



Analysis of the Soybean Debate

A study case on the debate about labor conditions in Brazil

F.M. Greco, P.S. Bindraban & S.L. Stattman



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Summary

Debate about labor conditions in Brazil

The soybean debate in Brazil has increased in both complexity and controversy over the last years. The increased complexity is the result of the interaction of soy cultivation with various social and environmental issues and the increasing importance of soybean on the international market. The increased controversy comes from the increased amount of stakeholders and their interests with discussions about soy production. The Brazilian soy debate, therefore, can be characterized by the difficulties faced by stakeholders to define and accept the problems to be address to and the internationalization of the debate which attracted members from industry, financing and retail sectors as well as other governments. The interference of stakeholders of different national and international backgrounds; representing industry, finance, civil society and retail sectors in the debate about the soy chain in Brazil resulted in more complexity and controversy to the discussions. This study analyzes dynamics between stakeholder positions and controversial issues as identified by Bindraban & Greco (2008).

The land-use model

Bindraban & Greco (2008) developed a model that shows the dynamics involving different land-use activities in the boundaries of the Amazon biome.

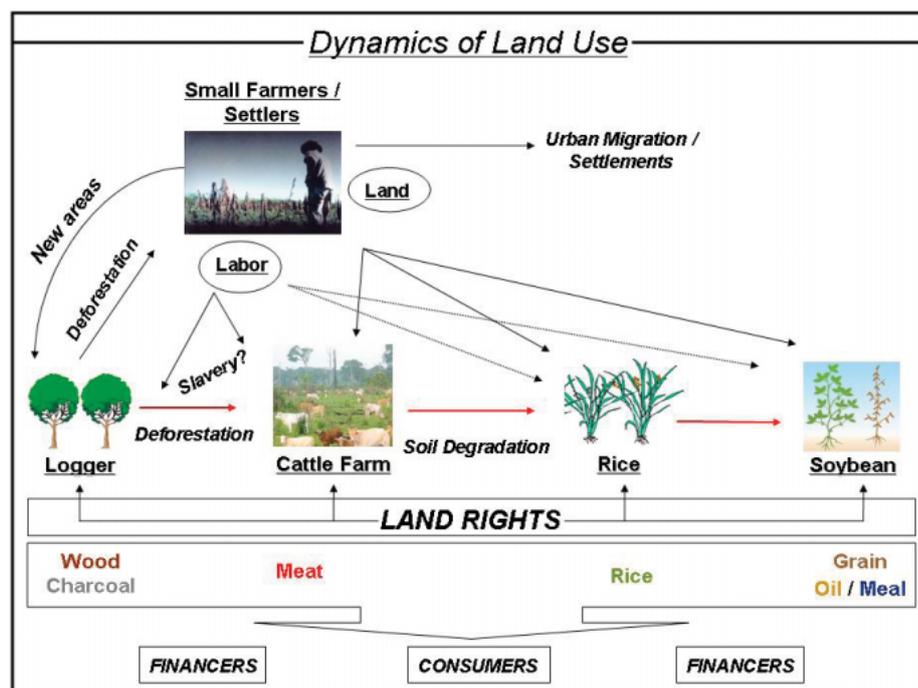


Figure 1. *Dynamics of Land Use in the Amazon boundaries. Based on Bindraban & Greco (2008) with slight modification.*

Relations between activities and stakeholders in the boundaries of the Amazon biome are interdependent and dynamic in time and space (Figure 1). Soybean cultivation is presented as one activity, inside a complex net of activities and stakeholders, with direct and indirect participation in different processes and issues. The model shows the interdependent relation between different land use activities identified in the Amazon biome region, namely;

logging, cattle farming, small/subsistence farming and large scale agriculture activities in this region. With respect to these activities, the model addresses the dynamics of land ownership and labor conditions.

Identification of stakeholders and their views

Discussions about labor conditions in the Brazilian soy chain take place in three forums: the Round Table on Responsible Soy (RTRS), the Soy Moratorium in the Amazon (SMA), and the National Agreement to Eradicate Slave Labour in Brazil (National Agreement). In all three initiatives the discussions are based on how stakeholders from the soy chain could assure the respect and enforcement of the existent labor legislation in the soy production system.

Two main discourses about labor conditions in the soy sector were identified by this study. The 'non-responsibility' discourse is primarily vocalized by stakeholders from the productive, industry and retail sectors. The few registered cases of forced labor and soy cultivation are insufficient for those stakeholders to hold the soy sector accountable for the problem. The opposing 'responsibility' discourse is mainly shared by members of social and environmental NGOs. The few cases of forced labor directly linked with soy cultivation justify to hold the sector accountable. The responsibility discourse is anchored in the perspective of the indirect influence of the soy sector over other activities that are considered to be associated with forced labor in the Amazon region.

Interactions between the stakeholders' views and the land-use model

The characteristics and arguments presented in the non-responsibility discourse are considered by the supporting stakeholders to be similar with the interactions presented in the land use model. In their view the model confirms their opinion, because it does not directly connect labor exploitation in earlier phases of land clearing, with the soybean cultivation. It supports their view that few registered cases do not justify the generalization and association of the entire sector with exploited labor. However, in the responsibility discourse the indirect contribution of the soy sector promoting other activities in the land use dynamics where exploited labor is used is highlighted by the interdependent aspect as demonstrated in the model.

Impacts of the soy debate about labor conditions in Brazil

Analysis of the RTRS, SMA and National Agreement show that, even though, stakeholders defend different discourses they have addressed issues together. There are four examples to support this collaboration:

- The clause added by the soy industries that lead to a breach of contract if the seller is found to use labor analogous to slavery;
- The unanimous approval of the principle of responsible labor conditions in the set of Principles and Criteria (P&C) for responsible soy production by the RTRS;
- The participation in the National Agreement created by non-governmental organizations by the soy industries and producers associations and;
- Findings from the monitoring report of the SMA demonstrated that there is no evidence that soy cultivation is a direct driver of deforestation of primary forests inside the Amazon biome.

Analysis

The analysis of both discourses and the perceptions of the stakeholders about the land-use model lead to the conclusion that stakeholders were able to act together, because of the insights in the possible indirect influence of the soy cultivation versus the other activities that may be more strongly related to the use of forced labor. As both discourses are supported by the same data¹ this shows that the stakeholders' ideological views and interest play an important role in the way they interpret the subject of forced labor in the soy production system, frame and defend their discourses.

¹ Data on the cases of forced labor in Brazil by the Ministry of Employment and Labor.

The current situation of the soybean debate in Brazil presents positive achievements, for the Brazilian soy chain. The consolidation of the multistakeholder initiatives as the recognition that all stakeholders should take ownership in this process and, the communication channels bridged between consumers and producers are some examples. The achievement to address the labor conditions and the satisfaction with the multistakeholder initiatives, however, does not free the soy debate in Brazil from potential threats and risks. A potential risk is the agreement on the definition and implementation of high conservation value areas, for instance, who has to pay to compensate for maintaining environmental services. Another risk is the ongoing debate on the use of Genetically Modified Soybean varieties. It is important to remember that multistakeholder arenas can become too complex (e.g. different participants, sectors represented, interests, power balance) and politicized to act effectively.

Stakeholders should remain aware of the issues that already addressed in order to reinforce the capability of the soy debate to produce positive outcomes and do not put at risk the multistakeholder initiatives. In the same way the latest approval of the RTRS P&C represents an achievement, its implementation and monitoring plans are also big challenge for the stakeholders involved in this initiative.

Recommendations for further research

The same way scientific information is currently used to support discourses, it can also be helpful to clarify contradictions and stakeholders perspectives. Because of that scientific research can play an important role in the soy debate, not only by informing stakeholders to support their discourses and make informed decisions, but also to encourage them to review their opinions and enlighten complex issues. The potential threats for the soybean debate in Brazil, mentioned earlier, are good examples for researchers aiming to contribute to the soy debate and influence stakeholders' decision-making.

Recommendation for stakeholders

Using the example of the debate about labor conditions, this study demonstrated that the complex and dynamic relations of land-use in the boundaries of the Amazon biome allowed the existence of different discourses inside the soy debate. Stakeholders should be aware about this possibility in order to avoid conflicts that could put in risk the capability of the soy debate to produce and delivery positives outcomes for the Brazilian soy chain.

1. Introduction

1.1 Raising concerns

As a result of its use/importance for animal feed, culinary/human food products and/ or biofuels, the importance of soybeans has increased considerably over the last decades. This resulted in a growing dependency on the consumers' side, had also promoted the intensification and expansion of soy cultivation in the main world's suppliers. Being the second largest producer of soybeans and the main exporter of soy products in the world, allowed Brazil to enjoy the benefits of this growing demand while its technical capacity and natural resources availability, also permit to increase its productivity and expand the cultivated areas. Only in 2008, the revenues from the soy exports reach almost 10% of Brazilian's total for that year (SECEX; In: CONAB, 2009).

Yet, in spite of the macroeconomic success of the soy sector was not enough to keep it away from the discussions regarding the sustainability of the sector and the possible negative effects over the environment and society. The impressive production expansion placed the soy cultivation in the center of sensitive discussions, like the harmful aspects of monoculture system, and land concentration in the hands of fewer. Also the expansion of the soy area towards the boundaries of the Amazon Biome inspired some stakeholders to raise questions about its influence over the rainforest deforestation, and social problems such as land rights and forced labor present in that region.

1.2 The actual soy debate

Moving from a previous scenario where technical/agricultural and economic aspects used to dominate the discussion rounds, the soy debate incorporate new concerns and stakeholders. In the first moment producers associations, research agencies, industries, and government sectors had full control over the soybean agenda, in this second moment new stakeholders presented themselves at the discussion table and start to advocate for their interest and concerns.

From all those 'new' members interested in the soy debate, the non-governmental organizations (NGOs) played the most active role so far. Representing different issues like; the environment, human rights, and consumers, the NGOs have captured expressive attention of traditional stakeholders and the public. Even with an oppositional discourse, the NGOs were able to pressure the main players of the soy sector to come together in order to debate their claiming and concerns regarding the soy sector.

Two initiatives can be highlighted within this context: The Round Table on Responsible Soy (RTRS) and the Soy Moratorium in the Amazon (SMA). In both initiatives different stakeholders are bringing together in order to establish limits and responsible practices for the sector. Two important characteristics of those initiatives are the participation of both national and international members and, the engagement of different sectors (producers, industry, finance, and civil).

1.3 Dynamics of land use in the boundaries of the Amazon biome

Considering the raising concern about the presence of the soy cultivation inside the Amazon biome, Bindraban & Greco (2008) developed a model that could help stakeholders to understand the complex land use dynamics existent in that region.

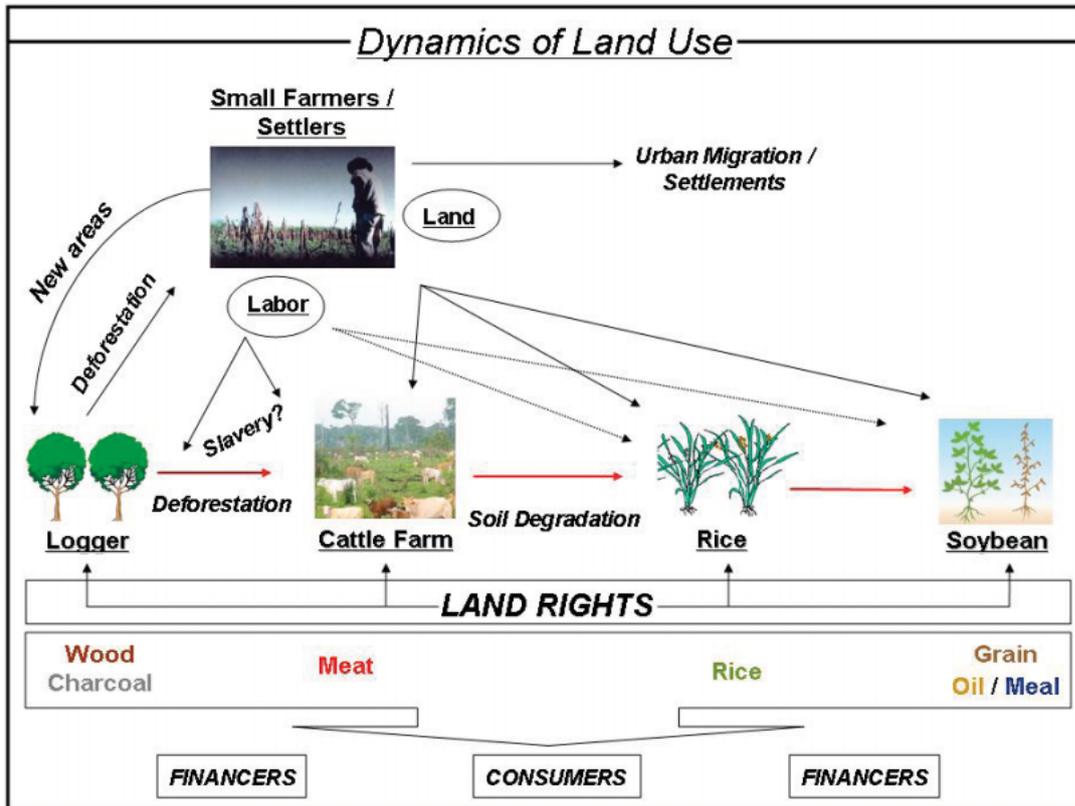


Figure 1. *Dynamics of Land Use in the Amazon boundaries.*
 Source: Bindraban & Greco (2008) – With slight modification.

As Figure 1 shows, the relations between activities and stakeholders in the boundaries of the Amazon biome are dynamic and interdependent. In this model the soybean cultivation is presented as one activity, inside a complex net of activities and stakeholders, with direct and indirect participation in different processes and issues. It is important to mention the existent ambiguity within the model. In one way it attempts to schematize the complex and dynamic relations existent in the region, but in the same way it might simplify some of its interactions and stakeholders. In other words, this means that this is not a model free from criticism and readjustment. Given the available information this framework can be tested in attempt to evaluate whether stakeholders' disagreements could be disentangle.

1.4 Problem definition: communication science and contextualization of information

As new members and issues were introduced into the soy agenda, the processes of problems definition and goals settings became more conflicting and less consensual. The difficulty between stakeholders to achieve an agreement, especially when the subjects were the association of the soy sector with existing social and environmental problems, started to threaten important discussions that were already in course. Divergences among stakeholders are expected to happen and – to some extent – are positive in the sense of their capacity to challenge traditional assumptions and drive participants towards more consensual and valuable solutions. For Innes & Booher (2003) the most important principle for negotiation are that parties must begin with their interest rather than their positions and that they must either give in nor insist on their own way. Divergences also have an important value by stimulating researchers to produce relevant information and data allowing stakeholders to make the better decisions. However when stakeholders insist on their positions and do not give in, divergences start to move participants away from each other; it becomes a limiting factor to the debate.

This dangerous polarization around some issues can result in several problems for the debate. In a first moment it might be impeding stakeholders to communicate in a constructive way. While further on, this situation could end by producing unilateral outcomes possibly lacking the necessary backup or legitimacy for its implementation.

The idea of 'communication science' lays on the ability of stakeholders to frame the available data and information in order to satisfy each ones interests and views. This phenomenon has direct impact over the debate by influencing the problems definition and agenda setting by participants.

Contextualization of information might be the main process which participants explore broader scenarios where their assumptions will be better laid. By saying contextualization this study refers to the logical processes which stakeholders interact their perspectives with the available information and data in order to legitimize their discourse.

According to considered scenario more or less information and data become available for stakeholders. The exploration of a broader scenario for instance could allow stakeholders to add more information to support the discourse, but in the other hand, this could also lead to generalizations or evasions from the main points.

1.5 Objectives

Given that, this study aims to elucidate the controversial component of the debate using the example of the discussions about the labor conditions. By putting stakeholders' perspectives into a broader context, this thesis hopes to identify possible sources for the disagreements between stakeholders, contributing to a more efficient debate.

Through the methods of the communication studies, this study attempts to demonstrate how information is presented by participants in order to sustain their opinions. And by contextualizing the stakeholders' views into a broader scenario, point out possible reasons for the raising of potential harmful disagreements. Finally, demonstrate the importance of the construction of social meaning by the participants, how it can be different and, influence the debate.

1.6 Research Question

In order to fulfill those objectives become necessary the answer a central research question.

How do stakeholders defend [explain/organize/contextualize] their views [arguments/positions] in the context of the controversies on labor issues [dynamics] inside the soy debate [regarding soy production developments]?

1.7 Methodology and analytical processes

Since most of disagreements among stakeholders are based on controversial issues, this thesis will be using the current controversies regarding the labor conditions in the Amazon boundaries and its relations with the soy cultivation. By asking 'how' the study aims on the social interface that stakeholders establish with the information sources and other participants.

The methodological approach to answer this question will be basis on two fundamental tools: a model for land use in the Amazon boundaries, and the discourse analysis provided by the communication science. Through the interactions of stakeholders' views with those tools will be possible to reflect on 'how' perspectives are 'put in the table'. The evaluation of stakeholders' behavior also allowed to critically evaluate the model of land use.

As Stattman (2008) defines, the discourse analysis is made by following some steps:

'...discourses can be studied by looking at the used vocabulary and concepts and how they are used by different stakeholders. In this way it is possible to extract sets of conceptualized ways of thinking as the different vocabularies used by stakeholders reveal something about their normative structure. The next step is to identify whether or not certain discourses are more dominant than others, for instance if there is a struggle for discursive

hegemony. While analyzing different discourses it is important to keep in mind how these concepts shape and interact with the policy process.'

The author also identifies the main limitation of this process of discourse analysis which consists on 'the impossibility to read and analyze all available data and how concepts change through time' (Stattman *et al.*, 2008).

Reports and interviews will be used in order to identify stakeholders, characterize the currently discourses, and avoid misinterpretation on stakeholders' views. Giving the current soy debate existent in Brazil this work focus mostly on two main sources of information: The Round Table on Responsible Soy and The Soy Moratorium in the Amazon. Although this does not mean that other spheres and initiatives to discuss the threats and potentialities of soybean in Brazil were neglected.

The model on land use in the boundaries of the Amazon biome is applied once stakeholders, discourses and views are established. Stakeholders' reactions on the model and the positive/negative interactions of their views and the land use scheme allows the evaluation and understanding of the framing processes.

1.8 Scope and limitations

Although this study mainly deals with controversial issues and disagreements among stakeholders, it is not its objective to present new information neither take side in favor of any discourse. It is not the intention to judge the legitimacy of stakeholders' perspectives regarding the labor controversies or evaluate the debate initiatives such as the RTRS or the SMA.

Most of the research limitations are based on the fact that it is practically impossible to reach all available information about stakeholders' perspectives. Since most of the discourses are usually shared by different members, the most active members were the major targets during research.

Regarding the land-use model, the exercise of expose stakeholders' views to it can be considered as an evaluation process itself, but it is important to reinforce that this (evaluation of the model's validity) is not the main objective within this study.

Finally, the fact that the land use model was recently published makes this study its first practical 'exposure'.

1.9 Structure of the report

Chapter 2: Soy context and the land-use model. Brief presentation of the soy context in Brazil focusing on the current situation of the soy cultivation in the boundaries of the Amazon biome. Introduction of the land-use model with the fundamental information which allowed its elaboration.

Chapter 3: Stakeholder views. Identify the current participants of the soy debate and the most influential inside it. Characterization of the major existent discourses and respective stakeholders who lays on each one.

Chapter 4: Interactions stakeholders/model. Establishment of an interface relation between stakeholders' views about controversial labor issues and the land-use model.

Chapter 5: Evaluation and Discussion. Return to the research question and objective pre-established. Critical evaluation of the model as a tool to clarify the contrasting views and the framing process. Ending by the recommendation for further research.

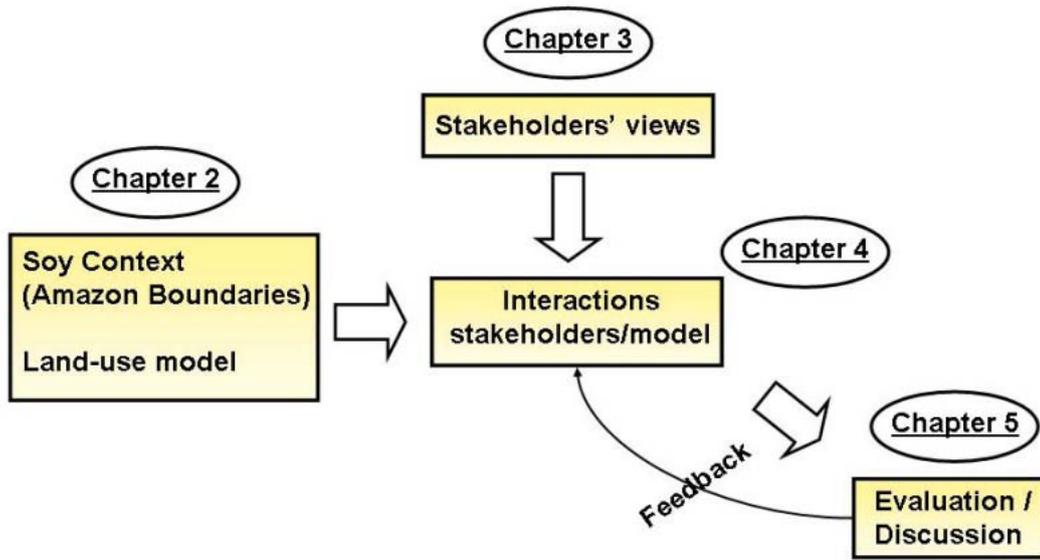


Figure 2. Thesis structure.

2. Soy context and the land-use model

2.1 Increasing demand

During the last seventeen years world's agriculture experienced a vertiginous growth of soybean cultivation and consumption. The actual soybean area is around 66% superior the harvest area in 1990. Combined the area expansion with yields gains, the world's production of soybeans have increased 99% compared with the production in 1990, reaching around 216 million tones in 2007 (FAOSTAT, 2009). As demonstrated by Berkun & Bindraban (2008) most of this expansion took place in Latin America, mainly in Brazil and Argentina, while the expansion of consume was manly drive by the Chinese demand.

Also FAO (2002) in its publication *World agriculture: towards 2015/2030*, has pointed to an expansion of the soy cultivation for the next years mainly based on the growth of the world's population and the increase on animal protein consumption in developing countries. In this scenario Latin America will continue to play a major role in the expansion of world's production of soy.

The expansion of world's demand stimulates producers in Latin America to expand their production, but the potential negative impacts over the environment preoccupy different members of civil society and government. Nowadays the soy scenario in Latin America – especially in Brazil – is characterized by the struggles among those who strongly oppose the expansion of this crop and those who believe that the soy cultivation can be expanded without negative impact on environment and society.

2.2 The context of soy cultivation in Brazil

Over the last decades scientific research on soybeans in Brazil was mainly focus on the technical challenges. Consequently both governmental and private efforts were orientate in order to facilitate and promote its cultivation over the Brazilian territory. The creation of Embrapa² in 1973, was a large contribution in this process and the analyses of Embrapa's activities not only contribute to the understanding of the historical development of soy cultivation in Brazil but also the current situation and future trends.

The Embrapa Soybeans IV Strategic Plan (2008) presents – through an integrated analysis of both external and internal environments – the context in which the institution is embedded in and how opportunities and threats interact with the strengths and weaknesses of the institution. Even knowing that the document was elaborate in order to orientate and subsidies further of the institution's decisions and actions, it is a clear analysis which reflects well the context of the soy sector nowadays.

2.3 Consolidated Tendencies

According to the Embrapa Soybeans, there are a set of tendencies in the soy scenario which are consolidated and 'visible' enough to affect the performance of the institution (Embrapa Soja, 2008):

- Increase of the soy production area;
- Increase of the demand of vegetable oils for biodiesel purposes;
- Increase of the human consumption of soybeans in industrial products and as grains;
- Increase of the production costs;
- Increase of the environmental impacts caused by the intensive use of chemical inputs;
- Increase of the technological level of the production systems;
- Growing consumption of soy oil and protein associated with the better quality;
- Growing of the organic cultivation of soybeans;
- Diversification of the industrial use of soybeans;

² Brazilian Agricultural Research Corporation, coordinates the National Agricultural Research System, which includes most public and private entities involved in agricultural research in the country. More information <http://www.embrapa.br/english/embrapa>

- Markets requirements for certified products;
- Expansion/alteration of the cultivation areas (changes in the productive matrix);
- Higher demand in the physical quality of the soy grains;
- Brazilian's placement as world's number one soy producer and exporter;
- Soybean as a component in the production systems to recovery degraded areas;
- Use of early varieties, productive and resistant to biotic and non-biotic factor that would allow the reduction of the environmental impacts and more efficient use of the productive environment;
- Verticalization of the soy production in the Center-west region.

Looking into Embrapa's diagnosis is possible to observe two main issues that currently pressure the sector: the environmental concerns and the economic sustainability of soy cultivation. Indeed the increasing demand for soybeans in the past years was follow by improvements on productive technologies usually focused on higher yields. However the current configuration of the production system allowed critics about its high costs and risks for the farmers and the potential environmental impacts.

2.4 Soy cultivation in the boundaries of the Amazon biome

If the minimization of the environmental impacts has definitely entered in the context of soy research, the expansion of soy cultivation close to the boundaries of the Amazon biome had a great influence on that. With the expansion of the world's demand for soybeans in the end of the decade of 1990 and beginning of the twentieth-first century, there was a vigorous expansion of soy cultivation throughout all Brazilian territory. In less than ten years, the Brazilian area advanced from 11,5 million hectares in 1997 to impressive 23,4 million hectares by 2005, more than doubling the soy area (IBGE/SIDRA, 2009).

Although the expansion took place in all regions of the country, its intensity was different and resulted in sensitive changes of soy cultivation over the territory. In 1997 the South region was responsible for almost 50% of the Brazilian's total area of soybeans. By 2005 the Center-west region surpasses the South region mainly due the expansion in the State of Mato Grosso³. The regional analysis of this process allowed an additional and important remark, which is about the expansion of soy cultivation in the boundaries areas of the Amazon biome.

³ Appendix 3 demonstrates the evolution of the soy area between 1997-2005 in all Brazilian regions.

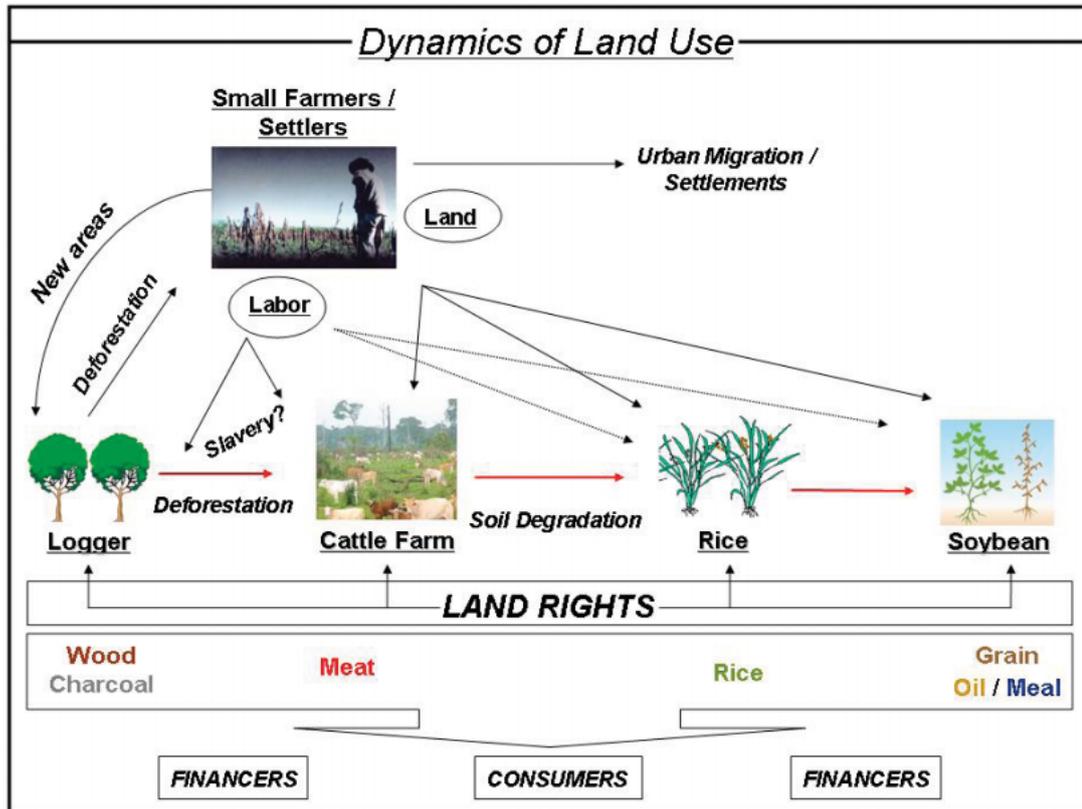


Figure 1. Land-use model in the boundaries of the Amazon biome.
Source: Bindraban & Greco (2008) – With slight modification.

As previously presented (Figure 1), Bindraban & Greco (2008) developed a model that could help the understanding of the complex relations regarding the dynamics of land-use in the boundaries of the Amazon biome. Based on available literature, official data, interviews⁴ with stakeholders, two field trips, and one workshop organized in 2008⁵, the model was conceptualized taking into analysis stakeholders and activities existent within this region. The geographic region covered by the model was defined based on the study conducted by the Brazilian Institute of Geography and Statistics (IBGE) and the Ministry of Environment (MMA) which identified the seven different Brazilian biomes⁶. In this study two biomes – Amazon and Cerrado – together were responsible for more than 70% of the Brazilian territory and when this land use model refers to the boundaries of the Amazon biome, which can be understood as the transition region between the Cerrado and Amazon biomes. Fundamentally the model depicts the interdependent relation between different land use activities observed in this region, which are logging, cattle farming, small/subsistence farming and large scale agriculture activities in this region. Besides those activities mentioned, the model addresses also on the dynamics of land ownership and labor conditions.

⁴ See appendix 5

⁵ See appendixes 6 and 7.

⁶ http://www.ibge.gov.br/home/presidencia/noticias/noticia_visualiza.php?id_noticia=169



Figure 3. Map of Brazilian Biomes.
Source: IBGE and MMA, 2004.

2.5 The different land activities in the boundaries of the Amazon biome

Deforestation of the primary vegetation is the first activity observed by the model which provides in the first moment timber and raw material for charcoal production. This second product is strongly boost by the mining sector in the Amazon region which allowed the installation of several pig iron industries, especially in the states of Pará and Maranhão. For instance each tone of pig iron produced by those industries demand about 875 kilograms of charcoal, which most of the time is obtained through deforestation since there are not enough commercial forestry plantations to supply all the demand (Prates, 2008). According to Homma *et al.* (2006) only in 2005, one-hundred thousand hectares were deforested for charcoal production in the region.

Moving from this first moment, the transition between a recently cleared area, that can involve the use of fire, to the extensive cattle farming might sometimes involve an intermediary period of agricultural production (usually rice cultivation) for a maximum of three years (Homma, 2006). This is most experienced in areas where the access of mechanization to remove roots and larger tree stumps is limited. During this the main objective is to provide time for the decomposition of the subsoil roots and remaining stumps, making the land 'less wild' for the pasture (Muchagata & Brown, 2000).

Differently from the controversial association of soy cultivation and deforestation, the association of cattle raising and deforestation is well recognized and accepted among researchers. By the end of the decade of 1980 studies demonstrated that cattle farming were the predominant activity in the deforested areas of the Legal Amazon. Da Silva *et al.* (2005) concluded that in the year of 2004 cattle farming was the major responsible for the deforestation in the State of Mato Grosso, while Margulis (2001) defended the idea that in the absence of the initial land change for pastures would be impossible to cultivate soybeans.

The reasons for the association between cattle farming and deforestation lay especially in the characteristics of the extensive system of cattle farming, common in the region. The first argument is about the low profitability of this production system which explains the necessity to expand the area in order to achieve higher gains. Also in case of another activity generates a higher income, would be easy to convert the pastures into a different land use (Fearnside, 1991; Margulis, 2003; In. Prates, 2008). As the pastures become degraded and consequently unproductive the economic factors also motivated the expansion towards new areas. In this case it was pointed by

Prates (2008) that small cattle farming properties generated a higher pressure over the rainforest than bigger ones. This is because small farms do not have enough capital to invest on the maintenance or recovery of the soil fertility giving their low capability to make investments in the activity.

Small or familiar properties⁷ also have a great impact over the deforestation rates. In this regional context the small rural farmers or settlers have an itinerant character that explains such statement. The dynamics of those settlers in the north region frequently involve the gradual deforestation, use of fire to clear the land followed by an agricultural activity. In average after three years of agricultural activity the soil loses its productive capacity and the small farmers move to new areas of dense forest (Homma, 2006). As the author adds:

'...the familiar agriculture 'survives' through the sell of agricultural products (staple crops, perennials and livestock) effectuated on the costs of continuous incorporation of new areas of dense forest, forestry products (wood or not), fauna products (fishery), transference of public and family members resources and, by sale of labor.' (Menezes, 2002 In. Prates, 2008, p.46)

The impacts of large scale agriculture in the deforestation rates in the boundaries of the Amazon and Cerrado has been more recently reported in comparison with extensive cattle farming. Although most researchers accept the expansion of the soy cultivation in this region, there are disagreements in the scientific community especially about the responsibility of the sector with the deforestation. One of the arguments from those who believe that the soy cultivation is an important factor on the deforestation was mentioned by Fearnside (2006). According to his work there is a strong dependency between soy cultivation and large projects of infra-structure, which in turn triggers a chain of destructive events in natural habitats. Cohenca (2005) demonstrated that the expansion of soy cultivation can also be link with primary deforestation forests, and not only occupation of degraded pastures as well assumed. On the opposite side authors like Brandão *et al.* (2005) suggested that are different reasons to believe that the soy cultivation is taking place exactly in areas of degraded pasture, and the observed explosion of the soy area could not be done in areas of primary vegetation. Such arguments are: (1) the difficulty to 'open' one hectare of natural Cerrado or Amazon vegetation (*'the process of cleaning a certain area and start a cultivation of soybeans would take a minimum number of years'*); (2) the areas with primary vegetation in the Cerrado and in the Amazon rainforest lacks on the necessary infra-structure for the soy cultivation; (3) differently from the natural areas, degraded pastures are viable to be convert into agriculture in a short period and; (4) the cultivation of degraded pastures with soybeans can – after some years – allow the reestablishment of a more productive pasture area, increasing the profitability of the land use.

It is not difficult to find in the literature arguments and data linking any of the mentioned activities with the deforestation in the Cerrado and Amazon, but the determination of the dynamics between them are more complicate to be established. The first reason for this can be explain by the large dimensions of this region which allows the presence of multiple contexts inside the region and complicates any generalization. Second (and not less important) is related with the driving factors of deforestation; most of the studies (see Prates, 2008) deals with the interface between possible causes of deforestation and the actual deforestation process, but not on the consequences over the other activities present in the Amazon region. And finally the complicated situation of land rights makes difficult to establish the moments when the 'land ownership' is changed from one stakeholder to another and how those stakeholders interact with each other.

The land use model also addresses to the issues of land rights and forced labor in this region. Regarding the cases of bad labor conditions registered by the Mobile Inspection Group of the Brazilian Ministry of Labor and Employment, even with currently four registered cases in the 'laundry list' of contemporary slavery, two facts help explain why the land use model does not directly associate this exploratory condition with the soy production: the high mechanization level in the production system and the fact that between all rural activities the soy workers are among the ones who present the highest educational level (Roessing, 2004; ABIOVE, 2007) and average salaries⁸, contrasting with the profile of the workers submitted to bad labor conditions. On the other hand traditional activities of the boundaries of the Amazon biome like cattle rising, charcoal production and cleaning of lands, are the most often connected with the cases of contemporary slavery in Brazil.

⁷ It is important to mention that the small farmer or settler characterized here is different in several ways from the familiar farming systems in the south or southeast regions of Brazil.

⁸ See appendix 4

The land rights situations seems to be more complicated, affecting somehow all land use activities that takes place in the Amazon region. The uncertainties about the land rights such as the existence of rural properties with fake documents and informal land ownership is negatively affecting the implementation of both conservational and development projects in the region. Land settlers can not obtain environmental license to manage the forest, the lack of information also blocks the governmental programs and the identification of the responsible for illegal deforestation, and finally this situation is also the cause of violent disputes for land ownership in the region (Barreto; Pinto; Brito & Hayashi, 2008). The uncertainty about the land ownership in the region can be well observed through the synthesis of the legal status of the lands (Figure 4).

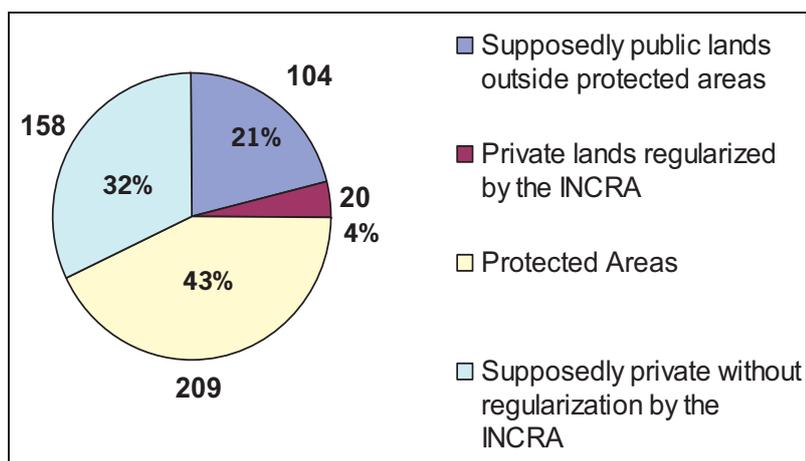


Figure 4. *Legal status of the rural properties in the Amazon.*
 Source: Barreto *et al.*, 2008.

This situation reveals that in 2007 only 4% or 20 million hectares represent rural properties where its documents were accepted and registered by the National Institute of Colonization and Land Reform (INCRA). On the other hand there are 158 million hectares (32%) which represent supposedly private lands whose regularization have not been verified or validated by the institute. This category involves settlers (part of which had their property register cancelled); owners of larger properties which have submitted the property's documents but have not being verified yet (21 million hectares) and those whose documentation is still under revision (56 million hectares) or; rural properties smaller than five thousand hectares with documentation (fake or not) that have not been achieved by the re-registration programs so far.

Besides that there is also the majority of the land (209 million hectares) which represents protected areas. Although INCRA recognized in 2006 that are at least 10 million hectares inside the protect areas that should be regularized. Finally Barreto *et al.* (2008) also detected 104 million hectares, or 21% of the territory, which are supposedly public lands outside protection areas. These areas include those (really) free of occupation but also those occupied by populations with legitimist rights and other without regularization. For example, those areas include the indigenous populations that were not recognized by the government yet, recent settlers and traditional riverside communities.

3. Stakeholders' view

3.1 Background of the soy debate – a historical approach

Throughout the development of soy cultivation in the Brazilian territory the discussions regarding this crop were shaped and influenced by three main phases. Each one consisted in two main components that are mostly interconnected: the agroecological features and another about political discourses that influenced the soy cultivation. The first phase '*Introduction and early expansion*' which represents the initial years of soy cultivation in the South of Brazil and its early expansion towards the Center regions of the country with strong governmental stimulus. The second phase '*Deregulation and intensification*' represents the period when deep changes in the rural policy scenario occurred and, while the cultivated area slightly increased the intensification of the soy production resulted in sensitive gains on productivity. The consolidation of the country as the second largest world's producer and main exporter of soy products, the Center-west as the main production region in Brazil and the 'explosion of the soy area' between 1999 and 2003 resulted in the third phase '*Internationalization of Brazilian's soy cultivation*'. In these three distinct phases the soybean debate in Brazil constantly changed, incorporating issues, reformulating old concerns and attracting participants. It is not the objective of this study to detail each one and it is true that the characterization of three general phases might miss some particularities about the transition moments between each phase. We attempt here to characterize only the main features of each one but focusing our analysis on the third and current phase of soy cultivation in the Brazilian territory.

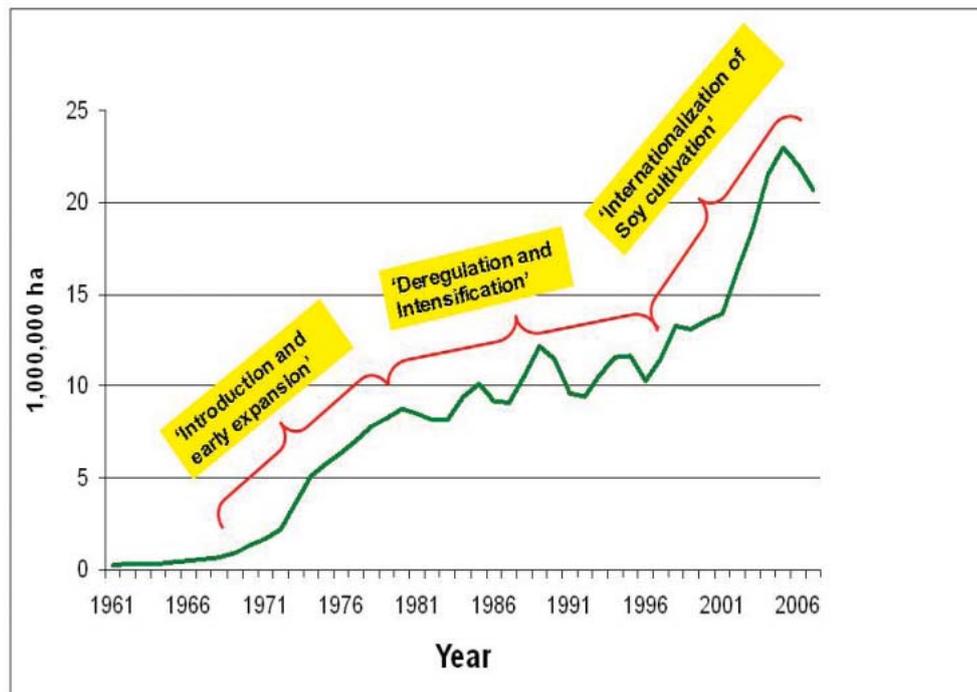


Figure 5. Expansion of the soybean cultivated area in Brazil.
Source: IBGE, 2009 – elaborated by the authors.

3.1.1 Phase One: Introduction and early expansion of the soybean cultivation in Brazil

This first phase was characterized mainly by the technical challenges faced by the producers. The good prices experienced in the decade of 1970 and the advantage of harvesting the soybeans during the off-season in of north hemisphere attracted the attention of both producers and Brazilian government. The creation of Embrapa (The Brazilian Agricultural Research Corporation) in 1973 was crucial for what the institution calls the 'tropicalization' of the soy cultivation. At the same moment the Brazilian government created and promoted several projects aiming the colonization of the center-west and north regions of Brazil and the expansion of the national agricultural frontier. It was also in the decade of 1970 that companies already installed in the country like Cargill started with their soy operations in the country (Portal Cargill, 2009).

3.1.2 Phase Two: Deregulation and intensification

After this first moment where the soy cultivation in the Brazilian territory went from one million hectares in 1970 up to ten million hectares cultivated in 1985, the second moment of the soy cultivation was characterized by the stabilization of the soy area while the national production practically double from 15 million tones to more than 30 million tones in 1998. At this moment the soy debate also continued its focus on the interface between the producers' challenges and the research institutions but there was a sensitive change in the government's role inside the discussions. This was mainly because of the sensitive changes on the government's economic reforms initiate in the end of the decade of 1980. As Fonseca (2007) defined:

'Since 1987, a policy of liberation in the Brazilian economy has provoked an intense deregulation of the agricultural markets, consisting in a decrease of the State intervention in the agriculture through a limitation of the governmental expenses and a larger exposition of the Brazilian agriculture to the international trade.'

Whereas during the second moment the increase of Brazilian production of soybeans was mainly due the increases on yield, from 1999 to 2004 what was seen was called by an 'explosion' of the soy area in the Brazilian territory (Brandão *et al.*, 2005). While between the years of 1985 and 1999 the soybean area had changed only from about 10 million hectares to 13 million hectares, from 1999 to 2004 it 'jumped' from 13 million hectares to proximally 23 million hectares. Although this expansion in the cultivated area was observed in all regions of the country it was in the Center-west region where most of this process took place. And by the year of 2001 the Center-west for the first time exceeded the South region and became the major soy producer region in the country. This new moment was also marked by the consolidation of Brazil as the number one exporter of soybeans and soy products to the world market (Berkum *et al.*, 2008).

3.1.3 Phase Three: Internationalization of soy cultivation in Brazil

As the Brazilian production of soybeans started to gain even more importance for the national economy and international markets, different institutions started to report those positive achievements (FAO, 2004; Dall'Agnol & Hirakuri, 2008). At the same time other institutions interpreted this new moment in a different way, associating existing problems with the soybean cultivation, questioning about the negative impacts over the environment and society. In this new phase two important features helped to shape and transform the debate and change the way in which stakeholders were used to relate with each other. The increase 'struggle over meaning' between different stakeholders and the entrance of new international stakeholders in the discussions.

By saying 'struggle over meaning' this study refers to the difficulty that stakeholders have in defining and especially accepting which problems should or should not be relate with the soy cultivation. Fisher's (2003) work about the construction of social meaning in a world of multiple realities helps to understand the roots of such disagreement. Differently from what empiricists believe, the definition of a social problem is not an objective process where empirical facts are treated as clear or evident but a construction that furthers ideological interests. Empirical data and information play a role, but their meaning is determined by how they fit into particular arguments of an

ideological framework. In the case of the soybeans in Brazil, the expansion of the cultivated area between 1999 and 2004, the increasing on deforestation of the Amazon biome and the constant registers of bad labor practices in the rural areas were enough to stimulate the discussions and provide arguments for the construction of different discourses between stakeholders.

As environmental and social groups started to feel their interests and causes overlapped by the soy sector⁹, a heated debate about the causes of related socio-environmental problems took place. This fact represented a rupture with the previous debate when the political agenda was mainly controlled by interest groups (producers and industry mainly) and policy-makers interface. Concomitantly the accusations over the sector's responsibilities reached not only producers and industrial sector but also financiers of the soy sector and consumers of soy products. Feed industries, financing sector and retail companies from Brazil and especially Europe were also attract to the discussions.

3.2 Consequences of the third phase: The rise of multistakeholder initiatives

In this debate dominated by controversial issues, conflicts over the problems and diversity of stakeholders, members from governmental, private and civil spheres interested in discussing this situation, organized different initiatives to address the soy issues in Brazil. The RTRS and the SMA were established to legitimize those concerns and open a communication channel between different interests within the debate. Once those initiatives were establish, it becomes easier to identify of the stakeholders inside the debate and the major concerns and views defended by each one. As mentioned by different interviewers, the establishment of such initiatives was only possible because of stakeholders' acknowledgment that without all interest parts at the table would be very difficult to seek any improvement to attend the claims and demands.

3.2.1 The Round Table on Responsible Soy

In 2004 a group of Producers, NGOs and Companies gathered in London to begin a multistakeholder dialogue that intended to promote the use of a responsible standard of soy production, processing and trade. Further on this initiative was called the Round Table on Responsible Soy (RTRS, 2009)¹⁰.

In order to achieve such objective it was propose the development of a set of Principles and Criteria (P&C)¹¹ for the production and sourcing of soy. This set of P&C would address key negative environmental and social impacts of soy production and its expansion as well as establish better management practices for the soy industry and its supply chain. Besides the practical objective to develop and implement a set of P&C on responsible soy the RTRS also recognizes its importance as a facilitator of the global dialogue on soy.

The RTRS members are organized in three main groups: Producers; Industry, Trade and Finance and; Civil Society Organizations. Other groups such as public institutions, research organization and individual are accepted as observing member without the right to vote on the RTRS decisions. Additionally there is a Development Group composed by a group of experts (which sometimes might not be members of the RTRS) that regularly meet and work on a document that stipulate what is responsibly-grown and -processed soy. Currently the RTRS is financially supported by the annual fees paid by its members and donors which can be governments, like the Dutch and Swiss governments, or private sponsors, including trade associations and corporations (RTRS, 2009).

⁹ See The Impacts of Soybean Cultivation on Brazilian Ecosystems – Three case studies. WWF, 2003; Ecosystem – human development dynamics in soybean production in the Brazilian Cerrado ecosystem. AIDEnvironmental, 2006 and; Que agronegócio é esse? Porque a agricultura e a pecuária crescem sem beneficiar a população brasileira. FASE, 2005.

¹⁰ www.responsiblesoy.org.

¹¹ See Appendix 1.

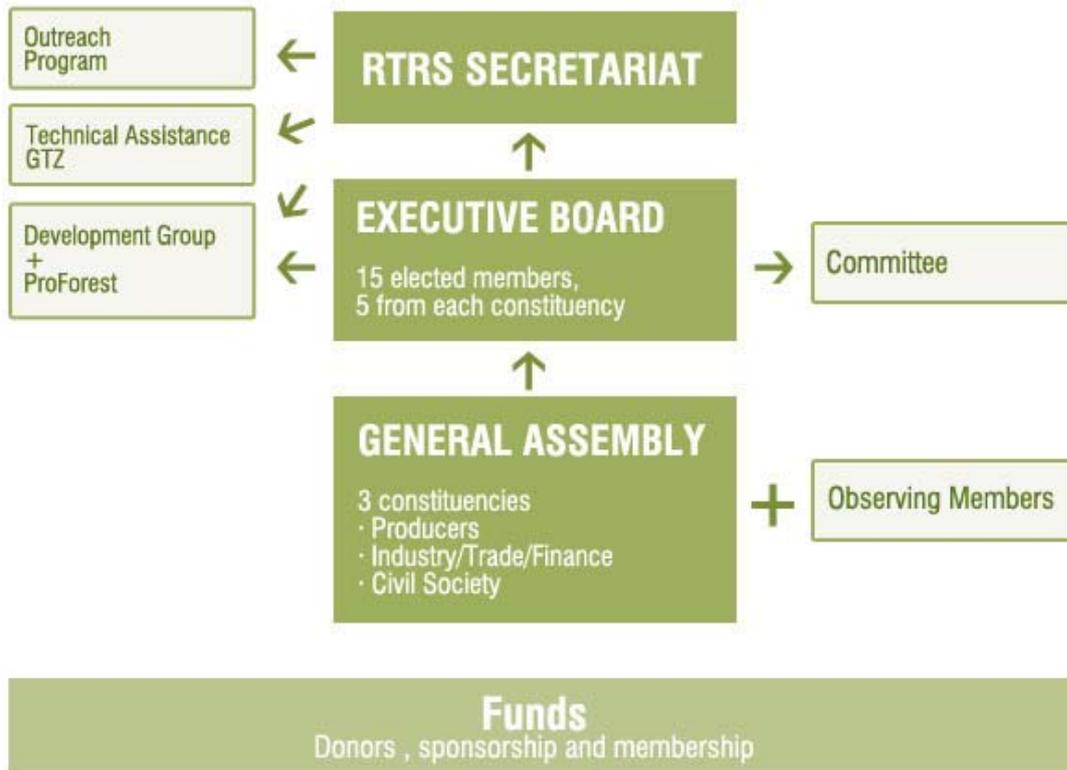


Figure 6. RTRS Framework.
Source: RTRS, 2009.

The main issues discussed by the RTRS can be summarized by the analysis of the partial set of Principles and Criteria (P&C) elaborated by the RTRS working groups. The current set of P&C establishes five principles in which a responsible soy production should respect (RTRS, 2008):

- Legal Compliance and Good Business Practice;
- Responsible Labor Conditions;
- Responsible Community Relations;
- Environmental responsibility and;
- Good Agricultural Practice.

Each principle is completed by several criteria that farmers and members of the soy chain should follow, and reflects the concerns surrounding the soy cultivation. In the case of the second principle – ‘Responsible Labor Conditions’ – there are five suggested criteria.

Table 1. *Suggested Criteria for the Principle of Responsible Labor Conditions.*

Principle 2 – Responsible Labor Conditions	
Suggested Criteria	
2.1	Do not engage in or support child labor or forced labor, or engage in or support discrimination or harassment.
2.2	All workers, sharecroppers, contractors, and subcontractors are adequately informed and trained for their tasks and are aware of their rights and duties.
2.3	A safe and healthy workplace is provided for all workers.
2.4	Workers have freedom of association and rights of collective bargaining.
2.5	All workers, employed directly or by major service providers, receive remuneration that is sufficient to meet basic needs.

Source: *Round Table on Responsible Soy (2008)*.

Although the RTRS aims to introduce its set of P&C in a global level, Table 1 demonstrates that the proposed criteria was directly influenced by the existent concerns about the soy production in the boundaries of the Amazon biome and the records associating bad labor conditions in this region. By addressing issues such as forced and child labor, the necessity of healthy and safe workplace and, reasonable remuneration, the RTRS intentional (or not) orientated the discussion supported by the registered cases of forced labor and irregular working conditions in the new areas of cultivation. Corroborating this argument are the current cases of forced labor in soybean farms. From the five current cases registered in the ‘laundry list’ of forced labor, four are from properties localized in the boundaries between the Cerrado and Amazon biomes (‘Laundry List’ of Forced Labor, 2009).

3.2.2 The Soy Moratorium in the Amazon

In 2006 the Brazilian Association of Vegetable Oil Industries (ABIOVE) and the Brazilian Association of Grain Cereal Exporters (ANEC) and their associates signed the commitment of not commercialize any soy produced in the areas inside the Amazon biome which were deforested after July 24th of 2006. Known as the Soy Moratorium (SMA) this initiative was initially suppose to have the duration of two years¹² which would be dedicated to – together with civil society organizations – develop and implement a structure of governance with regulations on how to operate inside the Amazon biome and pressure the Brazilian government definitions, implementation and fulfillment of the public policies on land-use in this region.

It was establish that five main activities would help the SMA to achieve its objectives:

- Mapping and monitoring of the soy cultivation inside the Amazon biome;
- Environmental awareness and education, demonstrating good agricultural practice and regularizing environmental liabilities, promoting the application of the Brazilian Forestry Code;
- Identification of best practices in agriculture, labor relations and respect for local communities for agribusiness;
- Enforce the application of and compliance with public policies that promote the best options for land use and;
- Refinement of institutional relations and legislation to improve control of deforestation and development of soybean growing in region.

(ABIOVE, 2006)

¹² In 2008 the members agreed to extent the SMA in one more year. The term of commitment extending the SMA is available on http://www.abiove.com.br/english/sustent/ms_termo_17jun08_us.pdf.

Besides the environmental concerns about the association of the soy cultivation and the deforestation of the rainforest, industries and exporters clearly attempt to avoid any association of the soy production with the registered cases of bad labor conditions in rural areas.

'The sector reiterates its disavowal of slave labor and companies have incorporated into their soybean purchase contracts a clause allowing a breach of contract if it become known that the seller used labor analogous to slavery' (ABIOVE, 2006).

In order to define an operational model for the SMA the Soybean Working Group was established. Among the Soybean Working Group attributions are the establishment of the working agenda, taking strategic decisions and coordinating the actions of the sub-groups which are the *Mapping and Monitoring Sub-group*, the *Education, Information and Forestry Code sub-group* and, the *Institutional Relations sub-group*.

Table 2. *Soybean Working Group Members.*

Working Group Participants	
Private Sector	Civil Society
ABIOVE and ANEC members: ADM, Amaggi, Bunge and Cargill	NGOs: Amigos da Terra Amazônia, Articulação Soja Brasil, Conservation International, Greenpeace, Imaflora, IPAM, STTR-Santarém, The Nature Conservancy and, WWF-Brazil

Source: ABIOVE (2007).

3.2.3 The National Agreement to Eradicate Slavery Labour in Brazil

Whereas the RTRS and the SMA were designed to address specifically the issues under discussion about the soybean sector and among them the labor ones, the National Agreement to Eradicate Slavery Labour in Brazil (from now on referred only as National Agreement) was organized differently. Created by members of the civil society, the National Pact is an attempt to address all sectors that might directly or indirectly be connected with such exploratory labor condition, and within this scope the soy sector was one of the sectors dragged into this initiative.

In 2004 the Presidential Special Secretary on Human Rights requested to the International Labor Organization (ILO) in partnership with the NGO Repórter Brasil a study identifying the main productive chains linked with the contemporary slavery in Brazil. The records on the operations of the Ministry of Labor and Employment demonstrated the farms that submitted their employers to bad working conditions. The analysis of those records allowed the researchers to detect eleven main productive chains and 200 national and international companies that made use or commercialize the products from those farms (Sakamoto, 2007).

After acknowledging the importance of including the business sector into the discussion, the companies identified by the study were invited by civil organizations to discuss mechanisms able to block the suppliers that were found exploring their employers. The National Agreement established in 2005 by the International Labour Organization (ILO), the Ethos Institute – Business and Social Responsibility and the NGO Repórter Brasil is the result of such dialogue, and consists in an agreement signed by companies, committing themselves to increase efforts aiming at dignifying and modernizing all labor relations in all the productive chain¹³.

Nowadays the agreement includes members from different sectors of society and productive chain like financiers, labor unions, industries, NGOs and producers. Even though, analyzing the profile and especially the activities that each member is involved, there is a predominance of companies from those sectors initially identified by the 2004 study. In this sense the meat, agricultural and charcoal industries and aftermost consumers of those products compose most of the agreement signatories.

¹³ http://www.reporterbrasil.com.br/documentos/national_agreement.pdf.

The identification of the soy sector as one of those sectors motivated the invitation and acceptance of private organizations from the soy sector to sign the Agreement. Directly connected to the soy sector that are signed members from the productive sector, crushing industries and also companies that are also indirectly connected with the sector like financial institutes, food industries, livestock companies and retail sector.

3.3 Stakeholders in the debate

Within the discussion on whether or not the soy sector should be linked with the deforestation of the Amazon biome and the bad labor conditions, stakeholders representing different sectors adopt distinguished discourses in order to sustain their views. The better characterization of those discourses relies first on the proper identification of the stakeholders that shape and make use of them. Although there are different stakeholders directly and indirectly joining the discussions, this study opts for instead of identify as many stakeholders as possible, focus on those who most contribute and make use of the main discourses as well as present an active behavior inside the debates. The identification of the most active members inside the debate was based on the (1) relevance of the stakeholder for the soy chain, (2) its commitment with multistakeholder initiatives so far organized by the sector and (3) its contributions for the debate on the issues addressed by this study (in this case the labor issues in the soy debate). Traditionally only national members directly or closely connect with the primary sector of soybean production had the interest in debate the soy issues. Farmers' associations, inputs sector, crushers installed in the country, agricultural research and extension agencies and officers from the Ministry of Agriculture are part of this group. As the new issues were added to the debate non-traditional members like national and international NGOs, international governments and research institutions, food companies, retail and financing sectors and members from environmental and social areas of the government were attracted.

Due representative reasons the productive sector has been represented in the discussions by its associations and cooperatives. Historically those associations pursue to help their associates by three ways: technical support, like the development and transference of better technologies from the research institutions to the farmers; Economic services, like seeking higher prices for the farmer's production or cheaper ones for the inputs and; political representation which could allow farmers to enjoy favorable policies or better institutional settings.

Since most of the registered cases of forced labor in rural properties have been reported in the Center-West and North regions of Brazil, the producers from Mato Grosso are the ones in the center of the debate. Nowadays the Mato Grosso Soybean Producers' Association (APROSOJA) is the most active producers' association, representing its members' interest and opinions inside the RTRS.

If the soy debate in the twenty-first century is significantly different from the past decades, most of this transformation has to do with the engagement of different NGOs in the debate. Definitely the intensification of soy cultivation in the boundaries of the Amazon biome had a great contribution in this process. Different NGOs have been working in the Amazon region for years already and, their interests and knowledge on the existent problems provided the necessary backup to join the soy debate. As mentioned by a member of an environmental NGO interviewed, the intensification of the soy cultivation in the Amazon region was surely the initial motivation for his organization to join the debate. Although that did not keep them from exploring and questioning different angles of the interactions between the soy sector and society.

In the case of NGOs that are more social oriented, the motivations for them to engage in the soy debate are more diverse. An interviewer from an international NGO who deals with the interests of small farmers in developing countries explained that the decision to join the debate was taken considering different potential harms detected by the organization. For instance the pressure of the soy expansion on local and indigenous populations, the impacts that large scale agriculture has over small scale systems and the displacement of small farmers were mentioned as some of those harms.

The exercise of defining the most active stakeholders inside the debate seems especially difficult in the NGOs' case. To achieve a satisfactory leverage and attract the attention from the sector, policy-makers and the public most of the NGOs engaged into the debate through different networks, most of the time transnational networks. In this sense it is particularly difficult to establish the contribution of each member for the elaboration of the discourse. Secondly, it is important to remember that the soy debate is not only about the Amazon issues. This means that one organization that is very active in the whole context of soy discussions in Latin America might not contribute as actively as a minor organization specifically focused on the issues under analysis by this report.

Representing the civil organizations that most contribute for the development and elaboration of the adopted discourses about the labor issues in the soy cultivation are the Pastoral Land Commission (CPT), the NGO Repórter Brasil and the International Labour Organization (ILO). Although not active inside the soy multistakeholder debate as the other two, CPT is one of the most active social organizations in the Brazilian rural areas and for more than 30 years has been working in favor of poor rural communities and workers. Its main contribution regards to its publication 'Conflitos no Campo' which is an annual report containing all the CPT's registered cases of forced labor and bad labor conditions.

Besides its experience addressing to the problem of forced labor in Brazil the NGO Repórter Brasil has been the main source of information regarding the association of forced labor and the soy cultivation. Through its Biofuel Watch Center the NGO Repórter Brasil have not only providing data for other stakeholders but also publishing and disseminating its own reports and views about this subject. Even not being a member of the large multistakeholder initiatives such as the RTRS and the SMA, many members of those initiatives have constantly referred to Reporter Brasil's data and reports.

The Brazilian office of the International Labour Organization has also been active fighting the forced labor and pressuring stakeholders and government to take action. Together with the NGO Repórter Brasil the ILO have created the National Agreement to Eradicate Slavery Labour in Brazil as constantly helped the Brazilian government in the elaboration, implementation and monitoring of the National Plan for Eradication of Forced Labor.

The NGOs WWF, Greenpeace and the Dutch organization Solidaridad are also important members inside the soy debate. It was their early engagement into the debate and the several questions addressed to the sector that allowed the discussions like the one on labor conditions to be included. The international spectrum of influence allied to well established operations in Brazil allowed those organizations to attract the attention from the soy sector members. Their influence also promoted and gave legitimacy to different concerns raised by minor organizations that are not directly involved in the debate or does not have the necessary leverage to be taken into consideration by the main stakeholders.

Industry, financing and retail represent the sectors that over the last years have increased their attention with the soy issues in Latin America. It is known – especially in the case of the Brazilian Center west – that due the inappropriate logistic infrastructure to transport the agricultural production forced the establishment of almost a symbiotic relation between the soy industry and producers. The competitiveness of the Brazilian soy sector in the Center west has been strictly dependent on attachment of the industrial and productive sectors. Consequently this productive settlement of the chain allowed the critics of the expansion of the soy cultivation not only to criticize farmers but also industries, financiers (which in many times are the own industries) and retailers.

Within this new debate, the soy industries begun to play a central part in all this processes, participating actively in the discussions about the problems, designing the actions as its implementation and monitoring. In the Brazilian context there is no doubt about the importance of the Brazilian Association of Vegetable Oil Industries (ABIOVE) have in the soy debate. Representing the largest soy industries, national or multinational, such as Grupo Maggi, Bunge, Cargill and Louis Dreyfous, ABIOVE have been acting since 1981 together with the Brazilian government in the execution of the sector's policies, promoting the Brazilian products, giving support to its associates and generating statistics and studies about the soy industrial sector. Additionally, over the last 5 years the issues regarding the sustainability of the soy sector has definitely entered in ABIOVE's scope of action and nowadays occupies a generous proportion of the Association's activities. Elaboration of studies, presentations in national and international seminars, member of the RTRS and head of the SMA initiative are examples of the active participation of ABIOVE inside the soy debate.

Representing the European (Dutch) soy industries, The Product Board for Margarine, Fats and Oils (MVO) also have been actively representing its members' interest inside the debate. Currently MVO heads the *Task Force Sustainable Soy* which is a platform of a group of Dutch companies that are involved in the soy chain and that wish to make a contribution to the sustainable production of soybeans. Interviewers from the Dutch industrial sector pointed interesting points that about their engagement of the in the debate about the sustainability of soy production in Latin America. The MVO for instance, highlighted the external pressure (influenced by the publication of several NGOs' reports), as a main drive force for the Product Board join the debate. Additional to that it was acknowledge the lack at the time for objective and scientific information to support the discussions.

The present importance of Corporate Social Responsibility (CSR) also drove the industrial sector towards the issues raised by the soy debate. Members from the food and feed industries also pointed to the same directions as the MVO. Both companies mentioned their companies' CSR programs (also mentioned as 'natural behavior') and the

responsibility for being part of the chain and consequently the problems as strong motivations. In this sense all interviewees agreed about the importance to seek multistakeholder solutions in order to pursue credibility and trust among the other chain members, governments and civil society. Finally the feed industry member also observed the vulnerability of the feed industry to be blame in the discussions as a motivation. (Product Board, pers. comm.; Unilever, pers. comm. and Nutreco, pers. comm., 2009).

International governments and research institutions are also important members in this third phase. In this sense it is possible to highlight the role played especially by the Dutch government. Together with the Swiss government, the Dutch government is one of the major sponsors of the RTRS while the German government, through the Ministry for Economic Cooperation and Development, provides technical assistance for the RTRS. There are different reasons that can explain the interest of the Dutch government on the soy debate in Latin America. During an interview with members of the Ministries of Agriculture, Nature and Food Quality and Foreign Affairs two major arguments were mentioned.

First concerns the importance of the soy business for the country. The harbors and infrastructure makes the Netherlands the main 'entrance door' for the soybeans and soy products imported from USA and Latin America to Europe. The Netherlands also owns an important livestock sector highly dependent on soy meal as feed component as well as the food industry which consumes large quantities of soy oil. Additionally to all that it was also mentioned the importance of the taxes paid by all those sectors for the government.

The second motivation, mentioned as 'an internal driver', is the fact that sustainability is something that is currently occupies the top of the Dutch government agenda. For example it was mentioned the governmental plan to achieve the sustainability of animal husbandry production by 2023¹⁴. The Dutch government states that the sovereignty of Latin America should be respect. Instead of imposing direct interventions the current policy stimulates the dialogue, support to research and initiatives like the RTRS in order to promote the sustainability of the products produced outside the Netherlands (Dutch MinLVN and MinFA, pers. comm.)

Through different manners international research institutions have also engaging the soy debate. Normally the international research institutions contribute to the debate by producing scientific data and information to support the debate or stakeholders decisions. For instance, in 2008 during the 3rd Roundtable Conference on Responsible Soy in Buenos Aires, a researchers from the Wageningen University and Research Centre in the Netherlands and from the National Soybean Research Laboratory from the United States were invite to give a presentations about their perspectives on the world's scenarios for food, feed and fuel demands. The international institutions also play an important role in the political discussion in its countries. As mentioned, international governments such as the Dutch government avoid to directly intervening in debates about internal policies for soybean production in South American countries. Although by financing Dutch research institutions to develop their studies and also cooperate with other South American research institute is somehow an indirect way for the Dutch government to participate and be informed about the soybean debate in Latin America.

Although most of the contributions are made indirectly through studies and cooperation with other members from the soy debate that does not mean that those institutions can not be directly engage in the debate. The Wageningen University and Research Centre is an example of direct engagement in the soy debate. Even without the right to vote the Wageningen University and Research Centre by its Plant Science Group is officially an observer member of the RTRS.

¹⁴ See speech by Director-General Hans Hoogeveen on behalf of the Minister of Agriculture, Nature and Food Quality, G. Verburg, VIP lecture, Wageningen University, 26 March 2008.
http://www.minlnv.nl/portal/page?_pageid=116,1640734&_dad=portal&_schema=PORTAL&p_news_item_id=23168.

Table 3. *Main groups/stakeholders inside the soy debate that actively influence the discussions regarding the labor conditions and soy cultivation in Brazil.*

Sector	Member	Member of RTRS	Involved in the SMA	Signatory of the National Agreement	Other
Producers	APROSOJA	X			
	Grupo André Maggi	X	X	X	
NGO/Civil Society	Comissão Pastoral da Terra (CPT)				Register and publication of data on cases of slavery in rural areas
	Ethos Institute	X		X	Organizer of the Slave Labour 'Laundry List'
	Greenpeace		X		
	WWF	X	X		Member of the Dutch Soy Coalition
	Solidaridad	X			Member of the Dutch Soy Coalition and supporter of the Biofuels Watch Center
	BothEnds				Secretariat of the Dutch Soy Coalition
	Repórter Brasil				X
Industry	ABIOVE	X	X	X	
	MVO	X			Member of 'Task Force Sustainable Soy'
International Research Institutes	Wageningen University and Research Centre	X*			
International Governments	The Netherlands	X**			

* *Observing member with no right to vote.*

** *Sponsor of the RTRS.*

Box 1. The Participation of the Brazilian Government

Although the governmental sector has been increasing its participation in the debate, the government contribution for the existent discourses is still not as decisive as the non-state stakeholders' ones. Looking into the State behavior and actions it is possible to identify two main trends on State participation.

First, it is the governmental contributions through policies that usually reflect the clash of non-state stakeholders' discourses and activities. There are examples like the resolution number 3.545 from the Central Bank of Brazil which is aimed at the control of the deforestation rates in the Amazon biome. The resolution determined that since July first the farms inside the Amazon biome could only apply for financial credit in the Brazilian banks if they successfully present among others, the legal property register (CCIR) and the certificate of environmental license. Although this measure was broadly celebrated by the Ministry of Environment and environmental groups, on the other hand it was criticized by rural organizations and the Minister of Agriculture which argue that the complex land rights situation allied to the high bureaucracy attached to the environmental regulation would impact the vast majority of farmers that did not have anything to do with the illegal deforestation. A second example is the National Plan for Eradication of Forced Labor¹ which presents measures to be taken by several bodies of the Executive, legislative and Judiciary Branches, the Prosecution Office and entities of the Brazilian civil society against this modality of labor exploration. The second characteristic is that so far, the State participation has been important to legitimate the actions designed and adopted by non-state stakeholders. The participation of the Ministry of environment in the discussions about the Soy moratorium in the Amazon can be use to illustrate that. Even not participating in the design, implementation or monitoring of the SMA, members of the Brazilian government has always been present supporting the results presented by the SMA.

3.4 Stakeholders' views on Labor issues

From the beginning of the discussion about the soy debate the main concern was regarding to the association of the soy cultivation with the cases of forced labor. Inspections organized by the Ministry of Labor¹⁵ in 2008 identified 5,016 people working on bad conditions, which vary from forced labor, lack of healthy or safe working facilities or, receiving low levels of remuneration (Ministério do Trabalho e Emprego, 2009). Also based on the information provided by the Department of Labour Inspection, a group of NGOs elaborated a list, (referred as the 'laundry list') with the names of employers and companies who were found exploring this irregular type of labor. In March of 2009, out of a total of 199 registered employers, there were four cases where the soy cultivation was the economic activity connected to that exploratory situation (Repórter Brasil, 2009).

A document released by WWF in 2003 reported the relation between the bad labor conditions and the expansion of the soy cultivation in new areas. Based on three study cases the report mentioned that 'labor conditions are poor when it comes to clearing land for soybean plantations and are generally below Brazilian and ILO standards.' The document also mentioned that the activities of deforestation, soil preparation for planting and the application of lime and pesticides were the ones most common to make use of labors poorly remunerate or under near-slavery conditions (WWF, 2003).

If the existence of such exploratory labor condition is shared by all stakeholders, its involvement with the soy cultivations seems to be the point of disagreement among them. The contrasting views between stakeholders allowed the establishment of two main discourses about the association of soy cultivation and forced labor. One defends the idea that the soy cultivation can not be linked with such practice while the second affirms that even without many registered cases; the soy farmers can make use of forced labor especially during the prior stages of soy cultivation.

¹⁵ See appendix 2.

3.4.1 Discourse one: 'the soybean sector should not be responsible for existing bad labor conditions'

The first discourse, defended by members of the industry and producer sectors, lays on two main arguments: the few registered cases involving soy farms and the contrasts between the profile requirements of the workers in a soy farm with those workers found working under bad conditions. ABIOVE agrees with the fact that forced labor is *'usually associated with the operations involving the opening of primary areas and initiatives that curb this process (like the SMA) could help to avoid the problem of forced work'*. But ABIOVE also argues that *'the soy production demands high investments in machinery, human capital, technology, logistics and, working capital. In the soy cultivation the demand for high qualified labor is more intense than in other agricultural activities and there is a natural incompatibility with low qualified labor'*. In this case ABIOVE refers to the low qualification level observed in labors rescued from bad conditions. Even though, the industrial sector recognized that those few registered cases of bad labor conditions in soy farms could negatively affect the perception about the great majority of responsible farmers. Because of that ABIOVE and its affiliates adopted a policy of zero tolerance with the forced labor: in the contracts of soy purchase by the industry it was included breach clauses in the case of finding forced labor conditions. Also ABIOVE and its members signed the National Agreement to Eradicate Slavery Labour in Brazil and joined the RTRS which follows the regulations established by the International Labor Organization (OIT) (ABIOVE, 2007).

ABIOVE's discourse seems to be mostly accepted by members from the industries in the Netherlands. The Dutch MVO states that it is clear that most of the cases of forced labor are regarding the activities that comes before the soy cultivation but even though the soy sector have already addressed the issue and established the regulatory measures to deal with the few cases. Two Dutch industries interviewed one from the food sector and the second of the feed sector agree that most cases of forced labor happen on other activities such as charcoal production or cattle farming. Similarly from ABIOVE and MVO perspectives it was mention by both industry members the differences between the labors' skills necessary to work in high mechanized soybean farms and the low qualified level of those who have been rescued from bad labor conditions.

They believe that since the records of forced labor on soybean farms are isolate cases, the production system does not encourage the use of low qualified labor and the sector have already address the issue and create regulatory and measures this 'should not be an issue anymore'. It was mentioned that the discussions now should move to monitoring actions to make sure that the regulatory measures will be apply to any single case.

3.4.2 Discourse two: 'responsibility discourse'

On the other hand, members from civil organization defend the idea that in the boundaries of the Amazon, 'although the number of workers involved in slavery (in soy farms) is relatively small, it is not negligible' and the soy sector is also an importance force promoting such exploratory condition, especially indirectly. Repórter Brasil in its report *Brazil of Biofuel (2008)* argues that the fact of having high levels of mechanization does not exempt the soy sector from such problem. As one of the passages states:

'In spite of the intense mechanization in the soy business, in which both harvest and planting are carried out without human interference, there are some activities concerning the preparation of the soil that still involve manual non-qualified work.'

As it continues

'...in the majority of the cases the employers involved in these sorts of exploitation are not small farmers that are isolated from the rest of society, but rather big farm owners where they use state-of-the-art technology (Repórter Brasil, 2008).'

This passage refers mainly to the few registered cases of bad labor conditions in soybean farms. The stakeholders who defend this discourse agree that the direct responsibility of the soy sector is small comparatively with other rural activities. In the same way the few reported cases of soy cultivation directly after the deforestation of primary

vegetation are remembered¹⁶. But because of this indirect relationship with the early stages of deforestation and cattle farming, they soy sector should also be account for this problem.

This discourse addresses to how the soy expansion could indirectly contribute for the aggravation of the labor situation. The increase on soy prices could lead to an increase in the number of soy farms. According to Repórter Brasil (2008) this situation would increase the demand for temporary labor to clear former pastures and to cut-down native forests. Since temporary workers are the most vulnerable ones when it comes to contemporary slavery, indirectly the pressure over the labor conditions would be intensified under this scenario.

Regarding the initiatives took by the industrial sector, the NGO *Repórter Brasil* admits that the sector is taking action to avoid the purchase of soybeans from farmers who explore its employers, but they also reported two cases of soy purchase from farms that were in the 'laundry list' when the non-purchasing clause was already sign.

Not only because they are contrasting from each other, but this two discourses have been over the years the most current in the discussion regarding the labor conditions and the soy cultivation in the boundaries of the Amazon biome. In 2006 a report elaborated by the NGO *AIDEnvironemt* also adopted the same discourse as *Repórter Brasil* to address the slavery problem. It is mentioned that 'cases of modern slavery are common on cattle ranches in the Amazon and Cerrado region, but have also been reported on soy farms. Especially when the soy cultivation requires clearing of Cerrado land which is 'heavy and dirty work'. *Greenpeace's* document *Eating Up the Amazon* (2006) also reported 4 cases between 2001 and 2004 of soy industries that might have purchase soy from farms caught exploring workers. The Dutch NGO *BothEnds* argued in the opposite direction from the Dutch industries interviewed. For *BothEnds* the low number of cases should not be take as non serious or unrepresentative but as an acknowledgment that there is something wrong and if the issue is being address is because that are proved registers.

3.5 Framing discourses

The analysis of both discourses allows one important observation: the different weight that is given for the few cases registered involving soy farms. It is particularly interesting in this case the fact that stakeholders adopted different discourse even though accessing the same information. The 'information' in this case refers to the 'laundry list', a database released by the federal government with the names of employers that do not comply with the rules. An access of the 'laundry list' in March of 2009 presented the following information:

Table 4. *Main activities linked with forced labor according to the 'laundry list'.*

Activity	Number of cases
Cattle Ranch	90
Cattle Ranch and Charcoal Production or Extraction of Timber	12
Cattle Ranch and Agriculture	5
Agriculture/Forestry	35
Charcoal or Extraction of Timber	28
Industry	1
Unknown	26
Total	197

Source: *Repórter Brasil 'Laundry List' (2009).*

¹⁶ The study made by Cohenca (2005) demonstrates cases in the region of Santarém where there were register of soy cultivation right after the deforestation of primary vegetation.

The table four demonstrates that in 66% of the registered cases of forced labor, the activity involved was cattle ranching, charcoal production/timber extraction or both, while in 18% of the cases the forced labor was attached to an agricultural activity. Currently there are five cases in the 'laundry list' where the soybean cultivation was the main activity in the identified farms.

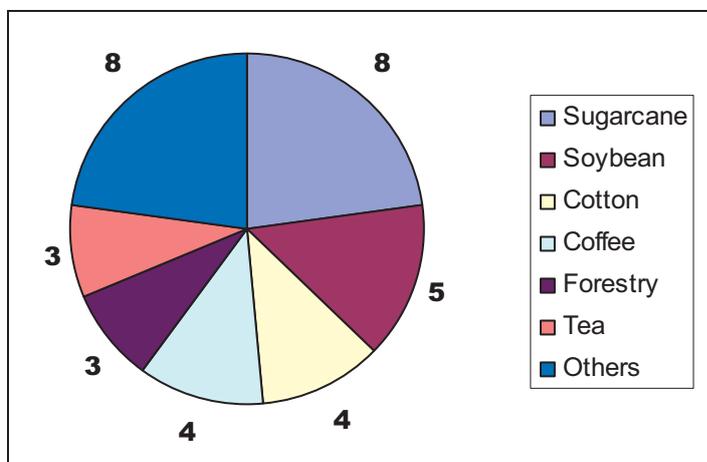


Figure 7. Main agricultural activities developed in the 35 registered cases of forced labor. Source: Repórter Brasil 'Laundry List' (2009).

Figure 7 clarifies the diverging views presented by the stakeholders inside the soy debate. Using the 'laundry list' data from 2008, the NGO Repórter Brasil presents its view about the representativeness of the soy cultivation in the cases of forced labor:

'Soy farms occupy the 3^d place in the rank of farms that violate the local and international laws against slave labor. A study conducted by Repórter Brasil shows that these farms are responsible for at least 10 out of the 163 farms that use slave workers; they were included in the 'laundry list'. (NGO Repórter Brasil – Brazil of Biofuels¹⁷, pg.17)

Using the same data ABIOVE argued in the opposite direction:

'From the list of 166 identified employers there were 13 soybean producers (in the total of proximally 243 thousand producers). From those 13 cases, only 4 were exclusively dedicated to soy production, while the other farms dedicate also to other rural activities.' (ABIOVE¹⁸, 2007)

3.6 Stakeholders' views on distinguish discourses

Dutch stakeholders and the Brazilian NGO Repórter Brasil were question about the main sources of disagreement among stakeholders inside the soy debate. In different ways almost all interviewed – representing different sectors – cited the contrasting interest among stakeholders as the main source of conflict. A member from the Dutch government putted as a 'conflict of principles and stakeholders should dialogue in order to fix distorted principles', while a member from a Dutch NGO mentioned about 'different views on how the world should work'. The NGO Repórter Brasil also added that each interest group inside the soy debate is well informed. They usually play distinct roles and pursue objectives that usually overlap each others interests. And this overlapping of interest is according to Repórter Brazil the main source of conflicts among stakeholders inside the soy debate.

¹⁷ <http://www.reporterbrasil.org.br/agrocombustiveis/>.

¹⁸ http://www.abiove.com.br/sustent/ct_pa_ethos_17mai07.pdf.

Additionally to the conflict of interest among stakeholders it was also observe by a member of a Dutch food company that since some countries in Latin America are young economies and democracies, in transition between agricultural economies to industrialization, there are important National Legal Frameworks under development (i.e. Land rights regulation in the Amazon region). And the governments need constantly to deal with the balance between the national growth and the countries well. And this also influences the debate by naturally promoting different views on how to solve the countries problems.

4. Interaction between stakeholders views on labor conditions and the land use model

As mentioned before, the objective of this study is to point some of the controversial components of the soy debate regarding the labor conditions. In the previous chapters were presented the scenario for soybean cultivation in the boundaries of the Amazon biome as well as a model on land-use proposed by the authors for that region. Further was presented who are the stakeholders of the soy debate and their concerns about the labor conditions. The existence of two dominating discourses in the debate regarding this subject was presented. At the moment this study attempts to analyze the result of the interactions between the stakeholders' views (discourses) with the soybean context and land use model.

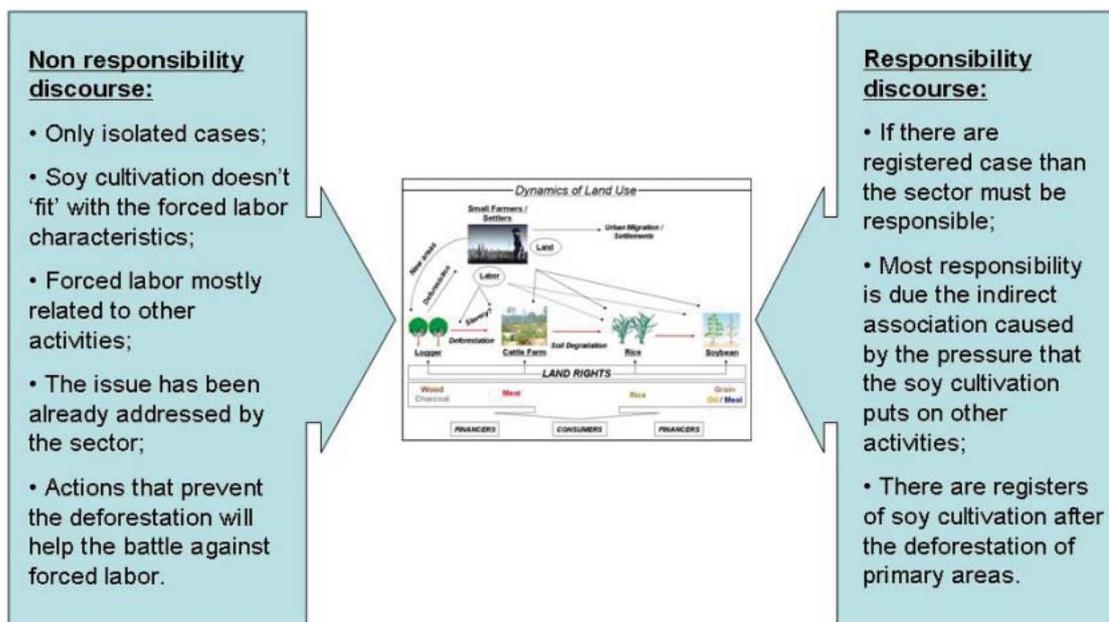


Figure 8. Characteristics of the main discourses on labor conditions inside the soy debate.

4.1 Interactions between the 'non responsibility discourse' and the land use model

The interactions between the characteristics and arguments of the 'non-responsibility' discourse and the land use model demonstrate accordance between each other. The first evidence of that departure is the way in which both – arguments and model – deal with the registers of forced labor in soybean farms. In the model, the bad labor conditions ('slavery') is directly connected only with the stages of 'deforestation' and 'cattle farm', while the discourse assumes the registered occurrences as 'isolated cases' that should not compromise the entire sector.

Stakeholders who adopt this discourse do not deny the existence of forced labor in the rural areas. Although they argue that the characteristics of the production system, the few registered cases and the regulatory measures already implemented by the soy sector justify why the soy sector should not be associated with this issue. Besides a production system that demands a low number of employers, the profiles of those few employers (differently from those usually abused) also explain why the model opts for not directly connecting bad labor conditions with soy cultivation.

A second conformity between the model and concerns is the interdependence among the activities. The model presents the interdependency in the sense that the drivers and inhibitors of each activity are able to influence the

other ones. The ABIOVE also recognizes such interdependence when declares that 'initiatives that curb this (deforestation) process could help to avoid the problem of forced work'. In this case the ABIOVE referred to a possible impact that an intervention in the soy cultivation (in the case the SMA) could cause in other activities related with deforestation.

If in one hand the model positively addresses the discourse's view on bad labor conditions and interdependency among activities, it also misses the point raised in the discourse about the impacts of regulatory measures to inhibit irregular labor conditions in the soy farms. In the model there isn't any mention to any initiative promoted by the sector neither the impacts on labor conditions.

4.2 Interactions between the model and the responsibility discourse

After demonstrate that the non-responsibility discourse presents mostly a positive relation with the model and that the discourses are divergent from each other, would be understandable to say that the interface between the 'responsibility discourse' and the model to be asymmetric. Indeed, the absence of a direct connection between forced labor and soybean production in the model contradicts the argument of direct responsibility discourse. In this sense the model should also draw an extra line towards the soybean cultivation since according to this discourse even few cases are sufficient to make the sector accountable for the issue.

A second point of asymmetry is the fact that this discourse is support by the assumption that soy farmers can also (in a less magnitude) be drivers of deforestation in primary areas. For the labor debate this would mean that the same activities that are passive to infringe the working legislation at the deforestation stage would be directly connected with the soybean cultivation. The model does not consider the possibility of straight transition of areas of primary vegetation into areas of soybeans production as well as assumes an obligatory passage through stages of cattle and rice production or an alternative path through the acquisition of small farmers or settlers lands. Therefore the soy farmers would not have any direct participation in the stages of deforestation and cleaning of primary vegetation areas.

Nevertheless the main argument of this discourse presents a positive interaction within the model. That is the argument about the indirect impact that the soybean expansion has on interdependent activities. The 'responsibility discourse' affirm that besides the registered cases of forced labor in soy farms, the expansion of soy cultivation in the boundaries of the Amazon biome could also increase the pressure for more land. Competing claims for land use could increase the demand for new areas and therefore activities that are mostly link with bad labor conditions.

Applying this thinking within the model allows such interpretation since the model considers that all activities are developing in the same area, consequently competing for the same natural resources – in this case land.

Since most of the 'responsibility discourse' strength lays on the indirect effect of the soy cultivation over the bad labor conditions in the Amazon, the model can be effectively employ to depict those stakeholders' views. The NGO Repórter Brasil affirmed that 'since the extreme of forced work is present in the beginning of the cycle, especially deforestation and cattle raising, their view on forced labor in the boundaries of the Amazon biome could be contextualized by the model on land use proposed by Bindraban and Greco (Repórter Brasil pers. comm., 2009).

Box 2. Dutch stakeholders' views applied to the model

Between April and May of 2009 this study carried a series of interviews with participants of the soy debate in Latin America representing the Dutch industry, civil society and governmental sectors. Representatives of seven organizations in the Netherlands were interviewed: two NGOs, two governmental ministries, two industries and one industry association. During the interviews were asked 3 questions: (1) if they agree with the interdependency among activities represented in the model; (2) about the perspectives of the interviewee's organization on the labor issues approach by this study and how positively or negatively could those perspectives be contextualized within the model of land use and; (3) if they could suggest modifications, criticize or comment the proposed model.

Regarding the first question, all 7 interviewees agreed with the interdependence represented by the model. A member from a NGO added that sectors that do not want to take responsibility usually blame on other activities in order to avoid complications, but as a matter of fact they all need land to develop their activities.

There were different answers about the extent which stakeholders could contextualize their perspectives about bad labor conditions in the boundaries of the Amazon biome within the model. Four answers were positive to the questions, which mean that the main arguments of their views could be explained through the model. There was only one remark from a member of a NGO which added that the model only misses the difficulties faced by poor rural populations which most of the times lead those workers to accept 'abusive' working conditions. Two members – one from an NGO and one from a food industry – mentioned that they did not have enough knowledge on this subject to give a strict answer. Finally the members from the Dutch government affirmed that giving the complexity of the issue would be hard for them to contextualize their perspectives on the labor discussion using only the model.

Different observations were pointed out about the model. A member from a NGO which assumed that the model could be useful to depict his views, suggested the modification of the consumer and financing sectors scheme from 'product receptors' to a feedback looping representation. Another point mentioned by almost all interviewees is the necessity to represent the changes on land ownership at each stage of the land use dynamics.

5. Evaluation and Discussion

This study demonstrates that the modifications occurred over the last ten years in the soybean scenario, globally and locally, resulted in sensitive changes in the soy debate in Brazil. Those changes were both observed in the agro-ecological and political spheres and its consequences characterize the third phase of the soybean debate in Brazil. In the global context the increasing dependence of the global markets for soybeans and soy products allied to the discussion about the world's natural resources were important motivations. In the local context the rapid expansion of the cultivated area in response to the global demand, the expansion towards the Amazon biome and the competition between different land use claims represent important scenario changes in the Brazilian context. The clash between those modifications attracted new domestic and international stakeholders interested in the soy debate in Brazil. The new context of soy cultivation together with the increase and diversification of the participants composition ended by elevating the divergences among stakeholders inside the debate. The discussions about the association of bad labor conditions in the Amazon region with the soy cultivation is an example of the issues addressed in the third phase of the Brazilian soy debate. National and international stakeholders gather in order to address this subject and especially determine the extent which the soy sector should be responsible for that situation.

Following the characteristics of the third phase, the interactions between stakeholders over the labor issue resulted in two predominant discourses inside the debate. The analyses of how those discourses were elaborated, supported and presented by stakeholders in the context of the soy scenario and debate was the main focus of this study.

5.1 Well defended discourses

The discourse defended mainly by the productive and industrial sectors argued that the soy sector should not be penalized or responsible for the existence of bad labor conditions in rural areas in Brazil. Opposed to that members of civil society and NGOs stated that even without a great participation in the number of registered cases, the interconnection of the soy sector – especially in the boundaries of the Amazon biome – with activities such as deforestation and cattle farming would justify the pressure for the sector to take accountability for this issue. Even with opposite views about the issue, the analyses of the two discourses show that both discourses are well grounded and reasonable in their own merits. The way stakeholders defend their perspectives are clear and supported by official data and academic works.

The main argument defended by the non-responsibility discourse refers to the incompatibilities between the soybean production system and all the traditional assumptions about forced labor in Brazil. To support that argument it is mentioned besides the small number of registered cases, studies showed that the soybean cultivation is the rural activity that pays the best average salaries among others (IBGE, 2005; In. Mori, 2008), demands high qualified labor and employs a comparatively small number of employers giving the high mechanization (Roessing & Lazzarotto, 2004). At the same time the monitoring reports released by the SMA demonstrated that it is very unlikely to observe the soybean cultivation in areas of primary deforestation (ABIOVE, 2008). This evidence also reinforces the argument of non-responsibility since the soy sector does not participate in the deforestation stage.

Similarly to that, the 'responsibility discourse' is also reasonable in its main arguments and the supporting evidences. There are two main arguments, one regarding the direct responsibility of the soy sector for the cases of forced labor and the second defending the indirect contribution of the soy sector with this issue. The direct argument is supported by the fact that apart from the representative discussion, there were registered cases of bad labor conditions in soybean farms.

The second argument regarding the indirect contribution is more important for the discourse. The monitoring reports from the SMA demonstrate that there is no evidence to link the soybean cultivation to primary deforestation inside the Amazon biome, which does not mean that in some moment the soy cultivation will make use of those deforested areas. The indirect argument was constantly supported by studies (Fearnside, 2001) and reports from environmental NGOs (WWF – *The Impacts of Soybean Cultivation on Brazilian Ecosystems*, 2003; Greenpeace – *Eating Up the Amazon*, 2006) warning about the risks of the expansion of the soy sector in the Amazon region and how the expansion of the soy sector could promote the deforestation and the cattle farming in the Amazon biome.

The elaboration of two reasonable and distinguished discourses on labor conditions by the soy debate participants enable two important observations: justifies Reporter Brasil observation that participants are well informed about the issue and second, it highlights the subjective character of the soy debate in Brazil. The analyses of the two discourse demonstrated that stakeholders were able to collect substantial information and data and successfully arrange it in order to support their discourse. It is also possible to observe that information and empirical data were often employ in the discourses giving how appropriate for particular arguments of stakeholders' ideological frameworks.

5.2 Sources of disagreement

The subjective character of the debate on labor issue and the fact that participants are well inform were just point as two possible explanations for the existence of two distinguish discourses on labor issues inside the soy debate. Additional to that it is possible to add the complexity of the land use dynamics in the boundaries of the Amazon biome also helps to enhance distinguish perspectives. Such complexity can be explained by the large territory, which allowed multiple realities over the region and the different claims for land use, which also vary from one area to another inside the Amazon region. Consequently this complexity means that for several issues in the Amazon there are multiple realities, and making generalizations is a difficult and risky exercise.

There is no evidence to affirm that the lack of academic material or data could explain or be determinant for the establishment of distinguished views. Both discourses constantly refer to the same data to support their discourse. The 'laundry list', the monitoring reports of SMA and data from the IBGE (Brazilian Institute of Geography and Statistics) are examples of data source constantly mentioned in both discourses. Nevertheless that does not mean that new studies or data can not help to solve disagreements between stakeholders. Well based studies or useful data still can play an important role by pushing stakeholders to review their positions and views about the subject.

5.3 Contextualization using the land use model

In general terms it is possible to affirm that the land use model adopt in this study positively helps to explain stakeholders' views and contextualize the current discourse. In the chapter four was demonstrate that the model has a positive correlation with most arguments in the discourse of non-responsibility as well with the main argument of the responsibility discourse (indirect participation).

The only dissonance between the responsibility discourse and the land use model deals with the direct association between soy cultivation and bad labor conditions. Although since the NGO Repórter Brasil (considered in this study one of the most active stakeholders in the construction of the responsibility discourse) affirmed that the indirect association is most likely to impact the labor relations in the Amazon region, the model also successfully contextualize the discourse content.

The reasons for that lay on recognitions by the stakeholders about the interdependence of land use dynamics and competing claims existent in the region depict by the model. This acknowledgment is supported by the positive answers gave by all interviewed stakeholders about the dynamic presented in the land use model and the ABIOVE statement on how the problem of forced work could be avoid by initiatives that would impede the opening of primary areas.

The interaction between stakeholders' views with the land use model also allowed the identification of two omissions regarding the labor conditions. The first one regards to the general profile of the workers usually released from bad labor conditions. The fact that most of the workers undergo bad labor conditions are migrants from different regions and States is not clear represented in the model. By grouping the labors only under the group of small farmers who sold their land or settlers in the stages of deforestation and cattle farming, the model consequently is missing this important component of the workers profile.

The second omission is about how the model generalizes the deforestation stage ultimately missing some activities that are relevant for the contextualization of the labor conditions. In this sense activities that have been constantly submitting workers to poor labor conditions like charcoal production, land cleaning (e.g. root picking), were not represented in the model.

5.4 **Contrasting discourses and joint actions: the analysis of the multistakeholder debate on the labor conditions**

The outcomes resulted from the soy debate on labor conditions may vary from the ones expected by someone who considered only the different discourses. Although the discourses contrast from each other, the actions promoted by the stakeholders about the labor conditions, pointed to a common understand. The acceptance of the soy industry and productive sectors to sign the 'National Agreement', the addition of the contractual clauses limiting the soy purchase in case of irregular labor conditions by the industries and, the efforts made by the SMA to promote the compliance with the labor laws are examples of actions endorsed by stakeholders from different sectors who adopt different discourses. There are three important observations that help to explain this agreement demonstrated by the participants of the soy debate on this labor discussion.

The first one deals with the stakeholders' acknowledgment on something well described by Innes and Booher in 2003. According to the authors 'power is increasingly fragmented as globalization creates more and varied sources of power. Even the most powerful public agencies, corporations or individuals cannot produce the results they want when working alone.' In chapter three was presented personal motivations pointed out by the Dutch stakeholders to join the soy debate. Additional to those personal motivations, the acknowledgment of 'being part of the problem' was also pointed out during the interviews as well as the necessity to 'build bonds of trust' among the soy debate participants and that 'multistakeholder solutions would be best way to address the problems'.

The second and third observations that help to explain the joined actions are more specific to the soy debate itself. An important point was the fact that even without emphasizing the indirect effect that soy cultivation has over deforestation and cattle farming, stakeholders who defend the 'non-responsibility' discourse do not reject that. Finally, the entrance of national and international stakeholders inside the debate especially those representing the consumer and civil sectors increased the pressure over the productive sectors to take actions on the issues under discussion.

With all its constraints the debate about the labor conditions in the soy sector highlights important characteristics of the multistakeholder debate in its collaborative aspect. The possibilities to – without letting go their interest – learn from each other and seek mutual-gain solutions that as far as possible satisfy all interests and enlarge the pie for all (Innes & Booher, 2003).

Even if stakeholders present different views and perspectives about an issue that do not necessarily drive them away to reach mutual agreements and address existent problems. In this particular case the two discourses demonstrated diverging opinions if the sector should be accountable or not for abusive labor practices registered in the Amazon region. However that divergence did not keep the stakeholders away to come up with possible solutions. In accordance with Dutch stakeholders from the industrial sector who declared to be satisfied with the measures adopted by the productive and industrial sector regarding the labor conditions, the NGO Repórter Brasil also classified the 'National Agreement' and the SMA as positive outcomes of the multistakeholder debate (Repórter Brasil, pers. comm.).

Considering the debate on labor conditions the challenges seems to be shifted from the first stages of problem definitions and strategies design to the next levels. Stakeholders are now concern about the well function (monitoring) and effectiveness (evaluation) of the proposed plans and actions. The monitoring of the instruments developed to avoid the association of forced labor and the soy sector is crucial for their fully effectiveness.

5.5 **Positive achievements and potential threats for the soy debate**

The discussion on labor conditions demonstrated that it is possible for stakeholders to modify their views while continuing to pursue their interest, working jointly rather than separately. The current situation of the soybean debate in Brazil presents some positive achievements as the one just described, but there are still potential threats that can risk or jeopardize the debate.

The consolidation of the multistakeholder initiatives can be considered by itself as a positive achievement in this third phase of the soy debate. Created July of 2006 the SMA was intent to persist for a period of two years, but in July of

2008 stakeholders satisfied with the outcomes decided to extend the SMA for one more year. The RTRS is in 2009 completing three years of since its establishment with eighty-six members from different countries and continents, representing producers, industry, finance and trade and, civil society, besides twenty observer members. The importance of those initiatives was recognized by different participants of the soy debate interviewed by this study. Interviewed stakeholders all evaluated positively the impact of the multistakeholder debate so far as well its importance in delivering short, medium and long term solutions. The recognition that all stakeholders should take ownership in this process, the communication channel bridged between consumers and producers, establishment of a dialogue platform and the creation of awareness were some of those positive impacts pointed so far the participants of the soy debate.

Without letting go their interests, stakeholders changed the initial quarrelsome and suspicious behavior demonstrated in the beginning of the third phase for a more cooperative and confident one. Increasing the confidence among other participants and representing an important advance for the debate. Independently of each ones motivation to join the debate, there was a general acknowledgement about the importance of taking all concerns and interests into consideration and create solutions and alternatives that would not lack on legitimacy. An important achievement for the soybean debate was the recent approval of the RTRS P&C that establish the basis to develop a standard production, trade and processing of responsible soy. In May 28th of 2009 the five main principles were unanimous approved by the RTRS General Assembly and now the approved version of the P&C will be put forward to a period of field testing during one year. According to a member of the soy debate interviewed before the General Assembly, the approval of the P&C was crucial point for the soy debate since it would allow stakeholders to move for the next (and more practical) stages.

The initiatives so far established to promote the soybean debate approximated stakeholders, increased the dialogue and level of trust between the participants, as well as gave legitimacy to different concerns and views. Nevertheless the achievement to address to the labor conditions and the satisfaction with the multistakeholder initiatives does not exempt the soy debate in Brazil from potential threats and risks. By saying threats this study means the issues and situation that could put in risk any of the achievements just mentioned above. So anything that could drive stakeholders away from the debate arena, close the communication channels or put in risk the effectiveness of the plans and actions developed by the stakeholders. It is important to mention that an issue that can be a threat does not imply that it should not be address, but stakeholders should be aware about its the sensitiveness, complexity and controversial components.

There are two main situations in which most of the threats for the soybean debate might arise from. The first situation regards the own sectors' challenges and issues that still need to be address by the soybean debate and; the second is about the evaluation and effectiveness of the soy debate regarding the issues already addressed. Among the issues that fall under the first situation just described are:

- Agreement on the high conservation value areas. Stakeholders have agreed about the importance to establish limits for the soy cultivation in order to protect areas with high biodiversity value, traditional communities and fragile ecosystems. Nevertheless there is still a gap on which areas should be protected or not. There are across the country different initiatives regarding agro-ecological and economic zoning, but as mentioned by one of the stakeholders' member of the RTRS, there is still 'lot of emotion around this subject in the debate';
- Definition about how and who would pay for environmental services compensation. Members from the productive and industry sectors have been advocating over the last years about the importance for producers to receive a compensation for environmental services. Members from the civil society and finance sectors had also agreed on that request, although there are still many uncertainties regarding the ways that this compensation should be implemented;
- The Genetic Modified Soybean (GM-Soy) cultivation. The cultivation of GM-Soy is a reality and already represents over 90% of the planted area in USA and Argentina and around 60% in Brazil (Backus *et al.*, 2008

and Bindraban *et al.*, 2009). Although there still some potential threats¹⁹ regarding the GM-soy cultivation and trade that have not been well addressed²⁰ by the sector that could.

Additionally stakeholders should also be aware about the issues that have been already address in order to reinforce the capability of the soy debate to produce positive outcomes and do not put in risk the multistakeholder initiatives. In this sense the example gave by the monitoring plans of the SMA should be followed as an example of transparency and legitimacy.

The inclusion of stakeholders representing different sectors in the monitoring and evaluation processes should be encouraged. Right now the attentions are turn to the latest approval of the RTRS P&C. The success on the implementation, monitoring and effectiveness of those P&C represent a great challenge for the soy debate. The (un)success of that will have a great influence over the stakeholders' views on the real capacity that the multistakeholder arenas have to produce concrete and positive outcomes for the soybean sector in Brazil.

5.6 Recommendation for further research

One of the characteristics of the soy debate pointed out by this study is its subjectivity and how stakeholders make use of scientific evidence and data in order to support their interest and ideological views. Nevertheless this subjectivity does not mean that stakeholders can deny scientific evidences that are contradictory with their perspectives. Hence scientific research plays an important role in the soy debate by not only helping stakeholders to support their discourse and make decisions but also encouraging them to review their opinions and enlighten complex issues.

The potential threats for the soybean debate in Brazil mentioned above are good indicators for researchers aiming to contribute with the soy debate and stakeholders' decision-making. All points are controversial and complex issues which scientists could actively contribute to the debate. In the particular case of the Brazilian soy debate it is consensual among stakeholders the necessity of studies that could help to unbind the debate about the high conservation value areas and the agro-ecological and economic zoning.

Regarding the major initiatives, the RTRS and the SMA, this moment present interesting 'research window' for the scientists. In the case of the RTRS, the approval of the P&C represents somehow the end of one stage of the RTRS and the beginning of a new one. The interpretation of the previous stage, from its design to the members' agreement on the P&C, could help the understanding of this arena within the soybean context as well as contribute with ideas or evidences to support the coming stages. The study about the characteristics, achievements and challenges of the SMA is also a good opportunity for researchers to contribute with the soy debate in Brazil. The two monitoring reports from the past years, the activities developed by the Soy Working Group and its different subgroups could also lead to important and relevant studies.

5.7 Conclusion

This study attempted to demonstrate using the example of the discussions about the labor conditions, some characteristics of the soybean debate in Brazil. How over the last decade, the nature of the issues discussed and the participants engaged at the debate had substantially changed from previous phases of the soy debate. The sense of ownership over the sectors matters attracted not only the different sectors of the chain but also members from different countries.

The example of the discussion on labor conditions shows that within the soy debate it is unlike that stakeholders will share the same understanding about an issue that is being address. The natural subjective component of the debate makes ideological views and stakeholders' interest important catalysts for the way stakeholders interpret a subject, collect and process the available information and, frame and defend their discourses.

¹⁹ Bindraban *et al.* (2009) provides a first overview of the sustainability of GM and non-GM soybean in Latin America.

²⁰ One important issue raised by Backus *et al.* (2008) regards to the asynchronous EU approval of GM crops, couple with the zero tolerance threshold for the presence of GMOs not yet approved in EU, for cultivation or use in food and feed in the EU, that may have been approved for commercialization in other countries.

In this sense the understanding of the different and – especially – interdependent land-use activities in the boundaries of the Amazon biome can be use as positive tool for the way stakeholders interpret and contextualize their views regarding that region. Stakeholders should be aware of this possibility that the impacts produced by one activity are passive to be indirectly linked and serve as an argument for a particular discourse.

Nevertheless that subjectivity and interdependence of activities do not impede the participant to successfully address to the problems affecting the chain and produce positive outcomes able to satisfy the different interests represented at the table.

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Appendix I.

Round Table on Responsible Soy (RTRS) Principles and Criteria (P&C)

Principle 1. Legal Compliance and Good Business Practice

Criteria Text	Indicators
<i>1.1 There is awareness of, and compliance with, all applicable local and national laws.</i>	<p><i>1.1.1 Awareness of responsibilities, according to applicable laws can be demonstrated.</i></p> <p><i>1.1.2 Applicable laws are being complied with.</i></p>
<i>1.2 Legal use rights to the land are clearly defined and demonstrable.</i>	<i>1.2.1 There is documented evidence of rights to use the land (e.g. ownership document, rental agreement, court order etc).</i>
<i>1.3 There is a commitment to continuous improvement with respect to the requirements of this standard.</i>	<i>1.3.1 The results of monitoring are reviewed and appropriate action is planned and taken when necessary.</i>

Principle 2. Responsible Labor Conditions

Criteria Text	Indicators
<p>2.1 Child labor, forced labor, discrimination and harassment are not engaged in or supported.</p>	<p>2.1.1 No forced, compulsory, bonded, trafficked or otherwise involuntary labor is used at any stage of production.</p> <p>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.</p> <p>2.1.3 Spouses and children of contracted workers are not obliged to work on the farm.</p> <p>2.1.4 Children and minors (below 18) do not conduct hazardous work or any work that jeopardizes their physical, mental or moral well being.</p> <p>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.</p> <p>2.1.6 There is no engagement in, support for or tolerance of any form of discrimination which annuls or affects the recognition, fruition or equal exercise of rights or liberties at work.</p> <p>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 to fill all positions open.</p> <p>2.1.8 Workers are not subject to corporal punishment, mental or physical oppression and coercion, verbal or physical abuse, sexual harassment or any other kind of intimidation.</p>
<p>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.</p>	<p>2.2.1 Workers (including temporary workers), sharecroppers, contractors and subcontractors have a written contract, in a language that they can understand.</p> <p>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.</p> <p>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.</p>
<p>2.3 A safe and healthy workplace is provided for all workers.</p>	<p>2.3.1 There is a health and safety policy which applies to all workers and is adequately implemented and monitored.</p> <p>2.3.2 Relevant health and safety risks are identified, procedures are developed to address these risks by employers, and these are monitored.</p> <p>2.3.3 Immediate steps are taken to stop any operation where there is an imminent and serious danger to safety and health, and to evacuate as appropriate.</p> <p>2.3.4 Potentially hazardous tasks are only carried out by capable and competent people who do not face specific health risks.</p> <p>2.3.5 Adequate and appropriate protective equipment and clothing is provided and used in all potentially hazardous operations such as pesticide handling and application, machine operation, land preparation and harvesting.</p>

	<p>2.3.6 <i>There is a system of warnings followed by sanctions for workers that do not apply safety requirements.</i></p> <p>2.3.7 <i>Accident and emergency procedures exist and instructions are clearly understood by all workers.</i></p> <p>2.3.8 <i>In case of accidents or illness, access to first aid and medical assistance is provided without delay.</i></p>
<p>2.4 <i>There is freedom of association and the right to collective bargaining for all workers.</i></p>	<p>2.4.1 <i>There is the right for all workers and sharecroppers to establish and/or join an organization of their choice.</i></p> <p>2.4.2 <i>The effective functioning of such organizations is not impeded. Representatives are not subject to discrimination and have access to their members in the workplace.</i></p> <p>2.4.3 <i>All workers have the right to perform collective bargaining.</i></p> <p>2.4.4 <i>There is no inhibition of workers from interacting with external parties (e.g. NGOs, trade unions, labor inspectors, agricultural extension workers, certification bodies).</i></p>
<p>2.5 <i>Remuneration at least equal to national legislation and sector agreements is received by all workers directly or indirectly employed on the farm.</i></p>	<p>2.5.1 <i>Gross wages that comply with national legislation and sector agreements are paid at least monthly to workers.</i></p> <p>2.5.2 <i>Deductions from wages for disciplinary purposes are not made. 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.</i></p> <p>2.5.3 <i>Normal weekly working hours do not exceed 48 hours. Weekly overtime hours do not exceed 12 hours.</i></p> <p>2.5.4 <i>If additional overtime hours are necessary the following conditions are met:</i></p> <p><i>a) It only occurs in short and exceptional circumstances (eg. peak harvest).</i></p> <p><i>b) Where there is a trade union or representative organization the overtime conditions are negotiated and agreed with that organization.</i></p> <p><i>c) Where there is no trade union or representative organization agreement, the farm can have only two exceptional periods per crop cycle.</i></p> <p><i>d) The average of working hours in the two-month period after the start of the exceptional period is still no more than 60 hours per week.</i></p> <p>2.5.5 <i>Working hours per worker are recorded by the employer.</i></p>

Principle 3. Responsible Community Relations

Criteria Text	Indicators
<p>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.</p>	<p>3.1.1 Documented evidence of communication channels and dialogue is available.</p> <p>3.1.2 The channels adequately enable communication between the producer and the community.</p> <p>3.1.3 The communication channels have been made known to the local communities.</p>
<p>3.2 In areas with traditional land users, conflicting land uses are avoided or resolved.</p>	<p>3.2.1 In the case of disputed use rights, a comprehensive, participatory and documented community rights assessment is carried out.</p> <p>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.</p>
<p>3.3 A mechanism for resolving complaints and grievances is implemented and available to local communities and traditional land users.</p>	<p>3.3.1 The complaints and grievances mechanism has been made known and is accessible to the communities.</p> <p>3.3.2 Documented evidence of complaints and grievances received are maintained.</p> <p>3.3.3 Any complaints and grievances received are dealt with in a timely manner.</p>
<p>3.4 Fair opportunities for employment and provision of goods and services are given to the local population.</p>	<p>3.4.1 Employment opportunities are made known locally.</p> <p>3.4.2 There is collaboration with training programs for the local population.</p> <p>3.4.3 Opportunities for supply of goods and services are offered to the local population.</p>

Principle 4. Environmental Responsibility

Criteria Text	Indicators
<p>4.1 On and off site impacts (both positive and negative, both social and environmental) of large new infrastructure being built on the farm have been assessed and appropriate measures taken to minimize and mitigate any negative impacts.</p>	<p>4.1.1 A social and environmental assessment is carried out prior to the establishment of large new infrastructure.</p> <p>4.1.2 The assessment is carried out by someone who is adequately trained and experienced for this task.</p> <p>4.1.3 The assessment is carried out in a comprehensive and transparent manner.</p> <p>4.1.4 Measures to minimize or mitigate the impacts identified by the assessment are documented and are being implemented.</p>
<p>4.2 Pollution is minimized and production waste is managed responsibly.</p>	<p>4.2.1 There is no burning of crop residues or waste, except under one of the following conditions:</p> <ul style="list-style-type: none"> • where there is a legal obligation to burn as a phytosanitary measure; • for drying soy; • for generation of energy. <p>4.2.2 There is adequate storage and disposal of fuel, batteries, tires, oil and lubricants, including used items.</p> <p>4.2.3 There are facilities to prevent spills of oil and other pollutants.</p> <p>4.2.4 There is adequate disposal of sewage.</p> <p>4.2.5 Re-use and recycling is utilized wherever possible.</p>
<p>4.3 Efforts to reduce emissions of Greenhouse Gases (GHGs) are made.</p>	<p>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.</p> <p>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.</p>
<p>4.4 Conservation and compensation of native vegetation</p>	<p>4.4.1 Expansion for soy cultivation during field test period may not take place on land cleared of native habitat after May 2009. Exception: Producers who want or plan to clear native habitat after the cut-off date of May 2009 must produce scientific evidence from a comprehensive and professional third-party assessment of the area concerned that identifies the absence of:</p> <ul style="list-style-type: none"> • all primary forest • other High Conservation Value Areas (HCVAs) • local peoples' lands <p>Payment for Environmental Services will be explored during field test period beginning after the cut-off date of May 2009.</p>

Principle 5. Good Agricultural Practice

Criteria Text	Indicators
5.1 The quality and supply of surface and ground water is maintained or improved.	<p>5.1.1 Good agricultural practices are implemented to minimize diffuse and localized impacts on surface water quality from chemical residues, fertilizers, erosion or other sources and to promote aquifer recharge.</p> <p>5.1.2 There is monitoring, appropriate to scale, to demonstrate that the practices are effective.</p> <p>5.1.3 Any direct evidence of localized contamination of ground or surface water is reported to, and monitored in collaboration with, local authorities.</p> <p>5.1.4 Where irrigation is used, there is a documented procedure in place for applying best practices and acting according to official guidance (where this exists), and for measurement of water utilization.</p>
5.2 Natural vegetation areas around springs and along Natural watercourses are maintained or reestablished.	<p>5.2.1 The location of all watercourses has been identified and mapped, including the status of the riparian vegetation.</p> <p>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.</p>
5.3 Soil quality is maintained or improved and erosion is avoided by good management practices.	<p>5.3.1 Knowledge of techniques to maintain soil quality (physical, chemical and biological) is demonstrated and these techniques are implemented.</p> <p>5.3.2 Knowledge of techniques to control soil erosion is demonstrated and these techniques are implemented.</p> <p>5.3.3 Appropriate monitoring, including soil organic matter content, is in place.</p>
5.4 Negative environmental and health impacts of phytosanitary products are reduced by implementation of systematic, recognized Integrated Crop Management (ICM) techniques.	<p>5.4.4 Records of monitoring of pests, diseases and weeds.</p>
5.5 All application of agrochemicals is documented and all handling, storage, collection and disposal of chemical waste and empty containers, is monitored to ensure compliance with good practice.	<p>5.5.1 There are records for agrochemical use of:</p> <ul style="list-style-type: none"> a) products 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 application equipment used; e) weather conditions during application. <p>5.5.2 Containers are properly stored, washed using triple rinsing principles, and water and containers are properly disposed of. Waste and residual agrochemicals are disposed in an environmentally appropriate way.</p> <p>5.5.3 Transportation and storage of agrochemicals is safe and all applicable health, environmental and safety precautions are implemented.</p> <p>5.5.4 The necessary precautions are taken to avoid people entering into</p>

	<p>recently sprayed areas.</p> <p>5.5.5 Fertilizers are used in accordance with professional recommendations (provided by manufacturers where other professional recommendations are not available).</p>
<p>5.6 Agrochemicals listed in the Stockholm and Rotterdam Conventions or banned by the Pesticide Action Network (PAN) Dirty Dozen are eliminated.</p>	<p>5.6.1 A list of agrochemicals banned by the Stockholm and Rotterdam Conventions and by the Pesticide Action Network (PAN) Dirty Dozen is available.</p> <p>5.6.2 A plan is implemented to eliminate the use of agrochemicals listed in the Stockholm and Rotterdam Conventions or in the Pesticide Action Network (PAN) Dirty Dozen within three years after the approval of the Principles and Criteria (May 2009). After this period these agrochemicals are not used.</p>
<p>5.7 The use of biological control agents is documented, monitored and controlled in accordance with national laws and internationally accepted scientific protocols.</p>	<p>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.</p>
<p>5.8 Systematic measures are planned and implemented to monitor, control and minimize the spread of invasive introduced species and new pests.</p>	<p>5.9.1 There are documented procedures in place that specify good agricultural practices, including minimization of drift, in applying agrochemicals and these procedures are being implemented.</p> <p>5.9.2 Records of weather conditions during spraying operations are maintained.</p> <p>5.9.3 Aerial application of agrochemicals within 200m of populated areas is preceded by advance notification.</p> <p>5.9.4 There is no aerial application of agrochemicals in WHO Class 1A, 1B and 2 within 500m of populated areas or water bodies.</p> <p>5.9.5 There is no application of agrochemicals within 30m of populated areas or water bodies.</p>
<p>5.10 Appropriate measures are implemented to allow for coexistence of different production systems.</p>	<p>5.10.1 Measures are taken to prevent interference in production systems of neighboring areas.</p>
<p>5.11 Origin of seeds is controlled to improve production and prevent introduction of new diseases.</p>	<p>5.11.1 All purchased seed must come from known legal quality sources.</p> <p>5.11.2 Self-propagated seeds may be used, provided appropriate seed production norms are followed and legal requirements regarding intellectual property rights are met.</p>

Appendix II.

Results of the 2008 Monitoring for the Eradication of Forced Labor in Brazil

State	# of Operations	Rural Properties Inspected	Released Workers	Indemnity Paid (R\$)
AL	1	3	656	330,309.05
AM	6	8	85	244,837.94
AP	1	3	0	0
BA	6	8	106	180,295.62
CE	2	2	192	137,641.71
ES	1	2	89	152,343.42
GO	7	7	867	1,476,705.81
MA	7	10	99	102,609.76
MG	15	27	229	198,789.85
MS	10	14	236	504,364.03
MT	27	52	578	1,930,540.72
PA	35	83	811	2,131,257.82
PE	2	4	309	7,016.22
PI	6	7	129	223,839.33
PR	8	21	163	426,086.99
RJ	1	1	46	82,348.25
RN	1	1	7	4,108.93
RO	0	2	28	112,744.04
RS	1	1	4	23,484.06
SC	6	16	132	178,218.88
SP	5	6	172	341,676.16
TO	8	17	78	155,873.48
TOTAL	156	295	5016	8,945,092.07

Source: Ministério do Trabalho e Emprego, 2009.

Appendix III.

Evolution of the Soy Area in Brazil between 1997/2005 (in million hectares)

Region	1997		2005	
	Area	Share (%)	Area	Share (%)
North	0.03	0,3	0.5	2,2
Northeast	0.6	5,0	1.4	6,1
Southeast	1.0	9,3	1.9	8,1
Center-west	5.7	49,4	8.7	37,1
South	4.1	36,0	10.9	46,5
Brazil	11.5	100%	23.4	100%

Source: IBGE – Produção Agrícola Municipal.

Appendix IV.

Average Salary for employers in different rural activities per region – 2005 (R\$/month)

Main activity of the rural property	Region				
	North	Northeast	Southeast	South	Center-West
Maize Cultivation	343,93	136,28	220,58	206,67	365,70
Sugarcane Cultivation	181,46	294,28	523,14	379,25	502,17
Soybean Cultivation	507,57	438,07	520,00	485,03	604,60
Cattle Farming	343,03	217,89	314,67	393,28	478,61
Other rural activities and related services	297,12	197,48	349,00	375,71	335,70

Source: IBGE (2006) In. Mori, 2008.

Appendix V.

Interviewed Stakeholders and questionnaire

- Both Ends
- Dutch Ministry of Agriculture, Nature and Food Quality
- Dutch Ministry of Foreign Affairs
- NGO Repórter Brasil
- Nutreco
- Solidaridad
- The Product Board for Margarine, Fats and Oils (MVO)
- Unilever

Research Questions

Part I:

What is your company/organization position regarding the soy cultivation inside the Amazon biome?

How does your company/organization interpret the association between the soy sector with the illegal deforestation of the Amazon rainforest?

- () There is a direct relation;
- () There is an indirect relation;
- () There is no relation.

Comments:

How do you evaluate the impact of multistakeholder debates about the soy cultivation?

- () Positively
- () So far Neutral
- () Negatively

Comments:

Do you believe that those initiatives can produce positive outcomes for both Amazon region and soy production chain?

- () Yes;
- () Only for the _____;
- () No.

Comments:

In your opinion what is (are) the most controversial issue about the cultivation of soybeans in the Amazon biome? (In other words, which topic do you see most disagreement among stakeholders)

- () Association with bad labor conditions;
- () Participation on the deforestation rates;
- () Impacts over small communities;

- () Environmental Impacts due bad agricultural practices (water contamination, soil degradation, etc);
- () Other: _____

Comments:

What would you point as the three main reasons for such disagreement among stakeholders inside the soy debate? (ex.: diverging interests, lack of scientific information, misinterpretation, etc)

There are registers of inadequate labor practices in rural areas of the Amazon boundaries like forced and irregular labors. Do you think that are any (direct or indirect) relation of the soy cultivation with those situations?

Part II:

Considering the raising concern about the presence of the soy cultivation inside the Amazon biome, Bindraban & Greco (2008) developed a model that could help stakeholders to understand the complex land use dynamics existent in that region.

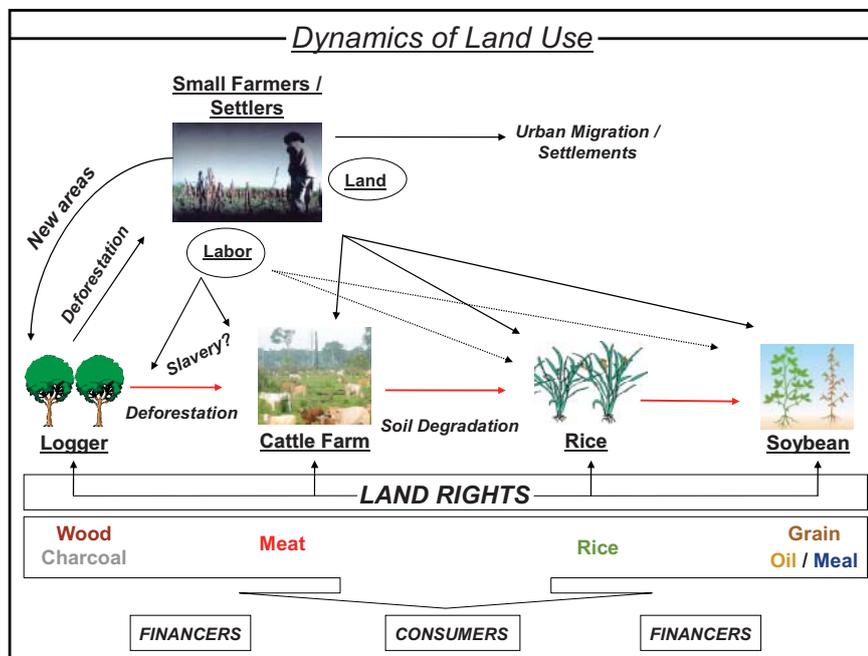


Figure 1. Dynamics of Land Use in the Amazon boundaries. Bindraban & Greco (2008) – Second Version. First version available on <http://www.lei.wur.nl/NL/publicaties+en+producten/LEIpublicaties/?id=968>

As the figure shows, the relations between activities and stakeholders in the boundaries of the Amazon biome are dynamic and interdependent. In this model the soybean cultivation is presented as ‘one’ activity, inside a complex net of activities and stakeholders, with direct and indirect linked with different processes and issues.

It is important to mention the existent ambiguity within the model. In one way it attempts to schematize the complex and dynamic relations existent in the region, but in the same way it might simplify some of its interactions and stakeholders. In other words, this means that this is not a model free from criticism and readjustment. Given the available information this framework can be tested in attempt to evaluate whether stakeholders’ disagreements could be disentangle.

Also, the timeline and intensity are not directly present in this model, but it assumes that are different driving forces which can promote (such as high soy/meat prices) or inhibits its course (legal obstruction, lack of financing or low prices).

Questionnaire

- 1) Do you agree with the interdependence among such activities in that region?
- 2) Knowing the ambiguity of the model, could your perspective regarding the bad labor conditions in the boundaries of the Amazon biome be contextualized within this model? Why?
- 3) Please write down here any suggestions, critics and commentaries about the proposed model.

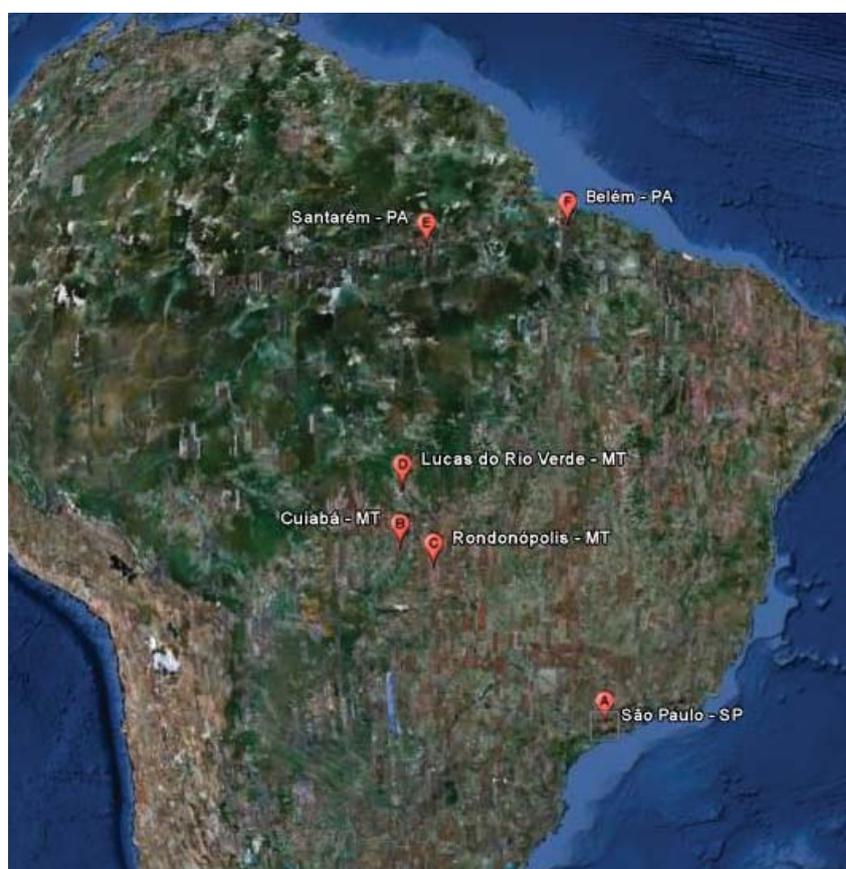
Appendix VI.

Field Trips in Brazil

Visited Institutions (July and September of 2008):

- Associação Brasileira das Indústrias de Óleos Vegetais (ABIOVE) – São Paulo/SP
- Cargill – Santarém/PA
- Comissão Pastoral da Terra – Cuiabá/MT and Belém/PA
- Fundação MT – Rondonópolis/MT
- Federal University of Mato Grosso (UFMT) – Cuiabá/MT
- IMAZON – Belém/PA
- Secretary of Agriculture from Lucas do Rio Verde – Lucas do Rio Verde/MT
- Sindicato Rural de Santarém – Santarém/PA

Itinerary:



Source: Google Earth.

Appendix VII.

Workshop '*Research needs for the sustainable developments in Soybean in Brazil*' – 14/11/2008

8.00 – 8.30	Registration	
8.40 – 9.00	Official opening	Prof. Dr. Antonio Roque Dechen (Director of USP/ESALQ) and Dr. Aalt Dijkhuizen (President of Wageningen UR)
9.00 – 9.30	Mr. Fabio Trigueirinho -ABIOVE	Introduction RTRS Research priorities
9.30 – 10.00	Mr. Marcelo Monteiro – APROSOJA	Challenges of Soybean Production towards Sustainable Production
10.00 – 10.30	Dr. Prem Bindraban (Wageningen UR)	Global developments soybean Setting research priorities
10.30 – 11.00	Coffee break	
11.00 – 11.40	Dr. Paulo Barreto – IMAZON	Land use change and IMAZON Research priorities
11.40 – 12.10	Prof. Dr. Cassiano Cremon – UNEMAT	Mato Grosso soybean research
12.10 – 12.30	Discussion	Prof. Dr. Pedro V. Marques and Prof. Dr. Peter Zuurbier

