IBR in the district of Maria Auxiliadora, northern Itapúa. The whole land and all its surroundings were one dense forest, I had to cut a lot of trees. […]*Whether the forest was beautiful? Of course not! What is beautiful about a forest? It was full of dangerous animals, like snakes, wild pigs and jaguars. Apart from that there was nothing here, no roads, no schools, no hospitals, no stores, nothing! Life was very hard, we had to ride 25km by bike to buy flower to make bread, and for the nearest doctor we had to travel more than 100km. Now the situation is a lot better."*

- Paraguayan farmer and CCU associate, (now owns 300 hectares of land)

"In the past, the State encouraged us to deforest and produce. Through the Banco Nacional de Fomento, the Government provided credit if you could show that you would use it to cut trees and clear land for agricultural purposes. Nowadays, this same bank asks for environmental impact assessments and demands farmers to reforest."

- Brazilian farmer and CCU associate

Considering the farmers were stimulated by the government's agricultural colonization policy, searching to build a livelihood under poor conditions, and led by a different mindset, one can hardly blame them for having contributed to deforesting the area. Environmentalism was largely unheard of in rural Paraguay forty or fifty years ago. However, currently the situation is different. Laws have been developed to halt, and to some extent reverse, deforestation and promote environmental conservation. As is the case for most other laws, the Cooperativa Colonias Unidas advises and assists their associate farmers in complying with forest conservation laws, rather than imposing these laws on them. The company helps the members to conduct environmental impact studies and has a reforestation program through which long-term credit is provided to plant eucalyptus trees. All the interviewed producers claim they have not deforested any land since the Zero Deforestation Law came into force in 2004. Three out of the eleven respondents state that at least 25% of their total land is covered with native forests. In the seven remaining cases forest cover is between 10 and 15 percent.

In order to preserve soil quality the three responsible soy companies all apply 'good agricultural practices', including crop rotation, permanent soil cover, no-till and a soil analysis after each harvest. The adoption of these soil conservation measures is a requirement for RTRS certification, but according to the CCU production manager, the large majority of the soy producers in the country already apply them. Not so much out of responsibility concerns, but mainly to protect the farmers' own interests. Land prices in soy production regions have risen exponentially over the past 20 years or so. Producers realize it is important that the soil remains in a healthy state in order to continue producing. Claims from anti-soy activists that soy producers use land for five years and then move on to the next plot, leaving the land barren and desertified, might have been true a couple of years ago, but do not seem accurate anymore. Land has become too expensive to waste and producers generally take care of it. The respondents from Itapúa assert they have been cultivating soy on the same plots of land for up to forty years, and that these lands are still productive thanks to effective soil management. It remains doubtful, however, whether these soils also remain nutritious enough to sustain organic

production, without the application of chemical fertilizers. Furthermore, as has been noted earlier, the practice of no-till agriculture increases the need for pesticide spraying, thereby worsening the impacts on neighboring communities and the environment.

10.6 Conclusion

An important aspect of Corporate Responsibility is the extent to which the companies in question undertake efforts to minimize the negative impacts of their activities on local communities and their surroundings. The greatest way to mitigate the harmful effects of soy production is halting soy expansion. Cytasa is the only company out of the three which does not plan to expand their land under soy cultivation. Therefore, the company is not likely to contribute to further deforestation, whether direct or indirect, nor to the displacement of rural populations to make way for soy. Such an attitude is not visible among DAP or Cooperativa Colonias Unidas, which express a drive for continued growth of their soy areal. As any regular soy company, they hold the capitalist logic that growth implies progress, and stagnation means decline. DAP has policies in place to ensure that soy expansion does not displace campesinos, but the CCU adheres to nothing similar. Their associate producers generally grow by buying land from neighboring smallholders, and the company does not consider this as undesirable in any way. In terms of agrochemical use, the responsible soy companies are not much different from any other soy producer in the country. Usage is high and continues to increase as plant resistance to herbicides grows and fungal plant diseases become more common. DAP deploys the most serious efforts to minimize hindrance of agrochemical spraying among neighboring communities. The barriers they planted to separate their fields from communities are greater than legally required sizes and they avoid the usage of the most dangerous products. Nevertheless, these efforts are still not sufficient to effectively protect neighboring campesinos who continue to complain about the smell of agrochemicals and the effects on their health and food security situation.

The investigated companies mainly attempt to mitigate the negative impacts of their activities by complying with national laws and regulations. Managers from all three companies assert various times that they comply with all laws, which does deserve acknowledgement as this is certainly not the norm in Paraguay. However, in a country with a corrupt government and a legal system which protects the interests of the soy sector, law compliance is not enough to guarantee sustainability, nor do such business practices merit to be labeled ‘responsible’. The CCU assists and advises their members on law compliance, but does little to control or enforce regulations. The company is a powerful actor in the region and could make use of this position to impose responsible practices onto their members for a greater impact. Through the CCU, the benefits of soy production reach the greatest number of people (both in absolute terms, as relative to the size of cultivated lands), but the negative impacts on local communities and natural surroundings are also the greatest due to the scale of the company’s activities.

The managers of the responsible soy companies all recognize the problems the soy industry causes in the country and express their concerns and intentions to minimize their own negative impacts. Through their efforts they are somewhat less harmful than most other soy producers in Paraguay. They use legalized agrochemicals, have adequate labor conditions for at least part of their laborers and they are involved in reforestation activities. However, it remains highly

doubtful whether the most serious problems of an unsustainable production system can be fixed from within and on a voluntary basis. The examples show that, at most, companies deploy actions which do not cost excessive amounts of effort or money and which do not hamper the functioning of their core activities, as ultimately the corporations strive to secure their own interests. They might suggest measures which somewhat reduce the negative impact of soy production, but they will not suggest to produce less soy. Approaching long-term sustainability in Paraguay's countryside requires placing the interests of the poorest segments of society at the center of rural development policies.

CHAPTER 11. CONTRIBUTIONS TO LOCAL DEVELOPMENT

According to the definition adopted in this research, CSR has two objectives: mitigating the negative impacts of companies' activities and generating societal contributions. This chapter focuses on the latter objective. The responsible soy companies Cytasa, DAP and Cooperativa Colonias Unidas present the implementation of community development programs as their main means to achieve social sustainability and ensure that the generated wealth benefits local populations. Although a full quantitative impact study (including a baseline study) of each of the programs is necessary to determine their exact contributions to local development, the present study is of a qualitative nature and aims to gain greater understanding of the processes which have led to the programs and of the perceptions of the stakeholders. Through in-debt interviews with the project managers from the three companies, an effort is made to discern the type of assistance they provide, their motivations, how they attempt to contribute to inclusive and sustainable development and the challenges they are faced with. Furthermore, the perceptions of the beneficiaries of the programs are analyzed to determine to what extent they are satisfied and what could be improved.

11.1 Type of assistance provided and community satisfaction

Cytasa

Between 2009 and 2011, Cytasa implemented its first and main community development project in the campesino colony of Guarapay, located five kilometers from the company's production fields. For this project, the company provided technical assistance to the community members for the construction of vegetable gardens for subsistence farming. In addition, cooking classes were given where the women learnt how to prepare the vegetables, and there were some information meetings on the topic of women's rights. Cytasa provided financial resources, agricultural inputs and technicians, while the community members had to bring in their own manual labor and organize the meetings. For this project, collaboration was sought with the Fundacion Moises Bertoni (FMB), an NGO experienced in assisting CSR activities and also a member of the RTRS. Also in 2009, Cytasa set up another, much smaller, project for an indigenous community living in a more remote area. This project focused on the production of subsistence crops compatible with forest conservation. It was designed together with an indigenist familiar with the community and their culture and customs.

All the interviewed beneficiaries of the Guarapay community project appreciate the assistance Cytasa has provided. They believe the visits from the company and the agricultural technicians have brought them benefits and they would like to receive more assistance in the future. However, they also name a number of criticisms. The main point made was that they find Cytasa should do much more for the community. The interviewees state various things they would like from Cytasa: workshops to learn about plant diseases, road improvements, assistance for the production of staple foods and cash crops, access to a market, fences for keeping chicken. But the main issue which kept being mentioned is that they want more jobs. In absence of the state, the campesinos turn to the company as a source of donations and employment. Another point of improvement the respondents name is that they would like closer contact with someone from Cytasa's local management, as the current project manager is often busy. Although content with

the assistance they received, the respondents are skeptical about the motives of Cytasa. They find it strange that no-one from the company ever came to assist the community before 2008 and they suspect the government has demanded Cytasa to provide assistance (box 11.1). It was not possible to visit the indigenous community where the other project was implemented, but a representative of Gacii, a local NGO working with indigenous groups, gave his opinion on the matter. He believes the soy sector is a threat to the livelihoods of campesinos and indigenous communities. He admits he does not know much about Cytasa in particular, only that they assisted a community with fruit plants and other subsistence crops. Nevertheless, he is skeptical about the company's motives and contributions to development. He believes that although Cytasa might not have harmed the community and even some benefits, the project probably does not compensate for the harm done to the company's direct natural environment. His opinion is based on speculation rather than observation and illustrates the general attitude of mistrust the majority of local NGOs have towards soy producing companies and any development interventions they initiate.

Box 11.1: Community perceptions concerning the assistance provided by Cytasa

"The help we received from Cytasa to improve our vegetable garden was very useful. They gave us technical assistance and shade netting. And we learned to eat many vegetables. I would like to receive more help in the future"

- beneficiary, Guarapay, Itapúa

"Since Cytasa's general manager came to the colony we received benefits. He is very concerned with us and he has experience. But he is often abroad or in Asuncion. We want someone from the local management to be more involved in our project, but not the field manager. He does not care about us, we are just indigenas to him."

- beneficiary, Guarapay, Itapúa

"Cytasa has to give more. They are millionaires, yet they ask for funding themselves to help us. We need help for cash crop production, and a market. Or a cooperative. And they should give us more work. Only three people from our colony work there."

- beneficiary, Guarapay, Itapúa

"Since 2008 Cytasa has provided assistance to our school of 135 students. They provided materials and furniture and funded an excursion to the Itaipú dam. Before 2008 they never came. We don't know why. Maybe because of a push from the government telling them they have to help. Another company, Miller, has been helping the community for longer supplying school materials. We have more faith in soy companies than in the government for assistance"

- School teacher during FGD ,Guarapay, San Pedro

Apart from the two community projects, Cytasa has since early years provided incidental aid and donations to public institutions in the area. They occasionally provide schools with study materials, paint and other forms of maintenance, they make contributions to celebrations in the municipality and they give the local police fifty liters of fuel per month. Especially the latter donation seems strange, but Cytasa's field manager claims it is customary in the area. As the national government lacks resources and is little concerned with secluded regions, public institutions in such areas often fall short of essentials, which they then request from private

companies. A teacher of the school supported by Cytasa asserts that that they also receive donations from Miller, another large-scale soy producer in the area. He adds: "We have more faith in the companies than in the government for assistance". Cytasa draws a line in the type of donations provided. The field manager explains that the company does not fund infrastructure projects, because of the high cost involved and because they want to encourage the national government to fulfill its responsibilities. Apart from donations to public institutions, Cytasa supports a social canteen in the town of Carlos Antonio Lopez with food and furniture donations and the construction of more vegetable gardens. The president of the canteen is satisfied with the assistance and calls the company their '*padrino*', their godfather who takes care of them. Finally, Cytasa arranges transportation and provides clothing and school material for eleven children from the colony of Guarapay, so that they can get access to secondary education at an agricultural school set up by the NGO CECTEC.

DAP

Like Cytasa, DAP has provided incidental assistance to local government institutions as well as technical assistance to campesino families through community development projects. In terms of donations to institutions, DAP has responded to a wide range of requests from community health posts and schools for medicines, books and other materials, celebrations, fences and the construction and maintenance of classrooms and sanitary facilities. In addition, every year the company provides a number of scholarships for higher agricultural education to children of smallholder families. The director of one of the schools which received assistance proclaims that the absence of the state is "impressive" in San Pedro, failing to provide even the most basic necessities. Some schools in the area only have a piece of land and a teacher, but no books, furniture or a building, not even a roof. Therefore the donations DAP gives are greatly appreciated. The socio-environmental manager of the company stresses that in assisting state institutions they seek to complement the government, not replace it. DAP finances the necessary goods, while the state delivers their services. As opposed to Cytasa, DAP does invest in infrastructure in the area, mainly because they are the ones using the roads the most. A positive side effect, according to one of the company's agricultural technicians, is that better roads help surrounding campesinos receive higher prices when they sell their agricultural produce to 'acopiadores'; middle-men who come to the communities to buy all kinds crops directly from the farmers. These acopiadores have been found to use bad road conditions as a pretext to offer low prices. Generally, DAP provides financial support or fuel and the ministry of public works arranges that the work gets carried out.

Between 2008 and April 2013 DAP has implemented a variety of rural development projects in the campesino communities in the proximity of their production fields. The company has appointed a socio-environmental field coordinator who is responsible for the implementation and monitoring of the projects. To carry out the activities, DAP collaborated with the NGOs SER and the Fundacion Moises Bertoni who provided agricultural technicians and know-how. SER coordinated social projects involving around 160 families in the communities Aguerito and Yaguarete Forest, near DAP's former production site Esperanza. FMB managed the assistance provided to communities near Ybycai estate and to 500 families in 15 communities near Fortuna estate. All contracts for collaboration have ended and DAP is in the process of forming its own team of technicians to continue the activities. The activities undertaken within the social projects are diverse, but roughly two types of assistance can be distinguished. The first type is

directed at subsistence farming, and in this aspect resembles the community projects carried out by Cytasa. Depending on the communities, DAP provided agricultural inputs and technical assistance for the construction of vegetable gardens, staple food production, animal husbandry and beekeeping. Next to seeds, fertilizer and pesticides, the company provided communities with an annual stock of vitamins, antibiotics, and other medicines for poultry, pigs and cows. SER exclusively focused on organic production, while the Fundacion Moises Bertoni also assisted in conventional farming.

The second type of assistance goes beyond subsistence agriculture and aims to improve the incomes of the beneficiaries through the production of cash crops. In some communities attention has gone out to manual cash crop production, either by raising the productivity of subsistence crops to create surplus which can be sold, or by encouraging the production of export crops which demand low upfront investments, like chia and sesame seed. In other communities, namely Colonia Barbero, 12 de Junio (near Fortuna) and Aguerito, DAP initiated projects which involved the introduction of industrial agriculture methods for the production of more capital intensive crops. In Aguarito, DAP provided a rent-free credit of 100.000 USD for the mechanization of 130 hectares of communitarian land in order to produce conventional soy and corn for commercial purposes. The idea was that each year, 80% of the profits were to be used to pay back the debt and the remaining 20% could be spent for the benefit of the community. The project turned out to be a failure. After two years DAP stopped working with the community because of internal problems among community leaders with conflicting interests. The company left the soil in a healthy state and never retrieved the remaining debt of around 90.000 USD. According to local informants, a few farmers are now independently producing soy on the collective land, implying that the large social investment in the end only benefitted a small group of people.

In Colonia Barberos, DAP applied a different model. Together with the Fundacion Moises Bertoni, the company assisted smallholders in mechanizing agricultural production on each beneficiary's private plot of land, with the goal of improving productivity levels, raising their incomes and reducing manual labor. The participating campesinos had to prepare their land for the machinery and DAP provided access to credit for the mechanization process and the provision of seeds and agricultural inputs. These costs were to be paid back at the end of the harvest. In the beginning around 20 families joined the project and produced corn, alternated with kidney beans or sunflower. The harvests were good and most people were able to pay back their loans and keep some profit for themselves. The successes motivated around 100 more families to join the project and encouraged participants to mechanize larger areas of land and to engage in the production of potentially more profitable GM soy. During the first two years, DAP provided rent-free credit itself through a rotationary fund, but the fund was ended because many people did not pay their debts. Instead, DAP arranged that farmers could obtain credit through the private bank Vision Banco at a preferential interest rate of 18 percent, which is below the market rate of 25 to 30 percent. According to a study by Oxfam, around 120 families obtained credit at Vision Banco of up to the equivalent of 3000 USD (Guereña, 2013). However, in 2010 the participants experienced two consecutive bad yields due to unfavorable weather conditions and logistical problems, which left many of the farmers indebted. Some of them managed to pay back their debts, but others are now forced to sell their subsistence livestock or take loans at other banks in order to pay back the loans they already had. But at some point no more loans are possible and the farmers end up in a debt trap. Community members estimate

that around 45 families are still in debt. The community 12 de Junio was not visited during the field work, but several families ended up indebted there as well. DAP's socio-environmental field coordinator has declared the company is committed to assist the duped campesinos by developing new, more adequate income generation projects. They now plan to set up detailed production plans for each farmer, and finance a mixed production of different crops and livestock in order to reduce the dependency on just one crop each season. Also, they have realized that it is better to give credit as a company or as a separate specialized bank (with lower interest rates and longer payback times) than as a private commercial bank. Whether this change will be implemented remains to be seen.

The type of assistance provided by DAP and the degree of success and satisfaction among the beneficiaries varies greatly depending on the community. Aguarito, Colonia Barbero and Cañada Santa Rosa (near Ybycai) were visited to get an impression of how the campesinos (beneficiaries and non-beneficiaries) perceive the social projects and the company. All 8 respondents who have never received any assistance and are not employed by the company see no advantages of the arrival of DAP in the area. They are concerned by the potential negative impacts of fumigations and prefer the situation before the company came (even those who have not experienced any smell or seen any visible signs of these effects). Among those who received assistance for subsistence farming, the level of satisfaction is comparable to that of the beneficiaries of the project by Cytasa. Most of them (11 out of 13) are content with the help they got and report increases in productivity levels, but complain that the projects have ended and that DAP should do more for them. The majority of these farmers express their concern over the fumigations, but all prefer the situation now to before DAP came, because at least they received assistance. Only the remaining 2 out of 13 prefer the situation before. One of them simply finds the assistance he got too minimal, the other says she got sick due to the company's pesticide sprayings and does not want help from DAP anymore. These findings provide the disturbing evidence that offering assistance to communities can effectively help to avoid resistance. It seems that most who received direct benefits are more inclined to tolerate and accept the potential negative health effects of living in the vicinity of the soy fields. The findings do not permit to prove this statistically, but there is a clearly noticeable difference in attitudes towards the company between the two groups. Among the smallholders who received assistance for mechanized cash crop production, attitudes vary. Some have not had difficulties in paying back their loans are content with the assistance, while others are left in a debt-trap (box 11.2)

Box 11.2: Community perceptions concerning the assistance provided by DAP

"DAP organized a meeting in the beginning during which they made promised us work, community support and other benefits. Then they forgot about us. We do want assistance though, in order to produce more and sell more. […] The situation was better before DAP arrived. The cattle farm offered more work and did not spray poison"

- Non-beneficiary, Canada Santa Rosa, San Pedro

"DAP gave my family a kit for beekeeping, which provides around 40 liters of honey a year which we can sell to gain some income. We also received assistance for our vegetable garden and for the production of cotton, sesame, corn. It was very useful, but the company stopped helping us two years ago. We want DAP to help us to mechanize our field and provide access to a stable market for our produce. "

- beneficiary, Canada Santa Rosa, San Pedro

" We received a lot of assistance from to DAP to improve our vegetable garden and to mechanize five hectares of our plot. We plant corn and kidney beans as cash crops, but we would like to cultivate GMO soy in the near future. In order to switch to mechanized production, we took a 2 million G [427 USD] *loan from Vision Banco. We have not had problems to pay the money back. This year we took another 2 million G loan. We lend low amounts to be on the safe side. Before, DAP helped with the mechanization part and provided a tractor. Now all the assistance has stopped and we have to arrange machinery ourselves for sowing and harvesting. We need better access to seeds and machinery. Still, I am happy DAP helped us to mechanize the field. The work is much lighter this way and we have better yields."*

- beneficiary, Colonia Barbero, San Pedro

"Three years ago DAP helped me to mechanize my field. I took a loan at Vision Banco of 5 million G [1067 USD] *and planted chia and GMO soy and corn. Due to drought the past two harvests were very bad. I did not make any profit and could not pay back the debt. I took another loan of 2 million G at Credito Agricola in order to refinance. Some people have had to sell their cows to avoid getting their land confiscated. If the next harvest is bad again I don't know what to do. DAP promised to help us, but that was only in the beginning. Now they never come anymore."*

- beneficiary, Colonia Barbero, San Pedro

Cooperativa Colonias Unidas

The Cooperativa Colonias Unidas has a fundamentally different business structure than Cytasa and DAP. The latter two companies have their own production fields. They have set up projects with neighboring communities, which might, or might not, be affected by the companies' practices but remain nonetheless external to the companies' business structure. This has led one of the beneficiaries of Cytasa's project remark that the wellbeing of the community is "not the priority of the company". The CCU, on the other hand, does not own any production fields, but has a large number of associate farmers, which supply the cooperative with soy (and other agricultural products). The cooperative then sells the soy in bulk to one of the large multinationals (ADM, Bunge, Dreyfus, Cargill, Nobles), as do Cytasa and DAP. The health of the CCU thus depends on the production volumes brought in by their members. The main means through which the CCU contributes to local development, while at the same time contributing to the company's wellbeing, is through the provision of a wide range of services to their associate producers. These services are not provided through temporary community projects (as seen with DAP and Cytasa), but as a continuous social program which constitutes an integral part of the company's business practices. Like the other two selected responsible soy companies, the CCU provides technical assistance to improve productivity levels among the beneficiaries. Agricultural technicians routinely visit the fields of the members and monitor and evaluate the production process and give advice free of charge. In the beginning of a new season they set up a detailed production plan with each member farmer, which is a requirement to apply for credit. Technical assistance is not provided for subsistence farming, but only for cash crop production, mainly the cultivation of GM soy. Apart from technical assistance, the CCU also provides their members with other services such as access to credit, a savings account, a market for their produce, medical insurance, a store where they can buy authorized agricultural inputs, a

cellphone package, scholarships for their children, a retirement fund, a patrimonial insurance and a solidary protection fund which covers some extreme risks which may affect agricultural production (such as fire or storms). All services are provided by the company itself. Cooperation with NGOs is rare, as most NGOs disapprove of soy production which makes it difficult to find a common ground for collaboration, according to the CCU's manager of corporate services.

Next to the services to their members, the CCU administer various social programs in the communities in which the members live. The area in which the CCU works has been divided into 52 territories or communities. In each community, one of the member farmers is elected as community leader and whenever possible also a female leader and a youth leader are chosen. The leaders receive trainings from the CCU and become in charge of coordinating educational, cultural and economic programs for their own target group within their communities. They organize information meetings, workshops and courses on various themes such as plants, handicrafts, animal husbandry, recycling, vegetable gardens, cooking, healthcare, violence, human rights, etc. Each leader chooses the type of activities based on the specific needs in their community. The CCU does not hide that the objective of the leader programs is twofold: contributing to community development while at the same time forming the leaders to become future staff members in the cooperative. Like Cytasa and DAP, the CCU also gives incidental assistance and donations to public institutions such as schools and municipalities for the provision of materials and the construction of roads and bridges.

Various associate producers have been interviewed to determine their extent of satisfaction with the assistance they receive from the CCU. Some respondents name points of improvement: the technicians should come more often, assistance should be given for the production of other crops, and the cooperative should industrialize more. Yet, despite these complaints, ultimately all the respondents are very satisfied with the CCU and the personal contact they have with the technicians. Even the smaller farmers who often suffer from financial problems in times of bad harvest are content with the safety net the cooperative provides. Visits were also undertaken to campesino households which border the fields of CCU members in Edelira district. They were less positive about the company. They state that they do not receive any benefit whatsoever and have never heard of any social programs coordinated by the CCU in the area. The campesinos claim their neighbors are no different from any other soy producer (box 11.3).

Box 11.3: Community perceptions concerning the assistance provided by the Cooperativa Colonias Unidas

60 years ago the town of Obligado was very small. It grew a lot thanks to the cooperative. Now this area is one of the main centers of Itapúa, with shops and a hypermarket. The company is also providing assistance in other areas through field offices which are located throughout the whole department. Everyone is a member of the cooperative around here. I am an associate in the since 1998, but father has been member a lot longer, since 1976. Being a member helps a lot. The company provides access to a market, credit at lower interest rates than banks, inputs and scholarschips for my children. They also give technical assistance, but you have to call the technicians otherwise they don't come. They should come on a regular basis.

- CCU associate, Obligado, San Pedro

"The Cooperativa Colonias Unidas takes good care of us. They help us to make a good production plan before giving credit. And if you cannot pay your debt due to a bad harvest they freeze it and give you another loan. they don't leave you when times are bad and they will not take all your belongings. The cooperative is our papa".

- CCU associate, Santa Rita, San Pedro

Being a member of the cooperative is very beneficial. Next to credit and technical assistance, we also get a medical insurance, a savings account and a cell phone plan. However, they should assist small farmers more with the industrialization of their products. I grow a lot of tomatoes, but I would like to make juice or sauce in order to add value. The price of tomatoes is so low these days.

- CCU associate, Obligado, San Pedro

The cooperative helps their members in many ways, but they never assist campesino communities like ours. My neighbor who is an associate of the cooperative comes here sometimes, but only because he wants to buy land from us, just like all other soy producers. We would like to receive assistance from companies, because the state is largely absent in this area. We only recently got electricity and to get water we had to make our own well.

- campesino, non-beneficiary, Edelira district, San Pedro

11.2 Inclusiveness

Cytasa

In determining the degree of inclusiveness of the community development programs, efforts were undertaken to establish who participates, who is excluded and which selection criteria have been applied. Cytasa's general manager explained that for the Guarapay project, he had insisted that that all families of the colony, around 55 households with around 7 hectares of land each, were to be included in the project. This way, the benefits would reach the whole community and inequalities and conflicts could be avoided. During field interviews, the community members confirmed that unanimous participation of all families had indeed been set as a requirement for receiving assistance from the very beginning. The project was to be carried out through the colony's women's committee. At the start, there was some hesitation from families to join, but after a few meetings of discussing the project all families agreed to participate and a female representative from each household joined the committee. At the scale of the colony, efforts have been undertaken to ensure that the project is inclusive. However, at a larger regional scale, the scope of the project has remained small, including only one colony and excluding all other communities in the area from the same opportunities. Cytasa's manager clarifies that the selection criteria was straightforward: the community in question is the closest to the company's production field, although they do not share a direct border. All direct neighbors are independent, mostly large scale, farmers. This raises the question *where does the responsibility of a company end?* Should societal contributions only be generated for those directly affected by the company's activities, or should it be extended to all communities in the region? Or to society as a whole? There are no written rules to answer these questions, but if the

company indeed aims to be a "model of a responsible and sustainable business" as it says on the website, its positive developmental impact on the wider region could be greatly increased. Obviously, upscaling any development project means increasing its impact, provided that the quality of the intervention is not affected. Cytasa's manager agrees that the scope of the project currently in place is limited, but explains that it a pilot project, which he wishes to extrapolate to other communities over time. He states that the company is discussing a possible collaboration with the ministry of agriculture for the implementation of similar projects in other communities, but progress in the discussion remains slow. Successfully upscaling the activities in the future would require the company to mobilize increased human and financial resources, and to seek renewed collaboration with NGOs or other organizations specialized in this type of project management.

DAP

DAPs production fields are situated in a geographical context which differs strongly to that of Cytasa. While Cytasa only has one estate, surrounded mostly by other soy fields, DAP currently has 6 production fields, three of which have closely neighboring campesino communities. DAP's socio-environmental manager explains that in the early years, the company went to all the communities closest to the production fields to seek cooperation with local organizations for the implementation of community development projects. Many were opposed to the arrival of DAP in the region and did not want to have anything to do with them, but a few accepted the offer. Over the years, more communities joined. Within the participating communities, families were given the choice whether or not they wanted to be involved. In some cases, like in Colonia Barbero, households had strongly opposing views about whether or not to work with DAP which led to conflicts and division within the community, a situation which persists today. In total, around 700 households received assistance, most owning 8 to 10 hectares of land. Among the excluded families are those who opposed collaboration with DAP, but there are also respondents who indicate that they would have liked to receive assistance, but that their demands have remained unanswered. One farmer from Colonia Barbero states: "DAP made promises to help all of us, but they never came to our house. We are not part of a committee, but we do want assistance".

The type of assistance provided has differed significantly between communities. Smaller, less organizes communities such Cañada Santa Rosa, received technical assistance and agricultural inputs for subsistence farming such as seeds, agrochemicals, shade netting and animal feed. More organized communities, such as Colonia Barbero and Aguerito, received considerably more assistance, which was directed not only at subsistence farming, but also at the production of cash crops. On the one hand, the decision to implement the more complex activities in collaboration with better organized local committees makes sense. Studies from the field of development cooperation point out that working with an official and capable local counterpart contributes to the enhancing the effectiveness of development initiatives (Vossen, 2008). On the other hand, it might also mean that a large part of the funds are diverted away from the poorest of the poor. Judging from personal observations, the average plot size in Cañada Santa Rosa is smaller than in Colonia Barbero. In the former community many families were found to be sharing a plot or living on '*sitios*', small parcels of usually less than 1 hectare. Some of these families could barely produce enough food for their own subsistence and would greatly benefit from more assistance.

Cooperativa Colonias Unidas

The Cooperativa Colonias Unidas directs its social programs and services quasi exclusively at its own members. In total, the company has 3800 members of which 3107 are producers and the remaining 693 are consumers. The latter group consists of retired producers, wives of producers, producers which have sold their land, etc., who do not receive technical assistance for producing, but do have access to the other services provided by the company. The area of influence of the CCU extends over a large territory with members living throughout the department of Itapúa and in the southern part of Alto Paraná. According to the company's production manager, the associate producers own on average 45 hectares per producer. Around 60 percent of all producers are small and medium sized farmers owning between 1 and 60 hectares, and 40 percent are larger farmers cultivating between 60 and 500 hectares. The average farm size is considerably larger than the farm sizes of the typical campesino families assisted by DAP and Cytasa. The CCU beneficiaries do not represent the poorest of the poor in Paraguayan rural society, yet their wealth should not be overestimated either. The majority of the members work in a family farm structure, in which the father works the land and the rest of the family helps him. The families which own 60 hectares or less usually do not own their own machinery, but have to rent this from larger neighboring farmers. Soy producers in this category tend to have trouble to sustain their family because soy needs large areas of land in order to be profitable[5]. These farmers need to diversify and supplement their cash crop production with subsistence crops.

In order to become a CCU member, farmers need to possess a property title and documents to prove they are paying property taxes. Furthermore they need to do a short course in which they learn about their rights and duties as a member of the cooperative and they need to pay an admission fee of 5 million Guaranies (approximately 1065 USD) which can be paid in ten quotas over three years. The company claims these requirements can be met even by small producers without significant problems, which is confirmed by the members interviewed. However, land titling remains an important problem in the country, especially among campesinos living on land provided by the government. These families often only possess derechras (user rights) to their lands, which automatically excludes them from CCU membership. Also, it remains doubtful whether small campesino families would be able to pay the admission fee. A campesino living in Edelira district, in the proximity of the soy fields of a CCU member, states: "The cooperative is very good to their members, but it is only an option for large farmers. Their way of producing is another reality. It is not for campesinos like us". The CCU does not organize any development projects exclusively for non-members (or more specifically, for campesinos affected by the activities of the members), although participation in the social, cultural and economic programs managed by the CCU community leaders is open to all. By offering assistance and services to 3800 members and their families throughout the region, CCU's contribution to local development is large in geographical scope, but not inclusive of the poorest of the poor.

[5] The CCU's production manager estimates 60 hectares of soy or more are needed to completely sustain a family, the cooperative services manager believes at least 100 hectares are required

11.3 Sustainability

The long-term sustainability of a development project or program depends on whether the benefits of the activities are likely to continue after the funding and other forms of assistance have been withdrawn (OECD, 2010). Sustainability is not only difficult to achieve (even for experienced NGOs) it is also difficult to evaluate, as it depends on a large variety of factors. To get an impression of the sustainability of the different interventions, the responsible soy companies were asked what strategies they applied to reach sustainability and the beneficiaries were requested to express their views on whether sustainability has been achieved. Special attention is paid to examining if and how the companies try to maximize the relevance, ownership and capacity building in the interventions; factors which improve the likelihood of achieving sustainable outcomes (Vossen, 2008).

Cytasa

Cytasa's project manager explains that one of the main strategies to achieve sustainability in the Guarapay project is to focus on women. The women are expected to pass on their knowledge to their families. A gender focus is often applied in the field of development cooperation as it has been proven an effective strategy in fostering sustainable development and poverty alleviation. Furthermore, Cytasa decided to focus manual organic production because it is healthy and non-polluting and to avoid creating a situation of dependency towards pesticides, chemical fertilizers and machinery. Other ways in which the company aims to contribute to sustainability is by facilitating access to secondary education and by collaborating with an experienced indigenist and with the Fundacion Moises Bertoni for shaping the community projects. It has to be noted however, that FMB has a rather dubious reputation among many other NGOs in Paraguay, which is in part due to its involvement in Monsanto's CSR program. Although Cytasa also gives incidental donations to various institution, they realize this is not sustainable: "Giving, giving, giving doesn't work", the field manager states, "The more you give, the more they ask. First we gave a school some paint for maintenance. Then we gave them a computer and a printer. Now they want an alarm system to protect the computer. It will not even work due to the frequent power cuts!"

In order to achieve sustainability, projects have to respond to local needs and priorities. This implies they have to be demand-driven, adapted to local conditions and the plans and ideas need to be supported by the beneficiaries themselves. Cytasa's manager is aware of the importance of community participation and ownership, he states: "Local development should be bottom-up in order to be sustainable. Territory is not only an instrument for production, but also a space to live. Local campesinos should see the company as an opportunity to develop their own lives". At the start of the Guarapay project, attention has gone out to discussing with the committee about the needs of the target group in order to promote community participation in the planning phase. The interviewed beneficiaries are largely satisfied with the process. One of the women explains: "the project manager came here various times to discuss the plans together. He is very concerned with us and understands us". Based on the discussions, Cytasa proposed to assist in the construction of vegetable gardens because the alimentation of the community members was found to be little diversified and they lacked access to affordable healthy food from elsewhere. Recently the committee suggested the idea to make a vivarium for growing forest and fruit trees. This independent decision represents a step forward in the extent to which the plans are bottom-up and demand-driven. However, true local ownership of

shaping the development process is still lacking, which shows in the dominantly passive attitude of the community members towards the company: “We would like to receive more help”, one of the project beneficiaries stated, “Cytasa’s project manager has to organize a group meeting and suggest a new project for everyone”.

The focus of the Guarapay project is relatively narrow and directed mainly at subsistence crop production, thereby failing to address other urgent needs. Interviewed beneficiaries repeatedly indicated that what they believe they need the most to reduce poverty levels are income generating opportunities; notably assistance in producing cash crops and access to a stable market. Currently, most campsinos who cultivate a few hectares of cash crops or who have a surplus of staple food sell their produce through middle-men, who tend to offer low and fluctuating prices. A conscious decision was made by Cytasa’s manager not to become involved in the production and trading of cash crops, because deploying this type of activities is very complicated and requires entrepreneurship and capacity. He worries that if if he would help the community members to invest in the production of cash crops, but the project turns out to be unviable, the campesinos risk to be left with debts. Nevertheless, the development of a viable and sustainable cash crop production project remains an option for the future.

The sustainability of a development project can also be enhanced through effective local capacity building, which decreases the dependency on external funding for solving problems of underdevelopment. The women’s committee in Guarapay already existed before the vegetable garden project began, but Cytasa contributed to strengthening the organization, encouraging the women to increase their member base and by giving them advice on organizational and administrative matters. Having a strong formal committee is necessary when applying for government subsidies, the committee leader explains. Recently they got granted funding from the ministry of agriculture for the building of a meeting room. At the level of individuals, there have been some efforts towards capacity building, but not enough to make the vegetable garden project self-sufficient. An agricultural technician assisted the beneficiaries with the production part, teaching them, for example, how and when to plant the vegetables and how to make and use green fertilizer. At the time of the field visits, a year after the project ended, some vegetable gardens were still in good condition, while others had been abandoned or were only being partly used. A women explains her situation: “We were very happy with the visits of Cytasa and the agricultural technician. But the material they brought was of bad quality. Now our shade netting is broken. We have no money for a new one, so our vegetable garden has become useless”. Others add they would like to receive more seeds or information on how to treat plant diseases. The project is gradually being resumed. A new agricultural technician has been appointed and replacement materials have been delivered, but without additional income generating activities, it will be difficult to ensure full sustainability of the project on the long term.

DAP

The managers of DAP and Cytasa adopt different approaches towards sustainable rural development. Cytasa’s community project focuses on manual, organic subsistence production to avoid creating dependencies and enhance sustainability. DAPs socio-environmental manager, on the other hand, believes it is necessary for campesino agriculture to “mechanize and modernize” in order to remain economically viable and sustainable. Although this view has not

been translated into action in all of the communities where DAP works, it is the vision generally held within the company (box 11.4).

Box 11.4: DAP's vision of rural community development

"Campesinos need to reach a higher technological level in order to continue living in rural communities. In the past, when the campesino lived on his farm with his cow, pigs and chicken, everything was easier, because he needed less money in cash. Due to economic advances and modernity, the producer now needs fuel for his motorbike, credit for his cell phone and he needs to pay electricity bills. There is an increasing need for money in order to relate to the rest of society and to satisfy campesinos' basic needs. For this, they need to produce more and sell more, with more technology and more knowledge. We want to support this."

- Terol, DAP office in Asuncion

It should be noted that many campesino organisations and NGOs share the idea that small family farmers should get better access to credit, technical assistance and markets in order to preserve smallholder agriculture. The main difference is that the civil society organizations envision supporting small-scale production of food crops for the national market, whereas DAP has directed much of its attention towards assisting communities in the capital-intensive production of export crops. To enhance the effectiveness of their community development projects, DAP works through local committees and has sought collaboration with the NGOs SER and Fundacion Moises Bertoni, as both have experience in conducting this type of initiatives. However, researchers have pointed out an overlap between the board of directors of FMB and DAP (Guereña, 2013), which does not necessarily say anything about the quality of their operations, but it does raise questions about the degree of independency of this NGO.

DAP's managers declare they strive for their projects to be demand-driven, as this enhances the support for the activities among the beneficiaries, thus contributing to sustainability. They state they let the beneficiaries decide what they want to produce and that DAP helps them with that. Beneficiaries affirm that technicians visited the households to give advice and assistance based on each family's specific needs. However, whether a community would receive assistance in organic agriculture, conventional production or mechanization was mainly directed by DAP, according to the respondents, which shows that the actual level of local ownership in shaping the development strategy has remained low. The majority of the beneficiaries received assistance for subsistence farming and in some cases manual cash crop production. Although these activities are not always viable on the long run (after the withdrawal of the assistance, campesinos run out of seeds and inputs, like in the project by Cytasa), at least they are relatively low-risk and adapted to the local situation. Assessing the assistance for mechanized production is more problematic. DAP's socio-environmental manager claims mechanization and the introduction of GM soy was mainly demand-driven. "They asked for it". Accounts from respondents indicate this is likely to be true. When asking campesinos in Canada Santa Rosa (where mechanization has not been introduced) what type of assistance they would like to receive, the unanimous answer is that they want to mechanize production in order to raise their incomes. A farmer illustrates this: "Fundacion Moises Bertoni came, but brought very little help. Almost nothing. Just some seeds and some technical assistance. We did not need this. We want to mechanize and produce cash crops. And we need access to credit". Judging from these accounts, it seems plausible that in facilitating the mechanization process, DAP indeed

responded to a clear demand from the beneficiaries. The problem is that campesinos lack experience in this type of capital intensive production and are not in a position to evaluate the associated risks. In granting them access to large sums of credit, it becomes DAP's responsibility to ensure that the investments are realistic. Providing credit is not sufficient. To minimize risks, agribusiness companies have an agricultural insurance and guaranteed access to machinery, agricultural inputs and a market to sell their products. The campesinos had none of these requirements, which made them highly vulnerable. After just one year of bad harvests dozens of families became indebted and many are still struggling to get out of that situation.

Not only has mechanized, industrial-style agricultural production among campesinos proven economically unsustainable, it also poses social and environmental problems. Obviously, the enhanced use of agrochemicals may cause increased pollution of soil and groundwater. But problems also occur when part of the community members wants to produce crops which require pesticides and herbicides, while others prefer to produce organic. When one campesino cultivates GM soy, the fumigations and the seeds can contaminate his neighbors crops. Paraguayan law does not require a protective barrier between production fields to prevent this type of contamination. So it might be legal to assist campesinos in switching to production methods which might contaminate their neighbors' crops, it is definitely not moral. A responsible company should see the flaws in the law and take precautions to prevent damages, not use the legal loopholes for the benefit of a few. It seems strange that for their own production fields DAP does more than the law requires in order to protect their neighbors, but that this same caution does not apply when providing assistance to communities. It has to be noted however, that there are also communities where DAP provided assistance for more sustainable organic production, like in Aguerito and Yaguarte Forest in the past and more recently in a community near Ka'avo where a handful of farmers are now cultivating 17 hectares of organic crops. For the latter community, DAP provides access to a secure market for organic produce, thereby responding to an urgent need as described by the campesinos themselves, although this is currently taking place at a very small scale.

Cooperativa Colonias Unidas

The CCU mainly invests in measures which ensure the economic sustainability of their activities. The company offers the beneficiaries of their programs exactly those services which the campesinos in DAP's and Cytasa's projects express they need: access to credit, a secure market and technical assistance in order to improve the position of beneficiaries in the global production and trade of cash crops, especially GM soy. That the CCU responds to a strong demand in the region in which it operates operates can be seen from the company's ever increasing membership base, which went from 78 farmers in 1953 to 3800 members 60 years later. Even though the farmers have to pay an admission fee to become associates, they believe the services they receive in return are worth the investment. Whether the benefits of the services are likely to continue after the assistance provided by the CCU comes to an end is in this case not that relevant. CCU's assistance is in principle offered on a continuous basis, as opposed to the temporary assistance projects implemented by the other two responsible soy companies. Nevertheless, even if the company will someday decide to end all services, their members will probably be able to continue their activities independently, though maybe at a lower level. As an associate farmer from Santa Rita states: "Being an associate of the cooperative is not necessary

in order to produce and sell, it just makes it easier". Assisting their members in producing more is in the interest of the CCU and in the interests of the individual farmers, which results in a win-win situation for the parties involved. However, as the economic prosperity of the associates increases, they tend to tend to adopt the same environmentally and socially unsustainable expansionist tendencies and polluting practices of the typical large soy producers in the country, thereby impacting neighboring campesino communities in a negative way (as seen in the previous chapter). The responsibility values of the CCU are only to a minor extent transmitted to and carried out by their members.

Although the managers of the cooperative realize GM soy production is not profitable on small landholdings, the company nevertheless promotes this model among small farmers, creating high dependencies on a crop with very unstable returns. As land in the area becomes increasingly scarce and expensive, the smaller members are faced with the additional problem that when their sons grow up no more new land can be purchased for them. The land owned by the father is then divided among the sons, further reducing the sizes of the landholdings. The cooperative services manager claims the company is currently searching for profitable alternatives to soy for these smaller members of which they expect there will be more in the near future. However, in practice, the main focus still remains on soy. A small and a medium sized CCU member farmer explain the problems they experience with soy production in box 11.5.

Box 11.5: The problems with soy production on small landholdings

"I started producing soy in 1986. Everything was manually back then. It was hard work, but we never had financial problems. There was always enough money to sustain our family and pay seasonal laborers. But with the introduction of GM soy, combined with an increasingly volatile climate, things changed. In a good year you can produce 3000 to 4000kilogram of soy per hectare, but in a bad year sometimes only 1000 kilogram per hectare. Over a period of ten years, at least three harvests are ruined by drought and one by low market prices. Soy production is especially risky for small farmers as the profit margin per hectare is low. I cultivated sixty hectares, but for soy this is very little. After another bad year I was left with high debts and very demotivated. You work the whole year and in the end you cannot even buy a pair of shoes for your wife. So I decided to sell the land and open a small business."

- CCU member, Obligado, Itapúa

"I own twelve hectares of land. Four hectares are used for GM soy production and the remainder is for subsistence crop production and cattle raising. I cannot live from the incomes from my field, therefore I also work for three different employers, as a carpenter, a plumber, a harvester, anything really. The cooperative should help small farmers more with the production and commercialization of other products than soy and grains."

- CCU member, Obligado, Itapúa

An example from DAP showed how small farmers ended up with large debts due to bad harvests and a lack of adequate risk management. The CCU also gives farmers access to credit, but through a different system which is somewhat less risky. Producers have to submit a detailed production plan as a requirement and credit is not given through a private bank, but by the CCU itself (with an interest rate of 12,50% per year). Every associate producer has a 'capital

account', which is similar to a savings account, except that the money can only be withdrawn once the producer ends his membership at the CCU. When a producer sells his agricultural produce to the cooperative, 2% of the earnings are automatically put on this capital account. Members can take loans which are as high as the amount of money saved. When producers cannot pay back their debts due to a bad harvest, they get a new loan and a longer payback time so that they can pay back the debts in a good year. Indebtedness is very common, and it often takes farmers two or three years to financially recover from a bad harvest. Nevertheless, the respondents do not complain. On the contrary they are highly satisfied with the system. They explain that private banks and multinationals (ADM, Cargill, etc.) also give credit, but at higher interest rates and with no consideration for the wellbeing of the individual farmers. A respondent from Santa Rita states: "The multinationals don't help farmers to make a production plan. They give high loans so they can earn money through interest. And when you cannot pay back your debts they take your land. They have pity for no-one".

11.4 Conclusion

All three selected responsible soy companies have set up voluntary assistance programs for local farmers. Although some attention is paid to improving access to healthcare and education, the main focus is on increasing agricultural production among the beneficiaries, either for sustenance or as an income generation strategy. The programs differ in terms of activities, scope and degree of professionalism. Cytasa's projects are relatively small and simple, with low risks of doing harm, but also with a limited long term impact on poverty alleviation. DAP's projects are much bigger, but also more complex. In some communities DAP aims to go beyond subsistence farming and attempts to create income generation opportunities through mechanized cash crop production. However, implementing this type of activities demands expertise and adequate risk management, which have shown to be insufficient, leading to highly mixed, and sometimes adverse results. Both DAP and Cytasa limit their social projects to campesinos with 20 hectares of land or less, living in the proximity of the companies' fields. The activities undertaken are disconnected from the companies' core business. The CCU operates according to a different structure. The assistance provided is an integral part of the company's functioning, and the health of the cooperative directly depends on the productivity levels of its associate farmers. The company is therefore more dedicated than the other two in providing continuous and effective assistance for cash crop production. In addition, it provides access to a secure market, which is often lacking in rural Paraguay. Next to small farmers, the cooperative also works with medium sized and larger farmers, all of which have to pay an admission fee to become member. Out of the three companies, the CCU makes the greatest contributions in terms of poverty alleviation *among its beneficiaries.* The problem is that in doing so the company promotes the expansion of the monoculture GM soy model, with its associated negative consequences for the environment and for those excluded from the system.

Through their assistance programs, the companies help to fill the void of investment in rural areas. In the absence of functioning state institutions, local populations expect the companies to satisfy some of their basic needs. Each of the companies studied has, in one way or another, made certain positive contributions to local development. Cytasa and DAP have contributed to capacity building for subsistence farming among their beneficiaries, while the CCU has mainly made contributions in terms of income generation among local farmers. Moreover, all have

promoted the strengthening of local organizations and assisted in improving access to public institutions through donations and investments in infrastructure. The beneficiaries are generally content with any help they receive (with the exception of those campesinos who remained heavily indebted after DAP's assistance project ended), but this should not be seen as an indicator that the assistance the companies provide is sufficient, nor that it leads to sustainable outcomes. In their discourses, the three selected companies claim to contribute to sustainable development, but in practice none of them has developed community programs which are at the same time socially inclusive, economically viable ánd environmentally sustainable on the long term. The term sustainable development is used indiscriminately when describing CSR operations, whether appropriate or not.

CHAPTER 12: DRIVERS AND BARRIERS TO RESPONSIBLE SOY PRODUCTION

The previous two chapters described how the three selected responsible soy companies attempt to minimize their negative impact and contribute to local development. This chapter analyzes which factors determine the adoption of responsible business practices in the soy sector and more specifically of RTRS certification. In-depth interviews were held with managers of the companies in order to gain understanding of what drove them to engage in responsible business and what hampers them from acting more sustainably. Furthermore, efforts were undertaken to discern why the number of responsible soy companies in Paraguay has remained limited and how more companies could be motivated to adopt CSR policies.

12.1 Factors driving responsible business in the soy sector

Drivers of the development and adoption of CSR policies

Within the soy sector in Paraguay, a growing trend can be observed of companies developing and implementing their own CSR policies. Cytasa, DAP and Cooperativa Colonias Unidas have all been engaged in responsible business practices for several years, before the formation of the Roundtable on Responsible Soy. Managers from each of the three companies claim the decision to implement CSR activities is for an important part based on a sense of moral duty to do good. Cytasa's manager explains that the social projects were set up on his own personal initiative to assist local communities. The mother company Tragsa did not demand the development of such projects, although it does support them. In the case of DAP, the socio-environmental manager claims some of the company's original shareholders had previously worked in the fields of environmental conservation, health issues and organic production and viewed responsible business as an ideology. Spokesmen of the CCU describes that especially social responsibility has always been "something natural" for the company as originally the cooperative had been established to meet socio-economic needs of the region. Furthermore, according to Paraguayan law, cooperatives are defined as companies of mutual assistance with a social and economic focus. From the beginning the CCU has based its working methods on this definition and aimed to build good relationships with the associate producers and their communities.

As one might expect, the commitment to adopt responsible business practices is not based on moral conscience alone. Throughout Paraguay, soy producers have encountered a lot of resistance from local campesino communities who occupy their landholdings and protest against land grabs and pesticide spraying. To prevent such conflict and remain on good terms with their neighbors, soy producers increasingly set up social assistance programs. This is especially the case for DAP, which operates in areas where local populations are particularly militant. DAP and Cytasa both claim economic motives hardly played a role in the decision to practice CSR. Responsible business involves costs, they argue, but the soy produced cannot be sold for a higher price than soy which is not produced responsibly. However, evidence suggests that responsible business has brought the companies economic benefits. Based on DAP's "social-inclusive and sustainable approach", the International Finance Corporation (IFC) of the World Bank provided 28 million USD of credit and venture capital to sustain the company's farming activities in Paraguay (IFC, 2012). Cytasa received the European Environment prize for their

community projects from the Spanish Fundación Entorno, a private organization which works with companies to promote sustainable development as a business opportunity (Grupo Tragsa, 2012). It remains unclear whether the prize involved a financial component, but as with any important award it may help to attract potential investors. The CCU officials do not hide that responsible business practices are deployed as a strategy to protect the company's own interests. Most of the social services the company provides are exclusively for its associate producers and serve to bind these producers to the company, assist them in producing more, and help to attract more members. Furthermore, the CCU assists with scholarships and gives leadership trainings to children of associate farmers in the hope that these youngsters will eventually end up working for the cooperative. It is an investment in the future of the company which at the same time benefits the youngsters involved. The cooperative provides very little assistance to smallholders which are not members nor in a position to potentially become members on the long run.

Drivers to becoming RTRS certified

Cytasa and DAP are the only two RTRS certified producers in Paraguay. Spokesmen from each of the companies explain that one of the main reasons to become certified is that the mandatory audits function as an external feedback mechanism about the companies' business practices, administrative systems and managerial structure. Cytasa and DAP already operated according to their own responsibility principles before the RTRS was formed, and view certification as a way to further improve their operations along the lines of internationally approved standards and to receive institutionalized recognition for their efforts. Certification serves both as a form of self-criticism and as a means communicate the adoption of responsible business practices to (potential) buyers and investors. Also, the companies hope to set an example for other soy producers and contribute to discussions between different groups of stakeholders on how to make the soy value chain more responsible.

Officials from both companies claim that at the current stage, RTRS certification does not bring any direct economic benefits. The volumes of certified soy produced in Paraguay are still relatively small, therefore it is not economically viable to create a separate export channel. The certified soy is currently sold to the same large multinationals who buy the bulk of all the soy produced in the country. These multinationals mix the certified with the non-certified soybeans and do not pay producers a higher price if they are RTRS certified. However, Cytasa's and DAP's managers believe this will change, and opted for voluntary certification in anticipation on future developments. They note a tendency that markets increasingly demand primary goods to be certified and expect this will be the case for soybeans as well. Applying for RTRS certification is a business decision which is expected to give the producers access to new markets in the near future.

What played a role in driving the companies to invest in a certification scheme of which the main benefits might only be felt in the future, is that becoming certified did not cost them excessive amounts of money or efforts. According to Yan Speranza from the Fundacion Moises Bertoni, the Dutch NGO Solidaridad has an international program with the Dutch Sustainable Trade Initiative IDH through which they assist commodity producers in getting certified. Cytasa and DAP benefitted from this program which provided them with technical assistance and financial support, ensuring that the companies did not need to make important financial

investments to become certified. Furthermore, Officials from the two companies assert that it was not difficult to comply with the standards. Cytasa's exploitation manager stated that the company hardly had to change anything (Sanchez, personal communication, 18-06-2013). DAP mainly had to improve its reporting and documentation system. The company already conformed to many of the standards, but had little documentation to show what they were doing. At the time of the fieldwork, when DAP was in the process of becoming certified, the socio-environmental manager explained: "We have had relationships with our neighbors for various years through our community development program, but we did not have everything written down. You need documents of the meetings, when they were, who came, who didn't, what was discussed, what has been done. Our way of working was more informal. To conform to the standards we mainly we have to document what we do". Although thoroughly documenting an action is useful, it does not improve the outcomes of that action. It seems that becoming RTRS certified has brought little changes in terms of actual effects. In essence, DAP and Cytasa did not have to significantly change their business practices. Partly this is because the companies already adhered to their own responsibility standards, which supposes that their working methods were already more responsible than those of the average soy producer in Paraguay. However, another reason why they did not have to change much is because the RTRS requirements are quite weak. For most standards, companies need to comply with national regulations. Standards which demand more than legal compliance are often open to interpretation. For example, the RTRS demands companies to have an engagement with neighboring communities, but the managers at Cytasa and DAP both agree that few guidelines are given on what exactly needs to be done: "The standards oblige you to have a conversation, but it does not matter what you say", Terol explains. "The engagement can be good, or bad, or neutral, but it has to be there". Furthermore, the RTRS sets no measurable targets which have to be met. For instance, it demands producers to undertake efforts to reduce emissions, but it does not specify by how much they should be reduced or what the maximum allowed emission rate is. During an RTRS capacity-building meeting at one of DAP's field offices, the RTRS spokesperson presented the flexibility of the certification scheme as something positive: "The RTRS takes into account the available resources of each company, which makes certification accessible to producers of various sizes". Unfortunately, the price paid is a rather weak set of standards.

12.2 Barriers to responsible business in the soy sector

Barriers to the development and adoption of CSR policies

Over the past decade or so, soy production has become notorious for its harmful effects on rural communities and the environment. Yet, the number of producers which changed their practices in order to reduce their negative impacts has remained extremely small. This raises the question as to why soy producers tend to refrain from adopting more responsible business practices. Even simply complying with national laws and regulations seems too much to ask. The interviewed soy producers and other experts in the field point to the weakness of public institutions as one of the principal causes of non-compliance. Inspections on soy farms are very infrequent and ineffective due to a chronic lack of financial and human resources, inefficient working methods, outdated administrative systems and widespread corruption. But even if all producers would comply with the law, the regulations are too weak to guarantee sustainability.

The Zero Deforestation Law does not prevent deforestation in the Chaco. Furthermore, the case of DAP showed that even when a company complies with environmental regulations, this does not protect local communities from intoxication. Moreover, no law exists which requires GMO producers to implement measures to avoid contaminating the non-GMO crops of neighboring fields (box 12.1).

Box 12.1: Weak state regulations

The state has a fundamental role in establishing clear rules. If I produce GMOs, and my neighbor organic crops, the rules have to be clear enough in order to enable us to continue to produce next to each other. Organic farmers should have the same possibility to produce as GMO farmers. Here the state is not fulfilling its role as regulator of the rules of the game. the state has to improve its capacity to develop and enforce adequate laws and regulations. This would result in improvement for all of us.

- Terol, DAP head office, Asuncion

Overall there are too few incentives for soy producers to comply with legal requirements, let alone to implement additional responsible business practices. The State does not enforce existing regulations and the market does not effectively demand changes. Soy producers can easily sell their soybeans produced under the current unsustainable circumstances and are hardly motivated to invest effort and money in adopting more responsible working methods. Probably the strongest pressure comes from campesino movements and rural communities who commonly invade soy fields as a form of protest. Such movements have resulted in a trend among a group of soy producers to provide some financial or technical assistance to their neighbors, but the land occupations remain ineffective in triggering large-scale, sustainable solutions. What also plays a role in hampering changes in the sector, it the lack of consciousness among proponents of soy production regarding the impacts of the current production system. As Vasquez states: “Talking about responsible soy implies that there exists something as irresponsible soy. This is a lie”. As long as the harmful impacts are not fully acknowledged, voluntary changes are unlikely to take place.

Barriers to becoming RTRS certified

Soy producers which adhere to their own voluntary CSR standards are a minority in Paraguay, but there are even less producers which are interested in RTRS certification. Just two companies are currently certified, and there do not seem to be any other producers in the country planning to apply for certification in the near future. The Cooperativa Colonias Unidas was closely involved in the process which led to the development of the RTRS standards. Representatives from the company were present in various forums and discussion tables and formed part of Paraguay’s National Technical Group. Nevertheless, the CCU did not become certified. The company’s production manager explains why in box 12.2.

Box 12.2: Logistical barriers to RTRS certification

"For us as a company, the certification standards are viable, doable and practical. Most of the requirements, such as no-till agriculture and respect for environmental laws, are things which we and our members have been doing for many years. The reason why we decided not to apply for certification, is that we are faced with certain logistic problems which make the segmentation and traceability of certified soybeans difficult and costly. Paraguay is a landlocked country, so we depend on the harbors of other countries for export to Europe, Asia and North-America. We sell all our grain production to a few multinationals which coordinate the transportation by river to the trading port in Argentina, and from there to the final destination. In order to commercialize certified products we need to create differentiated channels, which would require infrastructure investments or the use of closed containers. This involves high costs, and we expect that the extra cost the market would be prepared to pay will not be sufficient to cover the additional expenses"

- Dietze, CCU head office, Obligado

Logistically, it is complicated to store and transport certified soy separately from non-certified grains under the current conditions in Paraguay. Cytasa, which has been producing certified soy since two years, does not receive a differential payment for their products. Their grains become mixed with those of other producers which makes traceability to the final destination impossible. The fact that certified producers do not receive a higher price for their soy does not make certification very attractive for producers in the country. Brazil and Argentina have a more advantageous geographical position as they have ports which give direct access to the Atlantic Ocean. Although the CCU is not certified, they do not rule out the possibility to apply for certification in the future. The production manager notes a tendency towards increased attention for the production and commercialization of different types of certified products. He expects that infrastructure investments will be made to facilitate segmentation, in which case RTRS certification might become more interesting for producers.

Apart from logistical barriers to RTRS certification, producers claim the international market does not demand responsibly produced soy, or at least is not prepared to pay extra for it. Certified and non-certified producers alike claim consumers in Europe are critical towards the conditions under which soy is being produced, but nevertheless continue to buy cheap meat and dairy products from soy-fed factory-farm animals. If the market will demand more quality and pay for the additional costs, the respondents reason, producers will respond to this demand by adopting certification standards. "The Netherlands should come here with a big bag full of money, than we can talk about sustainable soy", Dutch soy producer Klein-Holkenborg proclaims. Responsible business is mainly perceived as a business strategy which can be opted for if it brings economic benefits. It is reduced to a mere consumer preference, instead of being seen as a company's duty towards the societies in which it operates. Even though the European Union is gradually imposing quality standards, and important stakeholders in the Dutch feed and food industries have committed to using only responsible soy (RTRS-certified or equivalent) from 2015 onwards (Stichting Ketentransitie Verantwoorde Soja, 2013), the respondents believe that these developments alone will not suffice to motivate soy producers in the country to become certified. DAP's socio-environmental manager explains the role of China in determining production practices: "While Europe is increasing their standards towards zero deforestation, zero contamination, zero social problems, China buys 60% of the soy in the

world. They don't care how it is produced, they have to feed a lot of people. So if Europe demands all these things and you cannot comply with them, this does not mean you cannot sell your soy, because for the same price China will buy all your production".

The managers at DAP and Cytasa did not find complying with the RTRS standards a difficult task, as the business practices of both companies already resembled those proposed by the certification scheme. However, they do suppose that for many other soy producers it would require significant efforts and changes in business practices to conform to the standards, which might form a barrier to becoming certified. Cytasa's general manager believes that most other companies, many of which do not comply with legal regulations, are reluctant to voluntarily subscribe to controls and audits which will cost them time and money, while the resulting certification scheme brings little immediate benefits. DAP's socio-envirnomental manager sees the fact that producers need to formalize and systematically document all their activities as the biggest barrier. He explains that informality is one of the characteristics of the majority of the companies in Paraguay, especially in rural areas. Becoming certified requires a paradigm change from doing everything very informally to doing everything formally; a serious cultural challenge. Klein-Holkenborg views the RTRS restrictions and controls concerning the use of pesticides as the most important drawbacks for soy producers.

The managers at the CCU claim the cooperative and its associate producers already comply with most of the RTRS norms, but that certification is not interesting economically at the moment. They state that the standards coincide with the company's working philosophy, therefore it would be easy to become certified if they wanted. This seems rather doubtful. One would expect that if a cooperative becomes certified, all its associate producers need to conform to all the standards as well, and undergo the same controls and audits, which would be very costly and time-consuming with 2284 soy producers. Besides, the fieldwork showed that the member farmers are not as responsible as the managers claim. The cooperative may adhere to its own responsibility standards, but these values are not necessarily being shared and applied by the associate producers.

The RTRS has failed to gain popularity in Paraguay, partly because producers believe the costs and efforts to comply with the standards outweigh the benefits of certification, and partly because the Roundtable holds a negative image within the soy sector. Cytasa's general manager is active in the Paraguayan Chamber of Grain and Oilseed Exporters and Traders (CAPECO) and declared that the majority of the soy producers in this trade union do not believe in the RTRS and even look at the initiative with distrust. The same has been noted by Speranza from the Fundación Moisés Bertoni, who has perceived an attitude of disinterest and resistance among soy producers with respect to the certification scheme. They are satisfied with the situation and prefer to continue business as usual. The RTRS represents a threat to the status quo, therefore the producers depict the Roundtable as insignificant and of no importance. Hector Cristaldo, vice-president of the soy lobby group UGP, expresses his lack of faith in the certification scheme by stating: "The RTRS only exists on paper. They have many discussions in their office, but never come to the countryside to change the situation in reality. It is of no use". Dutch soy producer Klein-Holkenborg mainly views responsible soy production as a noble, but unrealistic goal which has no future in Paraguay. He dismisses the efforts of the Dutch government to promote RTRS certification in producer countries as inappropriate and paternalistic interference: "The Dutch government does not have the right to come here and tell us how to produce. The

Netherlands is not as important anymore as it used to be. During the time of slavery, the Dutch could go everywhere and tell people what to do, but those times are over now". This statement illustrates that apart from being perceived a mere business strategy, the RTRS has become a profoundly political issue.

12.3 Conclusion

CSR in the soy sector in Paraguay remains rather an exception than the rule. Fostering the increased adoption of responsible business practices can potentially contribute to reducing the harmful impacts of soy production and expansion, and ensure that the companies generate contributions to local development. The research shows that to an important extent, the three selected soy producers adhere to responsibility standards in order to protect the companies' own interests. Moral conscience plays a role, but only as far as the actions do not harm the company and preferably contribute to strengthening the company's position, both socially and economically. CSR is deployed as a business strategy to prevent resistance from local communities, but also to attract new shareholders and investment funds. The decision to apply for RTRS certification is made in anticipation on future developments in the international market. Spokesmen from DAP and Cytasa believe consumers will increasingly demand responsibly produced soy in the near future, and that RTRS certification will give the companies access to new and upcoming markets.

The main barrier which impedes companies to adopt responsible business practices and which hampers the three selected companies to act móre responsibly is that they view too few, especially economic, incentives to change their practices. Implementing CSR policies or becoming RTRS certified involves costs, efforts and the voluntary infliction of new rules and controls. Yet, the international market does not pay producers in Paraguay a higher price for responsibly produced soy. Producers reason that the costs of acting more responsibly outweigh the benefits. Soy producers tend to distantiate themselves from their duty to act responsibly towards the societies in which they operate and reduce responsible business to a consumer preference among many others. Other important barriers which impede the adoption of responsible practices are the weakness of public institutions to enforce laws, and the negative image which the RTRS holds among important groups of soy producers in the country. Any strategy intended to motivate companies to act more responsibly should provide a mix of pull factors, including a more demanding market and an appeal to companies' moral duties towards society, and push factors like more effective government controls and punishments in case of non-compliance with laws and regulations.

CHAPTER 13: RTRS-CERTIFIED SOY IN PARAGUAY – A DESIRABLE SOLUTION OR EVIL IN DISGUISE?

This section focuses on the public debate surrounding RTRS-certification. In Paraguay, heated discussions take place concerning the desirability and possibility of producing soy in a responsible and ultimately sustainable way. The viewpoints of the most important proponents and critics of the certification scheme are analyzed and discussed in order to determine the degree of legitimacy of the global private governance scheme.

13.1 Proponents: RTRS certification has the potential to lead to more sustainable soy production

The RTRS counts four members in Paraguay: the soy producers DAP and Cytasa; the NGO Fundación Moisés Bertoni which has cooperated with both producers in several social and environmental projects; and the NGO Guyra Paraguay which has contributed to defining the certification criteria in earlier years, but has not been very active since. Judging from interviews with these and various other stakeholders, the four members seem to be the only real supporters of the RTRS in the country. The members agree that widespread adoption of the RTRS criteria would reduce the negative impacts of soy production and has the potential to contribute to local development. They acknowledge that the RTRS is not perfect, but that it is an important start towards increased sustainability in the soy value chain. The establishment and enforcement of a set of minimum criteria is seen as an achievement, in a national climate where legal compliance is far from self-evident. The proponents value the process which led to the establishment of the criteria, claiming it was a democratic practice between a variety of different stakeholders. Likewise, they appreciate the yearly RTRS assemblies, which permit knowledge-sharing and discussion on a variety of relevant topics between the different actors of the soy sector. Cytasa's manager highlights how, during a recent assembly, the attendees discussed and analyzed which agrochemicals are being used and proposed more sustainable alternatives. While critics disapprove of the presence of GM-giant Monsanto and other powerful companies of the soy industry in the negotiations, the RTRS members view this differently. Speranza, from the Fundación Moisés Bertoni, explains why he believes Monsanto should be included (box 13.1)

Box 13.1: Why Monsanto should be part of the RTRS

"I don't imagine that we could develop a Round Table, a conversation, a discussion, general agreements, if the big players are not present. Whether we like Monsanto or not, it is still a big player. Many NGOs don't want to sit down and discuss with powerful stakeholders as Monsanto, Cargill and Syngenta. But these companies are legally operating in Paraguay and have an important influence in the market of transgenic engineering. I want to sit down and discuss with them in order to reach minimum agreements"

- Speranza, director of FMB, Asuncion

Many NGOs condemn the fact that the RTRS accepts GMOs, but the four members do not perceive this as a drawback. They disagree with the position that GMO production is per

definition non-responsible, and argue that sustainability has more to do with production practices than with the type of seeds used. Arevalos from Guyra Paraguay remarks that organic production can be harmful as well as it requires more land per unit of output and often involves deforestation. Terol from DAP adds that even though organic production might be healthy, if all producers would switch to organic, they would not be able to produce the quantity of food the world needs. GMO production is legally authorized in Paraguay, and the RTRS proponents declare they thrive to develop ways to produce soy, whether GMO or organic, in a more sustainable way.

Even though the RTRS supporters promote the widespread adoption of the RTRS standards as a means to reduce the negative impacts of the soy sector, they recognize that the scheme presents some challenges and points of improvements. However, these problems are not perceived as being insurmountable. Firstly, upon inquiry, all four members agree with RTRS critics that that the certification criteria are weak, as producers are essentially required to comply with national legislation. DAP's socio-economic manager asserts that simply meeting the RTRS criteria will not result in a sustainable mode of production. Many of the standards, especially those relating to social responsibility, are open to interpretation. The degree of sustainability depends on the motivation of the companies in question and their choice on how to implement the standards. Guyra Paraguay's representative justifies the weakness of the standards, by stating that if the criteria would be too strict, no producer would be able to comply with them on the short term, and that it is more effective to move towards sustainability by strengthening the agreements step by step.

Another important challenge which cannot be denied is that the RTRS has not taken of the ground in Paraguay in terms of the amount of members. While the objective has always been to grow, the number of members recently decreased from five to four, when the producer Tupa Renda stepped out of the group. The company itself repeatedly refused to give any clarification for its withdrawal, but Speranza proclaims it has to do with the company's new business strategy of aggressive expansion. Whatever the reason to resign, RTRS membership was apparently not interesting enough to remain active. Moreover, there are no indications that any other company or organization in Paraguay will join the group anytime soon. The members are somewhat disappointed by the limited amount of interested stakeholders in the country. They believe that for the RTRS to have an impact on sustainability at national level, the standards need to be adopted at mainstream level, as opposed to being confined to a few isolated cases. The representatives of the four member-organizations each have a different opinion on what is needed for the RTRS to become more widely applied. Terol from DAP ascribes the future of the certification scheme to the international market for soy. If the certified producers manage to sell their soy for a higher price, this might motivate other. Garcia Asensio from Cytasa believes the RTRS should seek greater proximity to the rest of the soy sector through better presence in forums and scientific debates, a clearer message and a more open dialog. Moreover, he argues, many questions relating to soy are dogmatic, while actually more scientific research is needed about the benefits and downsides of soy production, in order to justify the distinctive positions concerning soy. Arevalos from Guyra Paraguay states that the influence of the RTRS could be increased if it would provide more support to small and medium-sized farmers. He explains that currently, the Roundtable is mainly focused on incorporating big producers and corporations, while actually assisting smaller soy farmers has the potential to solve many social problems. Speranza from the Fundación Moisés Bertoni, on the other hand, is convinced that the

commitment of the big multinational corporations is what is lacking most. He refers to ADM, Cargill, Bunge and Dreyfus, companies which do not produce soy themselves, but purchase around 80% of all the soy produced in the country and arrange further trade and transportation to the final destination of the grains. Speranza reasons that if these companies decide to only purchase RTRS certified soy, this will force the producers to adopt the standards which would lead to a more sustainable production. The multinationals referred to are all members of the RTRS and participated in the process of developing the certification criteria. It seems that many parties want to have a say in the process, but do not wish to effectively incorporate the standards into their own working methods. Despite the points of improvement, the four RTRS proponents in Paraguay believe there is still hope for the RTRS to grow. Certified commodity production is expected to become increasingly demanded and normalized. Yet, it seems that the road is still long before this trend actually leads to widespread positive developmental impacts and sustainability on the ground.

13.2 Opponents: RTRS certification does more harm than good

Apart from the four RTRS members, there is very little support for the certification scheme in Paraguay. Stakeholders from within the soy sector react with either caution or distrust as seen in the previous chapter. But while the RTRS is not particularly popular within the soy sector, its most fierce critics can be found among civil society groups. NGO directors and leaders of campesino organisations generally react cynical when they hear the term 'responsible soy'. Many campesino leaders are fervent anti-soy activists. They view any initiative coming from the soy sector with distrust, and repeatedly ascribed harmful intentions to soy producers involved in responsible business (box 13.2)

Box 13.2: Reactions from civil society leaders to the concept of responsible soy

"Responsible soy? Ha! Irresponsible soy you mean!"

- Leader of national campesino organization MCP, Asuncion

"Responsible soy is responsible, indeed. Responsible for the expropriation of our natural resources, for the contamination of our water bodies, for the expulsion of campesinos and indigenous communities, for the impoverishment of our people!".

- Victor Benitez, director of the NGO Alter Vida, Asuncion

"The soy producers don't invest in campesinos to bring development. All they want is to get us indebted and then take our land. They invest to destroy"

- Leader of a regional campesino organization in San Pedro, interviewed in Asuncion

Instead of focusing on *intentions*, however, it is more insightful to judge the RTRS based on its *effects* on local development. The interviewed civil society leaders all agree that even when soy producers pursue genuine efforts to implement adequate community development programs, and in addition comply with legal regulations concerning fumigations, this is not enough to make the soy sector sustainable. On the contrary, the respondents believe that on a local level, the RTRS will serve to keep the campesinos quiet by offering them short-term benefits, without effectively addressing more long-term structural problems. Faced with less resistance, the soy

producers will be able to pursue and expand their destructive practices more easily, reasons the leader of the MCP. Benitez explains that his NGO Alter Vida cannot positively support the RTRS campaign, because the certification standards allows for the use of GMOs, which, he claims, can in no way be compatible with environmental conservation or other production systems. He believes the RTRS is a form of greenwashing and misleads European consumers into thinking that soy sold under this label has been produced sustainably. Representatives from Oxfam Paraguay and the CDE, who have done prior research on the topic of responsible business in the soy sector, acknowledge that responsible soy companies do not negatively affect neighboring communities as much as other soy farmers do, but that on the long run the consequences of their production methods are essentially the same. Responsible soy producers still use agrochemicals which contaminate the environment and may eventually lead to the expulsion of rural families. Furthermore, their community programs have been found to cause conflicts among community members. Overall, the respondents view the RTRS as an inadequate response to the country's problems. They fear that if the certification scheme becomes more widely adopted, it will weaken local resistance movements, provide consumers with a clean conscience, and frustrate real solutions.

To express their critique of the RTRS, various civil society organizations, including the international peasant's movement Via Campesina, organized a 'counter-conference' in 2006 which was entitled 'The campaign against the second global conference for responsible soya'. Furthermore, several demonstrations and manifestations have been held in Asuncion and the organizations continue to publish articles, information leaflets and posters (figure13.1). Different alternative rural development models are proposed. The Federación Nacional Campesina (FNC), for example, fights to strengthen the cotton sector among small scale producers and advocates for increased industrialization in order to create employment. The MCP, on the other hand, promotes the diffusion of small-scale family-based food production systems. All the proposed alternatives have in common a stronger support for the campesino population and greater equity in the distribution of land and resources.

Figure 13.1: Protest poster against certifying Roundup Ready (RR) soy as responsible

Source: Own photograph, Alter Vida Office

It is interesting to note that the RTRS has an important group of supporters in the Netherlands, while affected stakeholders on the producer side (who the RTRS is supposed to benefit) are strongly opposed to the label. The Netherlands has the largest number of RTRS members after Brazil, and several large NGOs support the RTRS through the Dutch Soy Coalition. ICCO, one of the only Dutch NGOs active in Paraguay, was part of the coalition for several years despite the fact that the large majority of its concerned partner organizations have always been strongly against the RTRS. It seems that supporters of the label have been more concerned with satisfying concerned consumers than with adapting the certification scheme to the demands of affected local groups. Civil society organizations have been largely excluded from the decision-making processes which led to the development of the certification standards, resulting in a low level of input legitimacy among these stakeholders. In addition, the soy sector in Paraguay has not been very receptive to the private global governance scheme either. If the RTRS is to gain broader support in producer countries and make effective contributions to sustainable and equitable development, attention needs go out to greatly increasing the legitimacy of the scheme among local stakeholders by adapting the standards to reflect the interests of the rural poor.

CHAPTER 14: DISCUSSION

The previous chapters presented the research findings. This chapter combines insights and knowledge obtained throughout the research to discuss how the findings relate to the literature. Next, follows a reflection on how far responsible business in its current form represents an adequate solution to the identified sustainability issues. An answer is provided to the question 'how responsible is responsible business in the soy sector actually?'. Subsequently, the potential and limitations of responsible business are discussed, in order to determine what soy companies could do beyond what is already done to increase their positive outcomes. It responds to the question 'how responsible can responsible business be?'. Finally, the concept of responsibility is extended to other stakeholders to reflect on how they limit the sector from generating greater contributions, and to provide recommendations about which measures they can take to enhance the inclusiveness and sustainability of the soy value chain.

14.1 Linking the findings to the literature

Visser (2008) has adapted Carroll's CSR pyramid to developing country contexts, arguing that companies operating in the Global South first and foremost have economic responsibilities towards society, followed by philanthropic, legal and at last ethical responsibilities. Empirical research conducted for the present study, however, contradicts Visser's theory. As predicted, the investigated responsible soy companies in Paraguay still accord the highest priority to economic responsibilities, i.e. providing soybeans for the global market, creating employment and being profitable. It is debatable whether this business function should appear in a CSR pyramid at all, as it concerns the basic foundation of a capitalist enterprise, without which the enterprise would not be able to survive. Unlike in Visser's pyramid, the investigated companies place the second most emphasis on legal responsibilities. Managerial staff from all three case studies repeatedly stressed that their company complies with all national laws and regulations. As non-compliance seems to be the norm in Paraguay, simply following the rules permits the companies to distinguish themselves from regular, non-responsible, soy producers. On the third position, the responsible soy companies place philanthropic responsibilities. The three companies all implement community development programs and support public institutions with donations, but these activities are mainly conducted incidentally or project-wise, while legal compliance is claimed to be carried out on a continuous basis. Ethical responsibility receives the lowest priority. The representatives of the responsible soy companies have little regard for the ethical dilemmas surrounding GMO production and consumption, and for the (indirect) negative impacts of their practices which can occur despite legal compliance. The investigated case studies represent best practices in the country. It is not possible to generalize the findings for the entire soy sector in Paraguay, as the selected companies are likely to have different priorities than other soy producers. Yet, the analysis does show that Visser's pyramid is not universally applicable to all developing country contexts. The order of the four dimensions of responsibility can differ depending on the country, the sector and the company.

Visser (2008) has also conducted research on the drivers of responsible business in developing country contexts. He distinguishes between internal drivers (from within the country) and

external drivers (international influence). Before the RTRS standards were developed, the three investigated companies already had in place their own CSR strategies. These were mainly incentivized by internal drivers, notably preventing conflict with neighboring communities, governance gaps and a sense of moral duty from the part of the company directors. When the RTRS certification scheme was established, DAP and Cytasa decided to become certified based on external drivers, most of an economic nature. International standardization is becoming increasingly common and RTRS-certification could potentially provide access to new markets in the future. Furthermore, funding from a Dutch NGO was available, which kept the cost of certification low. The main factors which impede companies from becoming engaged in responsible business, and which hamper the selected companies from acting more responsibly, can be classified as external. The interviewed company representatives believe that for the sector to become more sustainable, the market should demand more responsible business practices and offer a differential payment as incentive. An internal driver, the weakness of public institutions, also plays a role in impeding responsible behavior, as it dissuades soy producers from complying with laws and regulations. Visser´s classification is based on the scale level at which CSR is incentivized, while in fact, the respondents rather emphasized the nature of the drivers which played a role in their decisions to engage in responsible business. The classification developed by Maignan and Ralston (2002) is more adequate. It identifies three types of motivations: performance-driven, stakeholder-driven and value-driven. Using the proposed classification, responsible business among soy companies in Paraguay is first and foremost driven and hampered by economic or performance factors, next by stakeholder-related factors, and last by company values.

Freeman's stakeholder theory (1984) suggests that in order to generate inclusive contributions, it is important to balance the interests of all the different stakeholder groups. However, in practice, most companies tend to prioritize their stakeholders. The research findings show that this is also the case in Paraguay. The responsible soy companies mainly extend their CSR activities to stakeholders who can potentially harm or benefit the company, notably their own employees, their closest neighbors and their direct natural environment. Evidence of the companies' efforts to act responsibly is communicated to their shareholders, clients and potential funding agencies. Although consumers also have the power to harm or benefit soy producers (mainly through their consumption patterns), the selected companies do not target them directly with CSR activities or proof of responsible behavior. The soy value chain is long and does not permit traceability of the soybeans, making direct contact between producer and end-consumer near to impossible. Stakeholder groups which the companies do not perceive as possible threats or opportunities are largely excluded from benefitting from the CSR activities. These groups include peasant communities in the wider region, employees contracted externally and national civil society organizations. In order to generate more inclusive development, the companies should thrive to reach those segments of the population where the need is the greatest, as opposed to stakeholders which have the most power. However, a recurring limitation of voluntary CSR schemes, which has also been encountered in the literature on the topic, is that ultimately companies tend to prioritize the strategic needs of the firm above the development needs of the region or country in which they operate.

14.2 How responsible is responsible business in the soy sector?

Considering the negative impacts of the soy industry and the most pressing sustainability issues in Paraguay's rural economy, it is important to reflect on how far responsible business represents an adequate solution to the problems, and what the findings from the case study companies mean for the sector at large. How responsible is responsible business in the soy sector actually? Looking back at the findings, it becomes clear that responsible business among the investigated companies essentially amounts to legal compliance and providing community assistance. Although the interviewed business persons expressed good intentions and provided proof of their efforts in the field of CSR, it remains doubtful whether their responsible business practices suffice to render the soy sector sustainable and inclusive.

The managerial staff of Cytasa, DAP and Cooperativa Colonias Unidas are generally aware of the sustainability problems related to the soy industry and commit to acting more responsibly. Regarding their core business practices, all three emphasized compliance with national labor and environmental laws as a central means to mitigate the negative impacts of their operations. They guarantee adequate labor conditions for their permanent workers, use legalized agrochemicals, comply with deforestation laws and largely respect mandatory green barriers and other measures to limit contamination of their surroundings. In addition, depending on the company, several practices were implemented which go beyond legal compliance, including land acquisition policies designed to avoid the displacement of campesinos, reforestation and forest conservation activities and agricultural practices which preserve soil quality. Due to the adoption of the stated measures, the impacts of the investigated companies are somewhat less harmful than those of regular soy producers, judging from previous studies on the topic. However, the findings also demonstrate that the efforts of the companies to mitigate their negative impacts have remained limited. The companies do not take responsibility for their indirect impacts, such as deforestation in the Chaco due to soy expansion in Eastern Paraguay. The CCU has an impressive responsibility discourse, but does not enforce compliance with laws and regulations upon its member farmers, which greatly inhibits actual changes in production practices to take place on the ground. Likewise, DAP and Cytasa claim they highly value labor rights and provide their employees with contracts guaranteeing social and medical security, a minimum wage and adequate working hours. Yet, the companies do not accord the same set of rights to the laborers contracted externally, even though this group represents at least a third of all the employees working on the estates (and even more during harvest season). Furthermore, in all three cases, members of neighboring campesino communities claim to suffer from the negative effects of agrochemical sprayings on their health, crops and farm animals, which indicates that compliance with environmental regulation is not enough to guarantee sustainability. Although legal compliance is a prerequisite for sustainability, it is not sufficient. Paraguayan laws do not effectively protect local communities or the environment, nor do they prevent the concentration of land and resources.

Apart from mitigating some of their negative impacts, the investigated companies undertake efforts to make actual contributions to development by providing assistance to local communities. Through a mix of donations, projects and programs focused on subsistence farming, cash crop production and access to services, the companies sought to make improvements in the socio-economic conditions of smallholders. The outcomes have been varied. One of the projects implemented by DAP clearly failed and generated adverse results. It

aimed to successfully introduce industrial farming techniques onto small plots of land, but provoked conflicts within the communities and ended up leaving many of the participating campesinos indebted. The other community assistance programs have been more effective in reaching their aims, and the majority of the beneficiaries are content with the results. They report improvements in their food security situation or increases in their incomes, as well as improved access adequate health and educational services. In the absence of state support, the companies help to fill the void of investment in rural areas. However, two main issues have been encountered which undermine the sustainability of the programs. In the case of temporary projects, the benefits of the activities were largely short-term and greatly diminished after the assistance had been withdrawn. In the case of the permanent assistance program provided by the CCU, the company successfully incorporates small and medium-sized farmers in the soy economy and enables them to benefit from the generated wealth, but in doing so strongly fosters the expansion of the soy model and all its harmful effects. Regarding the degree of inclusiveness, the contributions to local development have remained limited in scope, either because the projects were small in terms of beneficiaries or because they failed to reach the poorest population groups. Rather than addressing the most urgent needs in the region, the companies tend to focus on those communities which risk to either harm the company through resistance or benefit the company economically. Although the beneficiaries are largely satisfied with any help they received (except in the cases in which it generated adverse outcomes), the assistance programs can be greatly improved in terms of their effectiveness. None of the responsible soy companies has developed programs which are socially inclusive, economically viable ánd environmentally sustainable on the long-term. The soy sector lacks development expertise and would benefit from greater professional guidance from the field of development cooperation.

By emphasizing their efforts in the field of responsible business, the responsible soy companies distinguish themselves from the rest of the sector. Indeed, the companies have effectively reduced some of the negative impacts of soy production and expansion and made contributions to local development. However, the research reveals that despite these efforts, many continuities remain between responsible and mainstream soy. The investigated companies maintain an unsustainable land- and capital intensive production model which induces further concentration of resources and requires a high use of genetically modified seeds and agrochemicals. The findings indicate that responsible business in the soy sector represents an inadequate response to the structural factors which drive the concentration of land and resources, environmental degradation and exclusion in Paraguay's rural sphere.

Concern over the negative impacts of the soy industry on producer countries has led to the establishment of the Round Table on Responsible Soy. The resulting certification standards are regarded by its supporters as an effective way to induce responsible behavior on participating soy companies and render the soy value chain more sustainable. However, evidence from the field reveals that the importance of this certification scheme should not be overestimated. Certified producers acknowledge that the standards are weak: they are largely based on national legislation, contain no measurable targets and are sometimes open to own interpretation. Due to this, becoming certified has had little influence on the companies' production practices on the ground. The members mainly value the RTRS for other reasons, namely as a potential means to gain access to new markets in the future and as a discussion platform which permits the exchange of knowledge on sustainability issues. Considering the

weakness of the RTRS in changing production practices and fostering sustainable outcomes, I argue that the soy produced under this certification scheme does not deserve to be labeled 'responsible'. The label misleads consumers into thinking that RTRS certified soy was produced in a sustainable way, while in fact the standards are too weak to guarantee sustainability. By focusing on the positive aspects of the certification scheme, the label has a discursive effect as attention is drawn away from the sector's negative impacts. Instead of effectively mitigating the harmful impacts, the RTRS legitimizes the expansion of an unsustainable soy production model.

14.3 How responsible can it be?

An analysis of the findings reveals that despite various positive outcomes, responsible business in the soy sector has been largely unsuccessful at reducing profound rural inequalities and guaranteeing the effective protection of the health and rights of local communities and the environment. This raises the question what soy companies could potentially do to increase their contributions to sustainable and inclusive development and what the limitations of responsible business are. How responsible can responsible business be?

The investigated companies have each adopted a set of responsible business practices, yet, they, and other soy producers, could to a lot more to minimize their negative impacts and maximize positive outcomes. As noted, Paraguayan environmental laws are not always sufficient to effectively protect local communities from agrochemical sprayings, nor to prevent deforestation in the western part of the country. Companies could reduce their harmful impacts by identifying legal flaws and loopholes and taking greater precautions to prevent damages. This implies aiming to do what is needed, as opposed to what is required. Furthermore, companies could pursue greater efforts to integrate their responsibility values into all aspects of their business operations, as to achieve more consistency between their discourse and their actions. For example, instead of evading all accountability towards the laborers which are contracted externally, the companies could demand the contractors to comply with national labor standards. Likewise, as a cooperative, the CCU could enforce responsible business behavior upon their associate producers as a requirement for membership. With over 3000 member farmers the company is a powerful actor in the region and could make use of this position in order to generate a greater impact. In order to maximize the sustainability and inclusiveness of community development programs, soy companies are advised to focus on achieving long-term results and reaching the poorest population groups. Also, cooperation could be sought with qualified and experienced NGOs for the design and implementation of the programs, as a means to foster greater effectiveness in terms of poverty alleviation. This has been found to be done to some extent, but cooperation could be increased and intensified. It has to be noted however, that many NGOs in Paraguay are strongly against the soy sector and refuse any form of collaboration, making it difficult reach working agreements. Finally, an essential aspect of rendering the soy value chain more sustainable would be to convince more soy producers to adopt responsible business practices, as companies engaged in CSR remain a minority in the sector. Those who are currently involved in responsible business can play an important role setting the example, sharing their experiences and motivating others.

Although it is possible for soy companies to act more responsibly than is currently the case, various limitations exist which restrain how responsible responsible business can be. One of the main limitations is that ultimately, in case of conflicting interests or limited resources, companies prioritize the strategic needs of the firm above the needs of local communities and the environment. Another limitation is that there is a lack of consensus regarding the negative impacts of the soy industry. As long as soy producers do not view certain issues as significant problems, they will not pursue efforts to mitigate them, the clearest example being the production of GM crops. Moreover, some of the most pressing sustainability issues are inherently linked to the characteristics and dynamics of the large-scale soy production system and cannot be addressed from within the sector on a voluntary basis. Measures such as halting soy expansion, stricter land acquisition policies, or a ban on the use of the most toxic agrochemicals are expected to contribute greatly to the sustainability of the sector, yet producers are not likely to opt for them voluntarily, as this risks to negatively affect their incomes and market position. In any case, a voluntary CSR strategy developed by the sector itself will seek for solutions within the current system, even though in fact changes at a higher system level are required.

14.4 The responsibilities of other stakeholders

Enhancing the sustainability and inclusiveness of the global soy value chain is not the sole responsibility of individual soy producers. Other stakeholder groups within and outside the value chain have the power to influence the degree of sustainability and drive responsible business, both positively and negatively. To begin with, the Round Table on Responsible soy, or another private governance scheme, could potentially play an important role in rendering the practices of soy producers more sustainable, provided that the certification standards effectively foster the desired outcomes. The added value of global private global governance schemes, compared to independent CSR policies, is that the participating companies can be controlled and held accountable for their actions, as they have to comply with a fixed set of binding standards. However, the current RTRS standards are weak and need to be considerably strengthened in order to effectively improve the long-term sustainability impacts of the soy value chain. The criteria should be based on scientific evidence about the impacts of soy production and expansion, rather than on concessions between stakeholders. Furthermore, the standards should set clear rules and targets, and should not be open to own interpretations. Also, it is important that the standards may be sharpened when necessary, for instance when new scientific evidence is found. Finally, there more attention is needed for the social pillar of sustainability, for example through the provision of guidelines on how to conduct effective, sustainable and inclusive community development programs. Besides the weakness of the certification standards, another factor which impedes the RTRS from making effective contributions is its lack of legitimacy and support among soy producers and civil society groups in producing countries. While support for the RTRS in the Netherlands is high, affected stakeholder groups in Paraguay condemn the scheme for failing to address their problems effectively. In sum, if the RTRS (or another certification scheme) is to form part of a solution to greater sustainability in the soy sector, its content needs to be strongly revised. The focus should go out to addressing local needs as opposed to meeting global requirements.

Governments and public institutions in soy production countries can play an enabling or a restraining role in driving responsible business and fostering sustainable outcomes. In the case of Paraguay, the State inadequately performs its duties of regulating the private sector and protecting the interests and rights of its citizens. Weak laws, institutional incapacity to enforce legislation, high levels of corruption and a political bias in favor of the agribusiness sector have resulted in the unrestricted expansion of the soy industry at the expense of local populations. In order to limit the negative impacts of the soy sector the institutional capacity of the state requires strengthening and corruption needs to be cut back. Stricter regulations and effective enforcement mechanisms are needed to halt deforestation throughout the country, to protect local communities from agrochemicals used on soy plantations, and to prevent dispossession and expulsion of campesinos and indigenous groups. Furthermore, to ensure that the soy sector makes greater contributions to national development goals, a fairer and more consistent taxation system needs to be developed and the government should provide incentives for increased value addition instead of for further expansion of the soy areal. Moreover, a greater portion of public spending needs to be directed at supporting small-scale family farming. Rural poverty in Paraguay is concentrated among families with less than 10 hectares, and affects almost half the population living in the countryside. These small farmers are the key to poverty reduction. Yet, public policy is strongly biased towards the highly exclusionary agribusiness sector, thereby perpetuating existing inequalities. Moving towards enhanced inclusiveness and sustainability requires a shift in rural development policy towards a greater focus on the advance of smallholder agriculture. Attention should go out to fostering a higher level of equity in the distribution of land and resources and to the empowerment and capacity-building of peasant communities for the development of sustainable food production systems. An integral rural development strategy includes technical assistance to the rural poor in order to improve production practices and market access, as well as the provision of adequate health, education and infrastructure services to enhance the living conditions in the countryside.

Civil society organizations in producer countries which represent rural population groups or the environment and can potentially influence soy producers' business practices by manifesting their support or their opposition. In Paraguay, most civil society organizations hold a highly negative attitude to the soy industry in general and to any CSR initiative coming from the sector. Many fight for a Paraguay free of soy, yet despite decades of protests and resistance, the soy industry has grown exponentially, with little regard for local communities or the environment. I argue that the ongoing tensions between those in favor of large-scale soy production and those against it, and the over-politicization of the issue, prevents both sides from finding long-lasting solutions that reflect the needs of Paraguay's rural poor. Although I respect the zero-tolerance position towards the soy sector and have sympathy for the underlying ideology, I advocate for a less radical, but more pragmatic approach, based on collaboration, dialog and consensus building. The objective of this approach is to generate the conditions which enable peasant communities to build sustainable livelihoods, whether in coexistence with soy producers or not. Even if the exodus of all soy companies would remain an end goal, it will not happen overnight. In any case, a transition period is needed in which soy expansion is halted and the soy which is produced is produced in the most sustainable manner. Civil society organizations can play a role in this transition by evaluating proposed CSR initiatives based a careful assessment of the socio-spatial effects of the interventions, rather than ascribing harmful intentions to the companies *a priori*. If interventions are deemed beneficial for local rural development, civil societies are

encouraged to consider sharing their development expertise in order to enhance the sustainability and inclusiveness of the programs.

Consumers, but also governments and civil society organizations in consumer countries, have the power to influence the way in which their food is produced by exerting pressure on the sector and through their purchasing behavior. In order to move towards more sustainable soy production methods, consumers need to stimulate organic, fair-trade and small-scale produce through consumption patterns. Also, concerned stakeholder groups can exercise pressure on importers and processers of soy, supermarkets, companies and governments, and demand them to adopt stricter purchasing criteria, strengthen existing certification standards for responsible soy, and offer a differential payment for soy which is produced in a sustainable manner. In fact, soy producers and experts who were interviewed during this research, esteem that the main barrier which impedes soy companies from engaging in responsible business is the lack of financial incentives. Another way to reduce the problems related to soy production is to reduce the demand for soy. This can be achieved by reducing the consumption of meat and dairy products, by reducing food waste and by replacing soy with other, more sustainable, feed crops in animal feed in the livestock sector. To incentivize action and mobilization in consumer countries, it is important to improve the access to reliable data on the source of products, and the impacts of their production methods.

CONCLUSION

The present study aimed to explore to what extent responsible business represents a solution to the negative impacts associated with soy production and expansion. Field research was undertaken in soy production regions in Paraguay in order to examine the dynamics of the soy sector, develop a thorough understanding of the main issues at stake, and make an assessment of existing responsible soy initiatives. The findings are based on a thorough analysis of primary empirical data obtained through qualitative methods (semi-structured in-debt interviews, focus group discussions, participatory research, mapping exercises and field observations), combined with relevant available secondary data. Opinions and perspectives have been gathered from different urban and rural stakeholders, including peasants, soy producers, civil society representatives, government officials and experts. Three companies which can be considered best practices in the field of responsible business in the soy sector have been selected for in-depth case study research. Throughout the investigation, special attention was accorded to analyzing the role and potential of the RTRS certification scheme in fostering the desired development outcomes. This concluding chapter recapitulates the main findings and presents directions for further research. The central question which guided the research process was:

How do responsible soy companies in Paraguay address the negative impacts associated with soy production and expansion and to what extent do these companies contribute to sustainable and inclusive development?

The soy sector in Paraguay is one of the central pillars of the country's macro economy and has contributed a significant growth of the economy in recent decades. However, previous studies and evidence from the field indicate that this growth has been exclusive and the benefits of the sector have mainly been confined to an elite group of large landholders, investment funds and a few multinational corporations which dominate the soy value chain. The sector generates few jobs and expansion of the soy frontier has occurred at the expense of local rural populations, thereby perpetuating historically formed inequalities. Peasant farmers and indigenous communities suffered from eviction from their lands, rising land prices, loss of livelihoods, health problems and environmental degradation. Moreover, contrary to what the investors claim, the agribusiness sector presents a threat to the food security situation in the country as it competes for the scarce resources which are vital for the production of food crops for the local market. The situation is aggravated by malfunctioning public institutions, which are characterized by incapacity, corruption and a bias towards the agribusiness sector.

Responsible business emerged as a corporate response to the problems and aimed to render the soy value chain more sustainable. In order to make effective contributions to sustainable and inclusive development, it is imperative that companies engaged in responsible business pursue efforts to mitigate the negative impacts of their operations while maximizing their positive outcomes. To bring harmful impacts of the soy industry to a minimum, accurate and detailed information is needed about what these negative impacts entail and what the most pressing focus areas are which need to be addressed. Yet, the present research demonstrated that there exist a lot of gaps in reliable data and information on the topic. The advance of the soy frontier has become a strongly politicized theme, and conflicting or biased claims are put forward by the different stakeholder groups to serve the strong interests at stake. Proponents of the sector tend to deny or attenuate the negative impacts of and stress the benefits, while opponents and anti-

soy activists have been found to overstate the role of the sector in generating harmful outcomes. It is clear that soy production and expansion have profound implications for sustainable development, but the over-politicization and widespread misunderstanding of the issue prevent any side from finding lasting solutions. More in-depth and objective research is needed to determine the exact impact of the soy industry in order to develop tailored, context-specific responses.

Although the existing data is incomplete, combined with evidence from the field it permitted to construct a general understanding of the main sustainability issues of the soy industry. The responsible soy companies Cytasa, DAP and Cooperativa Colonias Unidas have been investigated to determine how and to what extent they address the identified issues. In broad terms, the three companies attempt to reduce the negative impacts of their operations by complying with laws and regulations, and they seek to make actual contributions to local development by providing community assistance. All three demonstrated that they guarantee adequate labor conditions for their permanent workers; pursue efforts to limit the pollution they generate, respect deforestation laws; provide assistance to small-scale farmers for subsistence or cash crop production; and improve access to adequate public services through donations and infrastructure investments. On the downside, however, the companies fail to comply with labor regulations for workers contracted externally, take little responsibility for their indirect negative impacts (notably deforestation in the Chaco), and contribute to the increased concentration of land and resources. Moreover, in spite of the companies' attempts to comply with environmental regulations, small-scale neighbors continue to suffer from the effects of agrochemicals fumigations on their crops, health and farm animals, demonstrating that national laws are insufficient to effectively protect the rights of local communities. Efforts by the companies to include small farmers in the soy economy have given rise to internal conflicts within local communities and expose the farmers to high financial risks, which indicates that the monoculture GM soy production is not a viable livelihood strategy for smallholders. Overall, the case studies demonstrated that by applying responsible business practices, it is possible to make contributions to society and reduce some of the negative impacts of soy production and expansion, but only to a limited extent. Responsible soy sector represents an inadequate response to the structural factors which drive the concentration of land and resources, environmental degradation and exclusion in Paraguay's rural economy.

Concern over the harmful impacts of the soy industry on sustainable and inclusive development has led to the foundation of the Round Table on Responsible Soy and the development of a certification scheme. The initiative has gained support from powerful stakeholders in consumer countries, notably the Netherlands, who promote the label as an adequate instrument to foster sustainability in the soy value chain. In Paraguay, however, the RTRS has been met with little enthusiasm. Most soy producers have tended refrain from engagement and prefer to continue business as usual, while civil society organizations criticize the regime for failing to safeguard the interests of the affected peasant societies it is supposed to protect. These findings indicate that the RTRS lacks input legitimacy on the producer side and that there exists a discrepancy between global requirements and local demands. Furthermore, the research points out that the standards are weak and ineffective, as in Paraguay their adoption has had little influence on soy production practices on the ground. The RTRS has a discursive effect in consumer countries: it draws attention away from some of the most pressing negative impacts of the sector by emphasizing the positive aspects of the certification scheme. Nevertheless, my critique of the

RTRS primarily concerns the content of the standards, not the form of global governance *per se*. I argue that an institutionalized form of responsible business could potentially form part of the solution to increased sustainability of the value chain, on the condition that the standards effectively address the main problems, that adequate monitoring and enforcement mechanisms are in place, and that the scheme is based on a high level of accountability. This is currently not the case for the RTRS. Further research is needed on the potential and limitations of global governance in the soy sector. Existing certification standards could be compared in terms of their legitimacy and effectiveness in fostering sustainable and inclusive development. Also, analyses could be conducted on how certification standards could be improved to reflect the needs of affected rural population groups and the environment. Although a different form of responsible business could potentially be part of the solution to increased sustainability of the soy value chain, it is not enough to solve exclusion and underdevelopment in rural Paraguay. Moving towards greater equity and sustainability cannot be achieved with one simple solution, but requires multilevel interventions focused on sustainable food production, a redistribution of land and resources and empowerment of the rural poor.

To answer the research question, responsible soy companies in Paraguay pursue efforts to mitigate their negative impacts and enhance their positive contributions through legal compliance, community assistance programs and various other measures which differ from company to company. Yet, in its current form, responsible business fails to provide a solution to some of the most pressing sustainability issues associated with the soy sector, including land concentration, environmental degradation and exclusion. The investigated companies represent best practices in the country. They are among the few soy producers in Paraguay which acknowledge the problems of the sector, have measures in place to reduce their harmful impacts, were willing to discuss openly about their experiences and made actual contributions to the livelihoods of rural communities. Although they have not developed a sustainable and inclusive model of soy production and expansion, valuable lessons can be derived from their experiences. Not only by fellow soy producers, but also by other local and long distance stakeholders. In a globalized economy, the sustainability of value chains does not depend on individual value chain actors alone. All stakeholders have the responsibility to act according to their respective powers.

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ANNEX 1: RTRS MEMBERS

Number of RTRS members per country

COUNTRY	Total
Argentina	22
Belgium	6
Bolivia	1
Brazil	31
China	2
Denmark	3
Finland	2
Francia	1
Germany	1
India	15
Norway	3
Paraguay	4
Portugal	2
Singapore	1
Sweden	6
Switzerland	6
The Netherlands	27
United Kingdom	14
Uruguay	2
US	7
Canada	1
Total general	157

Names of all the RTRS members from the Netherlands:

ROYAL AHOLD, Friesland Campina, VION NV, MVO, NEVEDI, UNILEVER, NUTRECO, CEFETRA GROUP, GLENCORE GRAIN BV, Agrifirm, Gebr Van Beek Group, AkzoNobel, Storteboom Group B.V., Nidera, Handelscompagnie BV, CBL - Dutch Food Retail Association, ForFarmers, North Sea Group, Encko, C.I.V. Superunie B.A., Cono Cheesemakers, KLM Royal Dutch Airlines, Schouten Europe B.V., Solidaridad, Natuur & Millieu, Plant Sciences Group, Wageningen University and Research Centre (Wageningen UR), IDH - Dutch Sustainable Trade Initiative, GMP+ International

ANNEX 2: RTRS CERTIFICATION STANDARDS

Principle 1: Legal Compliance and Good Business Practice

1.1 There is awareness of, and compliance with, all applicable local and national legislation.

Note: For group certification of small farms - group managers should provide training for group members on applicable laws and legal compliance.

1.1.1 Awareness of responsibilities, according to applicable laws can be demonstrated.

1.1.2 Applicable laws are being complied with.

1.2 Legal use rights to the land are clearly defined and demonstrable.

Note: Land use rights of traditional land users are considered in Criterion 3.2 which should be cross-referenced with this criterion.

1.2.1 There is documented evidence of rights to use the land (e.g. ownership document, rental agreement, court order etc.).

1.3 There is continual improvement with respect to the requirements of this standard.

Note: For group certification - continual improvement should be recorded and monitored at the group level.

1.3.1 A review process is carried out which identifies those social, environmental and agricultural aspects of the operation (on and off farm) where improvement is desirable.

Note: The producer is expected to be aware of the social and environmental context in which he/she is operating and the existing and possible future impacts of the operation.

1.3.2 A number of indicators are selected and a baseline is established to be able to monitor continual improvement on those aspects where desired improvements have been identified.

Note: Producers are free to choose the continual improvement indicators that are relevant to them to demonstrate continual improvement with respect to the requirements of this standard; e.g. Soil carbon content, use of agrochemicals, state of riparian vegetation etc. The baseline year is the year of first certification assessment.

1.3.3 The results of monitoring are reviewed and appropriate action is planned and taken when necessary to ensure continual improvement.

Principle 2: Responsible Labor Conditions

Note 1: The requirements of Principle 2 apply to both direct employees and to workers supplied by third parties.

Note 2: The principle applies also to migrant, seasonal and other contract labor.

2.1 Child labor, forced labor, discrimination and harassment are not engaged in or supported.

2.1 1 No forced, compulsory, bonded, trafficked or otherwise involuntary labor is used at any stage of production.

2.1.2 No workers of any type are required to lodge their identity papers with anyone and no part of their salary, benefits or property is retained, by the owner or any 3rd party, unless permitted by law.

2.1.3 Spouses and children of contracted workers are not obliged to work on the farm.

2.1.4 Children and minors (below 18) do not conduct hazardous work or any work that jeopardizes their physical, mental or moral wellbeing.

2.1.5 Children under 15 (or higher age as established in national law) do not carry out productive work. They may accompany their family to the field as long as they are not exposed to hazardous, unsafe or unhealthy situations and it does not interfere with their schooling

2.1.6 There is no engagement in, support for, or tolerance of any form of discrimination.

2.1.7 All workers receive equal remuneration for work of equal value, equal access to training and benefits and equal opportunities for promotion and for filling all available positions.

2.1.8 Workers are not subject to corporal punishment, mental or physical oppression or coercion, verbal or physical abuse, sexual harassment or any other kind of intimidation.

2.2 Workers, directly and indirectly employed on the farm, and sharecroppers, are adequately informed and trained for their tasks and are aware of their rights and duties.

2.2.1 Workers (including temporary workers), sharecroppers, contractors and subcontractors have a written contract, in a language that they can understand.

Note: The requirements of indicator 2.2.1 are recommended in all cases. However, for small farms where there are high illiteracy rates group managers may implement alternative mechanisms to make collectively known and verify valid working relationships.

2.2.2 Labor laws, union agreements or direct contracts of employment detailing payments and conditions of employment (e.g. working hours, deductions, overtime, sickness, holiday entitlement, maternity leave, reasons for dismissal, period of notice, etc.) are available in the languages understood by the workers or explained carefully to them by a manager or supervisor.

2.2.3 Adequate and appropriate training and comprehensible instructions on fundamental rights at work, health and safety and any necessary guidance or supervision are provided to all workers.

2.3 A safe and healthy workplace is provided for all workers.

2.3.1 Producers and their employees demonstrate an awareness and understanding of health and safety matters.

2.3.2 Relevant health and safety risks are identified, procedures are developed to address these risks by employers, and these are monitored.

2.3.3 Potentially hazardous tasks are only carried out by capable and competent people who do not face specific health risks.

2.3.4 Adequate and appropriate protective equipment and clothing is provided and used in all potentially hazardous operations such as pesticide handling and application and mechanized or manual operations.

2.3.5 There is a system of warnings followed by legally-permitted sanctions for workers that do not apply safety requirements.

2.3 6 Accident and emergency procedures exist and instructions are clearly understood by all workers.

2.3.7 In case of accidents or illness, access to first aid and medical assistance is provided without delay.

2.4 There is freedom of association and the right to collective bargaining for all workers.

2.4.1 There is the right for all workers and sharecroppers to establish and/or join an organization of their choice.

2.4.2 The effective functioning of such organizations is not impeded. Representatives are not subject to discrimination and have access to their members in the workplace on request.

2.4.3 All workers have the right to perform collective bargaining.

2.4.4 Workers are not hindered from interacting with external parties outside working hours (e.g. NGOs, trade unions, labor inspectors, agricultural extension workers, certification bodies).

2.5 Remuneration at least equal to national legislation and sector agreements is received by all workers directly or indirectly employed on the farm.

2.5.1 Gross wages that comply with national legislation and sector agreements are paid at least monthly to workers.

2.5.2 Deductions from wages for disciplinary purposes are not made, unless legally permitted. Wages and benefits are detailed and clear to workers, and workers are paid in a manner convenient to them. Wages paid are recorded by the employer.

2.5.3 Normal weekly working hours do not exceed 48 hours. Weekly overtime hours do not exceed 12 hours.

2.5.4 If additional overtime hours are necessary the following conditions are met:

a) It only occurs for limited periods of time (eg. peak harvest, planting).

b) Where there is a trade union or representative organization the overtime conditions are negotiated and agreed with that organization.
c) Where there is no trade union or representative organization agreement the average working hours in the two-month period after the start of the exceptional period still do not exceed 60 hours per week.
2.5.5 Working hours per worker are recorded by the employer.
2.5.6 Overtime work at all times is voluntary and paid according to legal or sector standards. In case overtime work is needed, workers receive timely notification. Workers are entitled to at least one day off following every six consecutive days of work.
2.5.7 Salaried workers have all entitlements and protection in national law and practice with respect to maternity. Workers taking maternity leave are entitled to return to their employment on the same terms and conditions that applied to them prior to taking leave and they are not subject to any discrimination, loss of seniority or deductions of wages. 2.5.8 If workers are paid per result, a normal 8 hour working day allows workers, (men and women), to earn at least the national or sector established minimum wage.
2.5.9 If employees live on the farm, they have access to affordable and adequate housing, food and potable water. If charges are made for these, such charges are in accordance with market conditions. The living quarters are safe and have at least basic sanitation.

Principle 3: Responsible Community Relations

3.1 Channels are available for communication and dialogue with the local community on topics related to the activities of the soy farming operation and its impacts.
3.1.1 Documented evidence of communication channels and dialogue is available.
3.1.2 The channels adequately enable communication between the producer and the community.
3.1.3 The communication channels have been made known to the local communities.

3.2 In areas with traditional land users, conflicting land uses are avoided or resolved.
3.2.1 In the case of disputed use rights, a comprehensive, participatory and documented community rights assessment is carried out.
3.2.2 Where rights have been relinquished by traditional land users there is documented evidence that the affected communities are compensated subject to their free, prior, informed and documented consent.

3.3 A mechanism for resolving complaints and grievances is implemented and available to local communities and traditional land users.
Note: For group certification - the complaints and grievances mechanism can be managed by the group manager and records of complaints and grievances can be maintained at the group level.
3.3.1 The complaints and grievances mechanism has been made known and is accessible to the communities.
3.3.2 Documented evidence of complaints and grievances received is maintained.
3.3.3 Any complaints and grievances received are dealt with in a timely manner.

3.4 Fair opportunities for employment and provision of goods and services are given to the local population.
3.4.1 Employment opportunities are made known locally.
Note: Not applicable for small farms.
3.4.2 There is collaboration with training programs for the local population.
Note: Small farms may participate in training programs where they exist. For groups the collaboration with training programs may occur at the group level.
3.4.3 Opportunities for supply of goods and services are offered to the local population.
Note: Not applicable for small farms.

Principle 4: Environmental Responsibility

4.1 On and off site social and environmental impacts of large or high risk new infrastructure have been assessed and appropriate measures taken to minimize and mitigate any negative impacts.

Note: For group certification – this also applies to large new infrastructure projects developed by the entity holding the group certificate, where the infrastructure is used by certified group members or the certified soy they produce.

4.1.1 A social and environmental assessment is carried out prior to the establishment of large or high risk new infrastructure.

4.1.2 The assessment is carried out by someone who is adequately trained and experienced for this task.

4.1.3 The assessment is carried out in a comprehensive and transparent manner.

4.1.4 Measures to minimize or mitigate the impacts identified by the assessment are documented and are being implemented.

4.2 Pollution is minimized and production waste is managed responsibly.

Note: Chemical use and disposal is dealt with under Principle 5.

4.2.1 There is no burning on any part of the property of crop residues, waste, or as part of vegetation clearance, except under one of the following conditions:

a) Where there is a legal obligation to burn as a sanitary measure;

b) Where it is used for generation of energy including charcoal production and for drying crops;

c) Where only small-caliber residual vegetation from land clearing remains after all useable material has been removed for other uses.

4.2.2 There is adequate storage and disposal of fuel, batteries, tires, lubricants, sewage and other waste.

4.2.3 There are facilities to prevent spills of oil1 and other pollutants.

1 Oil refers to motor oil

4.2.4 Re-use and recycling are utilized wherever possible.

4.2.5 There is a residue management plan including all areas of the property.

4.3 Efforts are made to reduce emissions and increase sequestration of Greenhouse Gases (GHGs) on the farm.

Note: Other issues which are relevant to GHG emissions are covered in other principles including: Use of fertilizers (Criterion 5.5), Land-use change (Criterion 4.4).

4.3.1 Total direct fossil fuel use over time is recorded, and its volume per hectare and per unit of product for all activities related to soy production is monitored.

4.3.2 If there is an increase in the intensity of fossil fuel used, there is a justification for this. If no justification is available there is an action plan to reduce use.

4.3.3 Soil organic matter is monitored to quantify change in soil carbon and steps are taken to mitigate negative trends.

Note: For group certification of small farms - the monitoring of soil carbon can be done using samples.

4.3.4 Opportunities for increasing carbon sequestration through restoration of native vegetation, forest plantations and other means are identified.

4.4 Expansion of soy cultivation is responsible.

Note: This criterion will be revised after June 2012 if RTRS-approved maps and system are not available.

4.4.1 After May 2009 expansion for soy cultivation has not taken place on land cleared of native habitat except under the following conditions:

4.4.1.1 It is in line with an RTRS-approved map and system (see Annex 4.)

or

4.4.1.2 Where no RTRS-approved map and system is available:

a) Any area already cleared for agriculture or pasture before May 2009 and used for agriculture or pasture within the past 12 years can be used for soy expansion, unless regenerated vegetation has reached the definition of native forest (see glossary).
b) There is no expansion in native forests (see glossary)
c) In areas that are not native forest (see glossary), expansion into native habitat only occurs according to one of the following two options:
Option 1. Official land-use maps such as ecological-economic zoning are used and expansion only occurs in areas designated for expansion by the zoning. If there are no official land use maps then maps produced by the government under the Convention on Biological Diversity (CBD) are used, and expansion only occurs outside priority areas for conservation shown on these maps.
Option 2. An High Conservation Value Area (HCVA) assessment is undertaken prior to clearing and there is no conversion of High Conservation Value Areas.
Note: Where neither official land use maps nor CBD maps exist, Option 2 must be followed.
4.4.2 There is no conversion of land where there is an unresolved land use claim by traditional land users under litigation, without the agreement of both parties.

4.5 On-farm biodiversity is maintained and safeguarded through the preservation of native vegetation.

4.5.1 There is a map of the farm which shows the native vegetation.
4.5.2 There is a plan, which is being implemented, to ensure that the native vegetation is being maintained (except areas covered under Criterion 4.4)
4.5.3 No hunting of rare, threatened or endangered species takes place on the property.

Principle 5: Good Agricultural Practice

5.1 The quality and supply of surface and ground water is maintained or improved.

5.1.1 Good agricultural practices are implemented to minimize diffuse and localized impacts on surface and ground water quality from chemical residues, fertilizers, erosion or other sources and to promote aquifer recharge.
5.1.2 There is monitoring, appropriate to scale, to demonstrate that the practices are effective.
5.1.3 Any direct evidence of localized contamination of ground or surface water is reported to, and monitored in collaboration with local authorities.
5.1.4 Where irrigation is used, there is a documented procedure in place for applying best practices and acting according to legislation and best practice guidance (where this exists), and for measurement of water utilization.
Note: For group certification of small farms - Where irrigation is used for crops other than soy but is not done according to best practice, a plan is in place and is being implemented to improve practices. The group manager is responsible for documentation.

5.2 Natural vegetation areas around springs and along natural watercourses are maintained or re-established.

5.2.1 The location of all watercourses has been identified and mapped, including the status of the riparian vegetation.
5.2.2 Where natural vegetation in riparian areas has been removed there is a plan with a timetable for restoration which is being implemented.
5.2.3 Natural wetlands are not drained and native vegetation is maintained.

5.3 Soil quality is maintained or improved and erosion is avoided by good management practices.

5.3.1 Knowledge of techniques to maintain soil quality (physical, chemical and biological) is demonstrated and these techniques are implemented.
5.3.2 Knowledge of techniques to control soil erosion is demonstrated and these techniques are implemented.
5.3.3 Appropriate monitoring, including soil organic matter content, is in place.

Note: For group certification - Monitoring of soil fertility and soil quality should be part of the internal control system and can be carried out on a sampling basis within the group.

5.4 Negative environmental and health impacts of phytosanitary products are reduced by implementation of systematic, recognized Integrated Crop Management (ICM) techniques.

Note: See Annex 5 for further information on ICM.

5.4.1 A plan for ICM is documented and implemented which addresses the use of prevention, and biological and other non-chemical or selective chemical controls.

Note: For group certification of small farms - (particularly those who are not literate) the development and documentation of the ICM plan should be undertaken by the group manager, together with support for implementation.

5.4.2 There is an implemented plan that contains targets for reduction of potentially harmful phytosanitary products over time.

5.4.3 Use of phytosanitary products follows legal requirements and professional recommendations (or, if professional recommendations are not available, manufacturer's recommendations) and includes rotation of active ingredients to prevent resistance.

5.4.4 Records of monitoring of pests, diseases, weeds and natural predators are maintained. **5.5 All application of agrochemicals2 is documented and all handling, storage, collection and disposal of chemical waste and empty containers, is monitored to ensure compliance with good practice.**

2 Note: Agrochemicals refers to all chemicals used including fertilizers and pesticides

5.5.1 There are records of the use of agrochemicals, including:

a) products purchased and applied, quantity and dates;

b) identification of the area where the application was made;

c) names of the persons that carried out the preparation of the products and field application;

d) identification of the application equipment used;

e) weather conditions during application.

5.5.2 Containers are properly stored, washed and disposed of; waste and residual agrochemicals are disposed in an environmentally appropriate way.

5.5.3 Transportation and storage of agrochemicals is safe and all applicable health, environmental and safety precautions are implemented.

5.5.4 The necessary precautions are taken to avoid people entering into recently sprayed areas.

5.5.5 Fertilizers are used in accordance with professional recommendations (provided by manufacturers where other professional recommendations are not available).

5.6 Agrochemicals listed in the Stockholm and Rotterdam Conventions are not used.

5.6.1 There is no use of agrochemicals listed in the Stockholm and Rotterdam Conventions.

5.6.2 The use of Paraquat and Carbofuran is eliminated by June 2017.

5.6.3 During this phasing out period the use of Carbofuran and Paraquat should be controlled, if possible reduced according an Integrated Crop Management (ICM) plan developed by the producer, which explains under what specific circumstances the use of Paraquat and Carbofuran is allowed.

Note for 5.6.2: In the Case of Paraquat, the deadline for the prohibition for its use by June 2017 could be extended by the RTRS if enough evidence is put forward before June 2016 to demonstrate that at the time there are still no alternatives in the market (globally or locally), that can substitute it with less environmental and human risks and with similar costs.

5.7 The use of biological control agents is documented, monitored and controlled in accordance with national laws and internationally accepted scientific protocols.

5.7.1 There is information about requirements for use of biological control agents.

5.7.2 Records are kept of all use of biological control agents that demonstrate compliance with national laws.

5.8 Systematic measures are planned and implemented to monitor, control and minimize the spread of invasive introduced species and new pests. 9 RTRS Standard

ANNEX 2: TOPIC LISTS

RESPONSIBLE SOY COMPANIES

- **RTRS/CSR**

- Historia y motivos de la politica de RSE. Foco principal
- Motivos para la certificacion RTRS
- Opinion de la RTRS? (Principios, beneficios, desventajas, una solucion?)
- Que practicas tuvieron que cambiar? ahora cumple con todos los principios? adicionales?
- Como controlan la applicacion de estos principios?
- Otro tipo de certificacion?
- Exitos: contribucion principal al desarollo local, nacional?
- Desafios: Politica/ideologia vs. practica
- Cuales factores impiden una practica mas responsable?
- Soja Responsable en Paraguay:
    - Opinion de otros productores sobre la RTRS?
    - Por que Tupa Renda quito la RTRS?
    - Otras iniciativas de RSE?
    - Intercambio de experiencias y consejos?
    - Que es necessario para que mas empressas apliquen principios de responsabilidad?
- Que piensa de la vista negativa sobre la soja que tienen algunos grupos?
- Futuro de las practicas responsables de la empressa?

- **ADQUISICION DE TIERRA**

- Por que eligiron Itapua/San Pedro? Como encontraron la tierra?
- Uso de la tierra antes?
- tierra adquirida de quien?
- Precio que pagaron por hectare?
- Politica concernant la compra de tierras
- Para compra y uso, el estado/municipio impuso algunos condiciones?
- Antes de comprar consultaron con las communidades? Como?
- Resistencia? Occupaciones? Desplazamiento de poblaciones rurales? Compensación?
- Opinion lucha por la tierra, reforma agraria?
- Planes de expansion?

- **PROYECTOS SOCIALES**

- proyectos con campesinos, indigenas? Explicar, donde? cuantos familias?
- Que tipo de apoyo: assistencia technica, accesso a la tierra, a un mercado, a credito, a insumos, educacion, infrastructura, servicios?
- como eligieron los beneficiarios? Conflictos internos?
- Cooperacion con gobierno (apoyo, subsidio)?
- Cooperacion con ONGs, fondos, USAID, CECTEC, Fundacion Moises Bertoni?
- Experiencia anterior de la empressa?
- exitos, desafios? Relación con communidades?
- en general: contribucion principal al desarollo local
- Futuro?

- **POLITICA AMBIENTAL**

- Como controlan el cumplimiento de las leyes ambientales? Infona, senave, seam?
- applicacion de la ley de deforestacion cero? Cubertura forestal?
- que hacen para evitar desertificacion?
- Barreras de proteccion.
- fumigacion: avisan, viento, frecuencia, avion/tractor
- Que tipos de agrochimicos usan? (pesticidas, herbicidas)
- volumen por ha? Aumento desder inicio?
- Que hacen para mitigar los impactos negativos de estos productos?
- Conflictos, communidades que se quejen, compensacion?
- las leyes ambientales nacionales son sufficientes para proteger el medio ambiente y la salud humana? La empressa aplica politicas ambientales adicionales?

- **EMPLEADOS**

-Quantos empleados, por tipo de trabajo (agropecuario/officina)
-cuantos permanentes, cuantos jornaleros? Todos tienen contrato?
- Politica laboral. Principios principales, otros beneficios, servicios
- Contratados por la empressa o por contratistas.
- horarios, equipo de proteccion
- origen trabajadores
- sueldo
- seguro medico/social
- union laborista

- **CARACTERISTICAS GENERALES DE LA EMPRESSA Y PRODUCCION DE SOJA**

- Ano de establecimiento:
- Ubicacion geografica
- Actividades empressariales
- Origen del capital
- Empressas y gremios asociados
- Superficie total
- Superficie cultivado de soja
- Tenencia (alquila, compra, otro typo de contrato)
- Rubros agricolas cultivados
- Produccion de soja en tonneladas/ano
- Productividad de soja en tonneladas/ha
- Tipo de semillias
- Venden a que empressas
- Soja para: humano/forraje/biocombustible?
- Valor agregado?
- Mercado nacional/exportacion

COMMUNITY LEADERS

- Cuantos famillias, cuantos hectaras?
- Que producen en la communidad? Para consumo, mercado local, exportacion? Transgenica, convencional, organica?
- Historia de la llegada de la empressa
- Antes de llegar consultaron con ustedes?
- Habia resistencia? Como reagieron?
- Hicieron promesas? Mantenieron sus promessas?
- La communidad perdio tierras?
- Compensacion?
- Cuales beneficios aporta la empressa a la communidad? (trabajo, assistencia, caminos, servicios, educacion, salud)
- Cuales son los impactos negatives? (Conflictos, problemas de salud, contaminacion de agua, de los campos, endeudamientos)
- Communicacion con la empressa
- Recibieron apoyo del gobierno? De organizaciones campesinos?
- cambios necessarios
- Prefieres la situación actual o la situación antes de la llegada de la empressa?
- Que piensas del futuro de la communidad?

CAMPESINOS

- Desde cuando vive aca?
- Tamano de sus tierras?
- Tipo de tenencia (mejora, derechera, tıtulo, alquila)
- Que producen? Autosuficiente? Transgenica, convencional, organica?
- Para consumo, mercado local, exportacion?

- Antes de llegar, la empressa consultó con ustedes?
- Hicieron promesas? Mantenieron sus promessas?
- Cuales beneficios aporta la empressa a la communidad y tu familia? (trabajo, assistencia, caminos, servicios, educacion, salud)
- Cuales son los impactos negatives? (Conflictos, problemas de salud, contaminacion de agua, de los campos, endeudamientos, migracion de familias). Compensacion?
- Cuales cambios te gustaría ver?
- Assistencia gobierno? organisaciones campesinos?
- Prefieres la situación actual o la situación antes de la llegada de la empressa?
- Que piensas del futuro de la communidad?

WORKERS IN COMPANY

- Desde cuando? Que hiciste antes?
- Por que empezaste trabajar en la empressa?
- Full time o part time? Contrato?
- Horarios
- Salario, suficiente?
- Tipo de trabajo
- Securidad, union laborista
- comunicación con la gestión de la empressa
- otros beneficios, servicios. Mejor que en otros empresas?
- Estas satisfecho de los condiciones del trabajo? Cambios necesarios
- Prefieres la situación actual o la situación antes de la llegada de la empressa?

ANNEX 3: INTERVIEW LIST

Date	Respondent, organization	Location
ASUNCION		
06-04	- Carolina Castillo, political activist - Feria Semillarte: speaches from M. Lovera and conamuri	Asunción
08-04	- Luis Rojas & Guillermo Ortega, Base IS	Asunción
12-04	- Maximilliano Mendieta, Tierra Viva	Asunción
15-04	- Galo Bogarin, CEPAG	Asunción
16-04	- Miguel Lovera, ex senave director	Asunción
17-04	- Campesino manifestation, dia de la Resistencia campesina, various organisations, including Via Campesina	Asunción
18-04	- Marco Castillo, academic	Asunción
19-04	- Marcha indigena, MPO, Andres Galeano - Daniel Campos, SER	Asunción
22-04	- Marcelo Arevalos, Guyra Paraguay - SEAM, various officials from legal, fiscal and geo-information departments	Asunción
24-04	- Quintin Riquelme, CDE - Ernesto Benitez, CPA	Asunción
25-04	- Fabricio Vazquez, academic - Hector Cristaldo, UGP - Guillermo Terol & Carmen Barriocanal, DAP	Asunción
SAN PEDRO		
29-04	- FGD 7 villagers - Gustavo Alfonso, ex senave official	Paraguay Pyahu Lima
30-04	- campesino, FGD 4 campesinos	Lima
01-05	- campesino and village leader	Yaguarete Forest
02-05	- village leader, 2 campesinos - 2 FNC representatives	Aguerito
03-05	- socio-environmental manager, production manager - community leader, 2 campesinos	DAP, Fortuna Estate Colonia Barberos
05-05	- resistance leader, 2 campesinos, 3 carperos	Lima
07-05	- RTRS capacity training - 4 campesinos and school director	DAP, Fortuna Estate Colonia Barberos
08-05	- 6 campesinos	Colonia Barberos
09-05	- socio-environmental manager, technicians - managerial staff - community leader, 3 campesinos	DAP, Fortuna Estate DAP, Ybycai Estate Canada Santa Rosa
10-05	- 5 campesinos, school director, nurse	Canada Santa Rosa
ASUNCION		
16-05	- Ada Rosa, CECTEC	Asunción
17-05	- Victor Benitez, Alter Vida	Asunción
ITAPUA		
20-05	- CCU staff: environment department, education, youth program, human resources	CCU, Obligado
21-05	- CCU staff: L. kutzke, commerce department. R. Becker, CSR	CCU, Obligado
22-05	- 6 associate farmers	Field visits Obligado,

		Hohenau
23-05	- 4 associate farmers	Santa Rita (Alto Parana)
24-05	- Dietze, production manager. Foresty department	CCU, Obligado
27-05	- Andres Wehrle, ex MAG vice minister - 1 associate farmer - 6 campesinos	Pirapey Various locations, Edelira district
ASUNCION		
30-05	- Cecilia Quiroga, MCP	Asunción
31-05	- Campesino hunger strike against corruption from Indert	Asunción
04-06	- Vidal Godoy, Indert	Asunción
12-06	- Garcia Asensio, general manager Cytasa	Asunción
17-06	- Garcia Asensio, general manager Cytasa	Asunción
ITAPUA		
18-06	- campesinos, village leader - Sanchez, exploitation manager	Cytasa, Carlos Antonio Lopez
19-06	- campesinos - local management, production, administration, workers	Cytasa, Carlos Antonio Lopez
21-06	- Gacii - consejal departemental Frente Guazu - soy producer - Rene Klein-Holkenborg	Capitan Meza Naranjito
ASUNCION		
21-06	- DAP office	Asunción
21-06	- Yan Speranza, Fundacion Moises Bertoni	Asunción
21-06	- Invernizzi, MAG vice-minister	Asunción