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## Declaration

I, Tora Tokvam Drægri, declare that this thesis is a result of my research investigations and findings. Sources of information other than my own have been acknowledged and a reference list has been appended. This work has not been previously submitted to any other university for award of any type of academic degree.

Signature.....

Date.....

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Muito obrigada!

## Abstract

This thesis examines the potential of soybean certifications to increase the sustainability of the soybean sector in the state of Mato Grosso, Brazil. The study is based on data gathered through fieldwork in Mato Grosso during a three-month period from November 2014 to January 2015. Qualitative research methods were applied using semi-structured interviews and participatory observations. Interviews were conducted with soy farmers, farmers' unions, farmers' organizations, government representatives, certification companies, agribusiness companies and social and environmental NGOs.

The thesis explores the practice of certification, how certifications are created and how the soy sector experience certifications. Data reveals that soybean certifications lack support from key actors in the Brazilian soy industry. The majority of farmers are not familiar with what constitutes certifications, nor show an interest in becoming certified. Moreover, the thesis discovers that farmers who already fulfil the criteria demanded by the certifications are often the ones who certify. The empirical findings are analysed using a critical institutionalist perspective, which reveals that the formation and functioning of the certification schemes are imbued with power structures. The outcome is certifications that produce uneven outcomes; some farmers benefit whereas others are excluded. Authoritative processes also affect the certifications content, which questions the ability to combat the existing challenges with soybean production. Moreover, the analysis reveals that the certifications' functions, as both a market mechanism and a provider of sustainable soy production, weaken their ability to grow in significance.

## Abbreviations

**ABAG:** *Associação Brasileira do Agronegócio* / Brazilian Association of Agrobusiness

**ABIOVE:** *Associação Brasileira das Indústrias de Óleos Vegetais* / Brazilian Association of Vegetable Oil Industries

**ANEC :** *Associação Nacional dos Exportadores de Cereais* / National Association of Grain Exporters of Brazil

**Aprosoja:** *Associação dos Produtores de Soja* / Brazilian Association of Soy Growers

**ARES:** *Agronegócio Responsável* / Responsible Agribusiness Institute

**BRL:** Brazilian real (100 BRL = 29,18 USD, 05.08.15)

**CIMI:** *Conselho Indigenista Missionário* / Indigenous Missionary Council

**EII:** Earth Inoovation Institute

**Famato:** *Federação da Agricultura e Pecuária do Estado de Mato Grosso* / Federation of Livestock and agriculture of Mato Grosso

**Formad:** *Fórum Matrogrossense de Meio Ambiente e Desenvolvimento* / Mato Grosso Forum for the Environment and Development

**FUNAI:** *Fundação Nacional do Índio* /National Indian foundation

**GMO:** Genetically Modified Organisms

**HCVA:** High Conservation Area

**ISA:** Instituto Socioambiental

**MST:** *Movimento dos Trabalhadores Sem Terra* / The Landless Workers Movement

**RTRS:** Round Table on Responsible Soy

**WWF:** World Wide Fund for Nature

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## Chapter 1: Introduction

This thesis considers the potential of certification schemes to increase the sustainability of the soybean industry in the Mato Grosso region of Brazil. In the past few decades, the Amazon and Cerrado areas of Brazil have experienced massive deforestation. Forest loss accounts for 20% of greenhouse gas emissions and thus directly related to climate change, puts pressure on ecosystem services and contributes to declining biodiversity (Macedo, Coe, Soares-Filho, Ferreira, & Panday, 2013; WWF, 2014). One of the key drivers of deforestation is soy bean production (Hospes, van der Valk, & van der Mheen-Sluijer, 2012). Recognizing the damaging environmental impacts of past soy production practices and the concurrent growing use of soy as feed in European agriculture, the soybean industry have introduced a set of new certification schemes they claim can secure the sustainable production of soy and avoid earlier environmentally destructive tendencies.

In 2014, Brazil produced 95 million tonnes of soy, of which 46 million tonnes were exported for animal feed and food production. Today 84 % of all certified soy derives from Brazil. More specifically, it is clustered in the state of Mato Grosso (Garrett, Rueda, & Lambin, 2013, p. 9; Potts et al., 2014). Despite its general economic success story, soybean production faces environmental and social challenges due to deforestation of the Amazon and the Cerrado (the area of dry-land savannah to the South of the Amazon), pollution from agrochemicals and impacts on indigenous peoples' livelihood. Besides drivers in rural areas, land use change is also driven by external factors, such as a growing urban middle class in growing distant markets and a globalized flow of commodities (Meyfroidt, Lambin, Erb, & Hertel, 2013). These problems have drawn substantial attention, and the increased public awareness of environmental degradation has created problems for the Brazilian soy sector in international markets (Elgert, 2012). In order to combat this market problem and to improve the sustainability of soy production, businesses and civil society actors have recently developed criteria and certifications for sustainable soy production.

Certifications have become tools used by corporations to meet the now widely recognised social and environmental challenges (D. Meyer & Cederberg, 2013b), and reflect a shift from public to private governance in the global agro-food system (Hatanaka, Bain, & Busch, 2005). Certifications aim to create sustainable supply-chains and have been characterized as “Non-state Market-driven” governance mechanisms that create incentives for producers to carry out more sustainable practices (Cashore, 2002). However, the effects of certifications as a form of corporative environmental governance are debated. Are certification schemes an alternative practice to a more sustainable food production, or a reactive investment initiated as a response to institutional pressure? (Cañón-de-Francia & Garcés-Ayerbe, 2009; Hatanaka et al., 2005). This study aims to contribute with empirical insights to this debate. I therefore ask in this thesis: *How can certifications improve the sustainability of Brazilian soy production?*

Although certifications are market mechanisms, this research put emphasis on the supply side. This does not mean that the demand side is of less importance. However, a number of a good reasons to look at the supply side emerged while studying the topic. The majority of existing certification studies focus on the demand side and how it gains support from the market. Moreover, little research has been conducted about *how* soybean certifications function. From this, several questions emerged: Why do soy farmers want to certify? How are the certifications practiced and received on the ground? What are the impacts? Therefore, this study focus more specifically on how certifications functions on the ground. I see this as interesting as Brazilian soybean farmers are producing 1/3 of the total global production of soy, and thus responsible for large areas of natural vegetation in Brazil. Following this focus, a central research question of the thesis is:

*Can the RTRS certification provide a future for sustainable soy production in Mato Grosso, Brazil?*

In order to answer the research question a qualitative case study with semi-structured interviews and participatory observation was performed in the state of Mato Grosso during a three-month period from November 2014 to January 2015. Interviews were conducted with soy farmers, farmers’ unions, farmers’ organizations, government

representatives at local level in two different municipalities, government representatives at state level, certification companies, agribusiness companies and social and environmental NGOs. Based on a “grounded approach” I identified categories relevant to answer my research questions. By assembling the gathered data into themes I eventually adopted a critical institutionalist perspective. This perspective enables the study of relationships between institutions and society, more specifically the social structures, power relations and wider contextual factors that affect certifications formation and functioning (Cleaver, 2012).

In order to combat the social and environmental challenges related to soybean production, better understanding is needed about how governance mechanisms, such as certifications schemes work and whether they have an impact. Although the qualitative nature of this study limits the ability to generalize and apply it to other settings, this study can increase the understanding of how certifications in Brazil work in practice, how they are perceived on the supply side and what factors increase or decrease their uptake/functioning. The thesis therefore aims to contribute with knowledge on an under-researched topic. The study can therefore be of interest to certifier companies and civil society organisations concerned with the social and environmental impacts of soy production. Moreover, the study can increase the understanding for importers and consumers of certified soy.

I chose to focus my research question on the RTRS certification as this is the most well-known and mostly used certification for soybeans. The research also incorporates the ProTerra certification, but does not analyse it separately. However, it is incorporated when discussing certifications on a general level. The state of Mato Grosso was chosen as study area because this is where certified farms are clustered.

### **Thesis outline**

The thesis is structured in nine chapters. After this introductory chapter, chapter two presents the study area and explain the methods that were applied during data collection and analysis. In chapter three, I will provide background information, present the existing literature on soybean certifications and the theoretical concept I apply in the discussion. In chapter four to seven I present the empirical exploration.

The chapter are divided after findings that I found particularly interesting , namely how certifications are practiced, the knowledge gap that exists concerning certifications, farmers challenges and the criticism that are raised towards soybean production. Further, in chapter eight I analyse and discuss the results with a critical institutionalist perspective. I answer my case specific research question and propose potential improvements before I in chapter nine summarize my research and try to provide answers to the overarching research question for this study: *How can certifications improve the sustainability of Brazilian soy production?*

## Chapter 2: The study area and research methodology

This thesis sets out to investigate how certification schemes can contribute to a more sustainable soy sector. In order to do this, the study has an inductive approach and investigates an area where little research has been done so far. Thus, an exploratory study is reasonable in order to generate new knowledge of the topic. Moreover, I applied a qualitative research method because it was best suited to meet the research objectives. With this method I could conduct research in a flexible and open manner to provide in-depth data (Berg & Lune, 2012). Fieldwork was conducted in Brazil between the beginning of December 2014 and the end of January 2015. Mato Grosso state was chosen as the research site because the majority of certified farms are clustered there (Garrett et al., 2013, p. 9). Moreover, I spent two weeks altogether in two different municipalities that produce soy; Sapezal and Diamantino. These study sites were selected using background information from the report *From Brazilian fields to Norwegian farms*, published in June 2014, which focused on municipalities that mainly produce soybeans for export (Fremtiden i våre hender, Kirkens nødhjelp, & Regnskogfondet, 2014).

Data was collected from interviews, observations and secondary sources. I interviewed farmers, farmers unions, country councils, NGOs, companies and certifiers that are related to either one of the certification programs or the agricultural sector, in order to increase my understanding of certification processes and their related challenges. Additionally, I interviewed NGOs that work with social and environmental challenges related to soybean cultivation in order to gain insight of how the certifications were perceived and viewed outside of the soybean sector. All interviews were agreed either through mail correspondence, by knocking on doors or through my key informant at the farmers union in Sapezal. Furthermore, interviews were conducted face-to-face, except two where I used Skype. As most Brazilians do not speak English, I learned Portuguese in order to conduct interviews. With a good basis in Spanish, hours of studying and private lessons at a language school, I carried out interviews in Portuguese after 1.5 months. This was sufficient to conduct interviews and follow conversations, but also led to challenges that I return to later.

During my time in Brazil I travelled vast distances by bus from Cuiabá to Sapezal and Diamantino. Accommodation in Sapezal and Diamantino was solved by hotels. However, in Sapezal my key informant from the farmers union invited me to stay at her home. In Cuiabá I was based at the secretariat of Brazil’s Landless Workers Movement, *Movimento dos Trabalhadores Rurais Sem Terra (MST)*. It was through contacts in the *The Norwegian Solidarity Committee for Latin America* that I got in contact with the secretariat. Living at the MST secretariat eased the research as it sped up the language learning, provided me with a working space and the people helped me out with how to get around. Also through observation and conversation it was a great opportunity to gain insight into a civil society organization’s work. It was of specific interest since the movement criticizes the agricultural development and soy expansion in Mato Grosso, and Brazil.

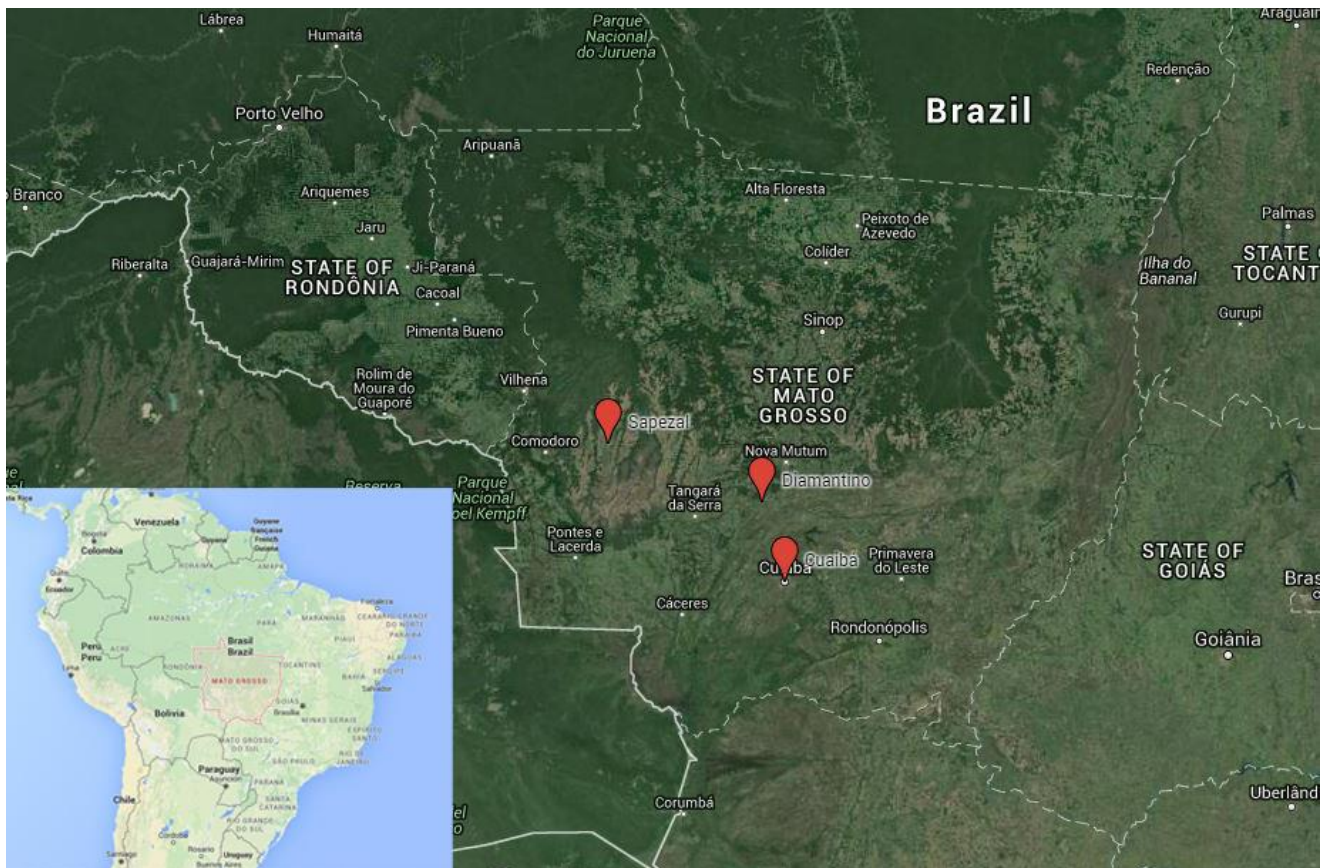


Figure 1 Map of study area

### Research strategy

I took a grounded approach to my study, which is an *inductive* methodology. I was not informed by theory to start with, but integrated it afterwards. Grounded theory is a type of qualitative research developed by Glaser and Strauss (1967). What

distinguishes grounded theory from other qualitative methods is that “the concepts out of which the theory is constructed are derived from data collected during the research process and not chosen *prior* to beginning the research”(J. Corbin & Strauss, 2014, p. 7). As I was not seeking to test a theory, I got the chance to instead explore the phenomena, and eventually find comprehensive explanations for a phenomenon. I saw this as helpful as I wanted to gain insight into a little-studied area. A grounded approach is seen as appropriate in studies where little is known about the area of study (Birks & Mills, 2011). Moreover, it fitted well with applying the critical institutionalist perspective approach to the analysis. By approaching institutions as “things people do rather than objects” (Clever, 2012, p.16) there is a concern with the relationship between institutions and society. Therefore, it is necessary to pay qualitative attention to social structures and power relations, something the grounded approach allowed me to do. Furthermore, even though it is seen as essential that the researcher does not know anything about the topic when taking a grounded approach, one must acknowledge that nothing is free from bias (Charmaz, 2014). For instance, I did conduct a literature review before I started research, as it is necessary to read about the topic beforehand. However, I did not know the direction of the research, as I wanted to follow the leads of my data.

Furthermore, although the research process had many similarities to a grounded theory approach, this was mainly the features of being inductive and open to the material I used. For the coding and data analysis process I used a qualitative content analysis, which was more appropriate due to time limitations. Qualitative methods do not have any clearly defined rules for the data analysis process (Berg & Lune, 2012). To analyse the data collection I used the voice recordings to transcribe the interviews into text documents. All interviews were transcribed into English, even though they were conducted in Portuguese. Some interviews were transcribed when I was in Brazil, but the majority took place after I arrived back in Norway and started to work on the thesis. In order to identify patterns and themes I carried out open coding, meaning I identified and classified the most important patterns in the material (J. M. Corbin & Strauss, 2015). From this process several codes emerged, in which I sorted the data material into different themes; lack of supply chain support, the role of Amaggi and feasibility for farmers. In order to investigate the themes further I used secondary literature to discuss and interpret my findings. This was a severe challenge,



as all the themes seemed so interlinked.

Next I tried to find connections between the various codes within the different themes. In this process I aimed to find categories to use in the analysis. Eventually I was left with categories which captured the essence of the material, which could answer my research question. As I took an inductive approach to analysing the data, the theory was applied after I coded the findings.

### Sampling approach

The research relied on a *nonprobability* sampling, which incorporates many different sampling strategies (Berg & Lune, 2012). I used a combination of *purposive sampling*, *snowball sampling* and *convenience sampling* depending on the sample unit. When I interviewed NGOs, departments, companies and certifiers I used a *purposive sampling* strategy. The institutions were purposively selected because they had a direct reference to the research goals, In that way I could answer my research questions (Bryman, 2008). Moreover, in order to interview certified farmers I used a mix of *purposive* and *convenience* sampling. By using *Alliança da Terras* web register over certified farms, I located the certified farmers who produced certified soy in the region. By coincidence I had the opportunity to interview one of them when I was accompanying a person working for Syngenta, which is a company that sells seeds and agrochemicals to the farms. The other certified farmer I contacted through the farmers union in Sapezal.

Due to vast distances in Mato Grosso and the lack of contact information beforehand, the soybean farmers were the most difficult informants to make contact with, which is often the reason researchers use this sampling method (Berg & Lune, 2012, p. 52). However, when I arrived it was my key informant in the farmers union who suggested farmers to interview and who put me in contact with them. This was the only option, as I did not have any contact information, and thus relied on whom my key informant suggested. Therefore, the process of her selecting farmers for me was also characterized by *availability sampling* (Berg & Lune, 2012), because I interviewed the farmers who were the easiest to access at that time (Bryman, 2008). There are, however, some possible limitations by using these sampling methods. The key informant had a tendency to contact farmers she already knew and was friends with.

Thus, there is a potential selection bias in the sampling (Collier & Mahoney, 1996). Hence, this eventually affects the external population validity of the research as it limits the degree to which the study can be generalized to other settings (Christensen, Johnson, & Turner, 2011).

## Data collection methods

### Interview

Interviewing as a data collection method was appropriate for my research as it allowed me to explore and provide in-depth information about the topic. Moreover, it is a good method for studying attitudes and the informants' perspectives and ways of thinking. However, it is time consuming both while doing it, and in the data analysis process (Christensen et al., 2011). During fieldwork I conducted 29 interviews with 31 informants, as two of the interviews were group interviews. Although I wanted to have more interviews, especially with farmers, time and money did not allow me to do this. It should also be mentioned that it was rather difficult to reach farmers as they live widespread over vast distances.

All the interviews were *semi-standardized* interviews where I had prepared an interview guide or a checklist beforehand. In this way I knew all topics would be covered, and that I was flexible in probing further, clarifying and adjusting the language when needed. Thus, the interviews could match the different informants (Berg & Lune, 2012). Several interviews also developed into *unstandardized interviews* with a loose structure, no specific questions and where I tried to let the informant lead the conversation (Berg & Lune, 2012). This happened after I had asked all the questions, but where the informant was still talkative and perhaps had more on his mind. In some cases this provided us with more data. The semi-structured interview also allowed me to change the questions and the objective of the interview as we moved on. This was important for my study as not every informant was familiar with soybean certifications. Although the flexibility is a strength, it also reduces the comparability of the answers (Mikkelsen, 2005).

I started every interview by presenting the research project. Furthermore, I explained why it was interesting for me to talk to them in order to show appreciation and respect

(Berg & Lune, 2012). Moreover, I clarified whether to keep the informants anonymous or not and whether I could use a recorder. With the institutions we agreed that I could cite the name of the organization, company or authority in this study. However, the majority of the farmers wanted to be anonymous. Due to that it is important to provide the informants with pseudonyms and they are therefore referred to as *farmer 1*, *farmer 2* etc. in this study (Berg & Lune, 2012). The recorder was extremely useful as it allowed me to return to the interview when notes were insufficient. The majority of the interviews with institutions tended to be long, which is often the case when the “research questions are involved or multi-layered (...) and a subject may provide rich, detailed and lengthy answers to the question” (Berg & Lune, 2012, p. 127). Thus, the recorder was very helpful.

### **Interview site and setting**

In 19 of the interviews, all with different institutions, it was only the informant/s and I present in the room. In the remaining 10 interviews, all with farmers, a representative from the farmers union was present as they accompanied me. Depending on the informant, I conducted the interview at his/her work place, office or farm. This was practical and easy, but also important in order for the informant to feel comfortable (Berg & Lune, 2012). Moreover, in this setting the informant had access to their own working material. In several occasions it happened that the interviewee wanted to show me something on his/her computer, providing me with more data. There are however some exceptions regarding setting. Four of the interviews were conducted at the farmer unions’ office in Sapezal. Additionally, two of the interviews were done over Skype, due to geographic locations. For the Skype interviews, we had been in contact for a while beforehand, and I had sent them a description of what my research was about in order for them to be prepared. The face-to-face interviews that were agreed through e-mail also received a description of my study beforehand.

### **Participant observation**

During the fieldwork I also used *participant observation* as a qualitative data collection strategy. DeWalt and DeWalt (2002, p. 2) define *participant observation* as “a way to collect data in naturalistic settings by ethnographers who observes and/or take part in the common and uncommon activities of the people being studied”. This

was useful for the research as I used the insights obtained from participating and observing in later in the study (DeWalt & DeWalt, 2002). Moreover, it helped in understanding the contextual factors. However, a weakness of participatory observation is that the respondent knows they are being observed. Thus, they might behave in atypical ways (Christensen et al., 2011).

As already mentioned, living at the MST secretariat was partly *participant observation*. I took part in the everyday life and through observation and conversation I gained insight into the organization's work. It was particularly interesting because of their criticism towards the agricultural development and soy expansion in Mato Grosso and Brazil. I gained insight into their *luta* (Portuguese word for fight, or struggle) against the high agrochemical use in soybean cultivation, where members of MST were planning a demonstration against the use of agrochemicals in agriculture. This demonstration was part of a permanent campaign called *Agrotóxico mata - Campanha Permanente Contra os Agrotóxicos e Pela Vida* (agrochemicals kill - the permanent campaign against agrochemicals and for life), which unifies more than 100 social movements, schools, universities, NGOs and workers unions throughout Mato Grosso and Brazil (Contra os agrotóxicos, 2011). By participating in such activities I had the opportunity to gain a deeper understanding of organizations that are critical to soy agriculture. I also used these experiences to look further into the issues of agrochemicals.

Another example of *participant observation* was the time I spent at the farmer union's office in Sapezal. There I listened to conversations and discussions between farmers and employees, which gave me further insight in how they were thinking and what was on their mind. Sometimes I used this information when developing the interview guides. It also provided me with a more diverse picture of how it was to be a farmer. Furthermore, I participated in the conversations and asked them questions to clarify what they meant. As everybody knew I was a researcher, they were outspoken and interested in trying to explain me things if it was unclear.

## Secondary sources

A third qualitative data collection strategy in this research is the use of secondary sources. Before I went to Brazil I read the report from *Fremtiden I våre hender* (Future in our hands), which published data on what regions that had produced certified soy for export. This report provided the basis for how I chose my study sites, as it showed areas that had certified production.

Additionally, before, during and after my trip to Brazil I conducted desk research. The secondary data has provided me with insights on certain fields regarding soybean certifications, which I would not have got through primary data only. Thus, I see these secondary sources as helpful as it eased the analysis of the findings in this thesis (Christensen et al., 2011).

### **Methodological and ethical considerations**

There are several potential limitations to this research that might have affected the quality of the data collected. First of all, there was a language barrier. The language barrier was a limitation because it restricted the types of questions I could ask in the interviews. This is an important point in qualitative research, as it allows the researcher to follow up interesting points and/or clarify any inconsistencies (Bryman, 2008). This was particularly challenging in the beginning as I sometimes had to go back and clarify afterwards, but had then lost the opportunity to come up with follow-up questions. However, as the study continued, my language skills increased and did not limit the research significantly.

Although most people were open to give interviews, I also met some scepticism. This was especially significant when I wanted to interview the bigger soy companies, such as Amaggi and Bom Futuro. Two of the interviews I conducted with representatives from soy companies ended up being very short and without elaborative answers. If I wanted to ask more questions, I was in both cases told to contact the central administration in Cuiabá, as they did not have the authorization to speak on behalf of the company. In the case of Amaggi it took two months before I succeeded with an interview at the central administration. I saw this interview as valuable for the research as Amaggi is a central actor regarding certification.

Finally, the vast distances in Mato Grosso affected my ability to do many interviews with farmers, as travelling was time consuming and incurred relatively high costs. Mato Grosso is a large state and the distances are vast. Experiencing these distances increased my understanding of challenges on infrastructure, distances and profitability in the soy sector, which was brought up during interviews with farmers and various institutions.

## Chapter 3: Background

### Soy production in Mato Grosso and Brazil

Soy has become one of the world's most important crops in terms of production value, land use and international trade. In February 2015, global soy production reached 315 million tonnes. Brazil produced around 95 million tonnes of this (almost 1/3 of the total world production), making the country the second largest producer of soy in the world after the United States (USDA, 2015). Soybean cultivation started in southern Brazil in the 1970s. As crops were developed to cope with different soil and weather conditions, production spread to mid-west Brazil; in particular the states of Mato Grosso, Mato Grosso do Sul, Goiás and the federal district. The government offered cheap land in these states, and as a result people came from the south to settle.

Brazilian soybean agriculture is an export-oriented agricultural produce and Brazil's export is approximately 50% of the total amount of soy produced (G. Oliveira & Schneider, 2014). This export-led agricultural production has greatly contributed to Brazil's economic growth and in by 2013 the agribusiness sector was responsible for 22.54% of Brazilian GDP (Empinotti, 2015). Moreover, it accounts for 26% of the total Brazilian agribusiness export and 9.4% of the total export (Kessler, De Koning, & Antoniazzi, 2013). In Mato Grosso, the soybean sector is the "motor" to the states economy, as the sector also provides jobs outside of agriculture (P. Richards, Pellegrina, VanWey, & Spera, 2015). In 2014/2015, Mato Grosso state produced 28 million tonnes of soybeans (IMEA, 2014), which is more than in any other state and represents 8% of total global soy production (Aprosoja, 2015). It is no wonder the soy expansion in Brazil and south America has been described as the "soy boom" (Carter, Barham, & Mesbah, 1996).

Soy is a "flexible" crop due to its several uses: as livestock feed, in food processing industries, as edible oil and for biodiesel. This has made it a feasible crop to industrialize and expand upon, and made it the main raw material for the global feed and food industry (Kessler et al., 2013; G. Oliveira & Schneider, 2014). Agricultural processing and commodity trading companies drive the industry and soy has become a popular crop for buyers, which can be explained by the price, the multiple uses and

the availability, which often is greater than for alternative crops (G. Oliveira & Schneider, 2014). In Brazil the growing demand for soy is mainly by the EU and China, largely as a result of a growing population and changing dietary trends. Domestic consumption is also increasing due to animal feed and biofuel production (D. Meyer & Cederberg, 2013a).

Soybean cultivation requires high capital investments in machinery, land preparation and agricultural inputs. Farmers need to reach a certain scale in order to be competitive in the market, which makes soy production a domain for agribusiness rather than small farmers. The average property size in Mato Grosso is over 5000 ha (Gil, Siebold, & Berger, 2015) and provides 1 job per 200 hectare. In comparison, tomato production provides 245 jobs per 100 hectares (Fremtiden i våre hender et al., 2014). However, due to the capital-intensive production it is common for farmers to take credit from banks and traders before planting in order to buy seeds, fertilizers and pesticides (Fearnside, 2001; Gil et al., 2015). Moreover, the annual profitability depends on the farmer's access to capital and international markets for soy and fertilizers (Fearnside, 2001; Rachael D. Garrett, Lambin, & Naylor, 2013).

### **Social and environmental challenges**

Researchers, environmentalists and civil society organizations have highlighted environmental concerns with Brazilian soy production over the last few decades. Although USA is the world's leading soy producer, the sustainability debate has concentrated on Brazil due to its bio-diverse rich biomes (Hospes et al., 2012). Research shows that municipalities with the highest rates of deforestation also have a large amount of new soy plantations (D. Meyer & Cederberg, 2013a). In the Amazon it is found that 32% of forest loss has been caused by the soybean sector since 2002 (P. D. Richards, Walker, & Arima, 2014), and the original vegetation of the Cerrado has been deforested by 47%, which represents the most rapid deforestation in South America since the 1980s (Hunke, Roller, Zeilhofer, Schröder, & Mueller, 2015). Forest loss accounts for 20% of greenhouse gas emissions and thus influences climate change; it puts ecosystem services under pressure and reduces biodiversity (Macedo et al., 2013; WWF, 2014).



Besides deforestation, soy production has been criticized for causing environmental degradation due to its agricultural model. This encompasses intensive use of agricultural machinery, soil erosion, pesticide contamination of water, food and animals, siltation of rivers and reservoirs and increasing weed resistance in the fields (D. Meyer & Cederberg, 2013a; Recena, Pires, & Caldas, 2006; Resck, 1998). In terms of agrochemical use soybean crops dominates the consumption compared to other agricultural products, using 43,5 % of the products sold. 20 % of the pesticides is used in Mato Grosso, making it the largest consuming state in Brazil (Meyer & Cederberg, 2013). Moreover, regarding social concerns, soy production is criticized for increasing land concentration, putting pressure on indigenous communities and threatening traditional livelihoods (Fearnside, 2001; Fremtiden i våre hender et al., 2014; Greenpeace, 2006).

### Certifications entering the scene

In the beginning of the 2000s the aforementioned problems drew substantial attention, especially from abroad. The increasing publicity from North American and European media together with NGOs, over environmental degradation, created problems for the Brazilian soy in the international market (Elgert, 2012). In order to combat this market problem and improve the sustainability of soy production, businesses and civil society actors created partnerships in which they started to develop criteria and programs for sustainable soy production (Elgert, 2012; Hospes et al., 2012). Certification schemes entered the market scene and now serve as corporate tools to meet social and environmental challenges (D. Meyer & Cederberg, 2013b). Moreover, they serve as an alternative for consumers who want to buy sustainable and responsibly produced soy.

WWF was one of the initiators involved in creating soybean certifications. Their strategy for transforming markets is to influence major companies in the commodity chain instead of producers. They argue that “by shifting 20 per cent of demand, we can shift up to 50 per cent of production” (WWF, 2012, p. 3). Two of the standards that developed as a response to the above social and environmental challenges are the *ProTerra* standard and the *Round Table on Responsible Soy* (RTRS). Both certifications aim to create sustainable value-chains as they provide ‘deforestation-free’ soy produced with sustainable agricultural practices. The ProTerra certification

also provides non-GMO soybean. Although there is increased demand for sustainable soy production, especially from northern European countries, only 2% of the total soy produced globally is certified. This is low in comparison to other commodities such as coffee (38%), cocoa (22%) and palm oil (15%). When divided by country, 84 % of the certified soy derives from Brazil. As a percentage of total national production, 5.2% is ProTerra certified and 1.2% is RTRS-certified (Potts et al., 2014).

### **The RTRS certification**

WWF took the initiative together with Unilever, a multinational consumer goods company in bringing together the Roundtable on Responsible soy. After four years of a multi-stakeholder discussion on principles and criteria between producers, industries, trade and financial institutions, and civil society, it was launched in 2010 (Hospes et al., 2012; RTRS, 2013, 2014b). By creating a global standard for responsible soy, RTRS's mission is to “encourage that soybeans are produced in a responsible manner to reduce social and environmental impacts while maintaining or improving the economic status of the producer” (RTRS, 2014c, para.1). They aim to do through commitment from stakeholders involved in the value chain of soybeans. The RTRS standard is based on five production principles:

- Legal compliance and good business practices
- Responsible labour conditions
- Responsible community relations
- Environmental responsibility
- Good agricultural practices



**Figure 2 RTRS logo**

There are two different models of supply-chain in the RTRS system. Soybeans can either be sourced through a segregated supply chain where the beans are physically separated from Non-RTRS Certified soy, or with mass balance accounting. In mass balance accounting the certified soy may be mixed with non-certified soy. This allows the farmer to produce both responsible soy and non-responsible soy. In this way consumers can buy RTRS credits but not necessarily get RTRS-produced soy (Garrett et al., 2013; RTRS, 2014a).

The RTRS standard requires that soybeans are not grown on HCVA land that was cleared after 2009. Furthermore, in contrast to ProTerra, producers can grow GM, non-GMO, or organic soybeans and the certifications last for 5 years. In order to be certified, a farmer needs to be in compliance with 62% of the scheme's indicators. After one year the producers have to be in compliance with 86% of the standards and after 3 years the farmer shall comply with 100% of the indicators (D. Meyer & Cederberg, 2013a).

### **The ProTerra certification**

Cert-id, a private certification company, developed the ProTerra Certification Program in 2004-2005, and launched it in 2006. When developing the standard, Cert-ID gathered input from members of the food and agricultural industry along with public interest organizations. The standard is based on the Basel Criteria for responsible soy, which COOP Switzerland and WWF initiated (Cert-ID, 2013). The purpose of the Basel criteria was to establish guidelines for sustainable, ethical and responsible production for companies and producers that wanted to make sure they would not contribute to the negative social and environmental impacts from producing soy (Proforest, 2005).

The ProTerra standard is supposed to cover all-important challenges related to large-scale production of soy and aims to create a whole value chain of social, environmental and economic sustainable production practices. They aim to do this this by training auditors, farmers and processors and by linking production and demand. However, it is necessary to improve existing production methods to meet the standard. The ProTerra Foundation claim that improved production practices will

make it possible to meet the growing demand for food, feed and agricultural raw materials without destroying natural resources and habitats (Garrett et al., 2013; ProTerra Foundation, 2015b).



Figure 3 ProTerra logo

In order to be certified, the economic operator needs to demonstrate full compliance with the core indicators and a minimum of 80% of the total indicators in the first year. The second year, he needs to fully comply with all the indicators. The core indicators relate to “compliance with applicable laws, compliance with ILO labor conventions governing child labor, forced labor, discrimination and freedom of association and to collective bargaining and payment of at least the national minimum wage to employees and workers, among others” (ProTerra Foundation, 2015c).

The criteria requirements are based on ten principles:

- Compliance with law, international accords and the ProTerra Standard
- Human Rights and Responsible personnel policies, labour practices
- Responsible relations with workers and community
- Environmental services, effective environmental management plan
- Genetically Modified Organisms (GMO) not used
- Pollution and waste managed effectively
- Water managed conservatively
- Greenhouse gases and energy managed effectively
- Good agricultural practices adopted

- Traceable and segregated Chain of Custody

(ProTerra Foundation, 2014b)

As listed above, ProTerra requires non-GMO soybeans and the soy is segregated and traceable from where it is produced until it reached the market (D. Meyer & Cederberg, 2013a). Moreover, the standard requires that farms do not convert forests or other high conservation value areas (HCVAs) to cropland. Soybeans cannot be grown on land that was cleared after 2004 (ProTerra Foundation, 2015c).

### **National interpretations of the certifications**

The RTRS and Proterra standard both demand compliance with the national legislation. In Brazil, one of the important elements is that the farmers need to be in compliance with Brazil's *código floresta* (The Forest Code) and labour law. These two subjects are what mainly cause illegality among soy producers (ICONE, 2011). The Brazilian forest code was created in 1934 as an initiative to protect forests on private rural landholding and has been an important instrument in preventing deforestation, as 53% of Brazil's native vegetation is found on private properties (Soares-Filho et al., 2014). The forest code requires landowners to conserve a certain percentage of native vegetation (called Legal reserve) and maintain a minimum percentage of land as permanent protected areas (APPs – *Áreas de Proteção Permanente*) in order to “conserve water resources and prevent soil erosion” (Soares-Filho et al., 2014, p.363)

Since the forest code was first published in 1934, it has changed several times and it was last revised in 2012. Until 1996, landholders had to keep 50% of their land as legal reserve in the Amazon and 20% in other areas. However, due to high deforestation in 1995, the Brazilian government changed the forest code in 1996. From then on, the legal reserve increased to 80% in the Amazon region, 35% in the Cerrado region and 20% in the Atlantic forest (Soares-Filho et al., 2014; Stickler, Nepstad, Azevedo, & McGrath, 2013). The agro-industrial sector reacted negatively to these changes as it caused substantial costs for landholders who needed to re-establish mandatory forest cover. They also saw it as a barrier for agricultural development as it decreased the opportunity to clear forest. Since then, there has been constant pressure from the agricultural sector for weakening the requirements in the

forest code. In 2012, the agro-industrial sector managed to push through a new forest code, which is more flexible regarding restoration of vegetation and forest clearance. The new forest code has been criticized as researchers claim it will impact biodiversity conservation and deforestation is expected to increase (D. Nepstad et al., 2014; Soares-Filho et al., 2014).

Besides the forest code, farmers need to be in compliance with the labour law and safety legislation. Also within these fields, compliance issues are a common problem among soy producers; especially in regards to working hours and overtime that exceed national norms, necessary infrastructure adaptations, low rate of formalization of the health and safety program, insufficient use of personal protective equipment and awareness and lack of training (ICONE, 2011, p.3).

Both the RTRS and the ProTerra standard go beyond legal compliance and a comparison of the two certifications schemes done by Meyer and Cederberg (2013a) shows that the requirements for the two schemes are pretty much the same regarding “legal compliance, labour conditions and gender, child labour, community relations, waste and pollution management and good agricultural practices”(p.36). However, there are also differences. For example, a RTRS certified farmer cannot use agrochemicals that are listed in the Stockholom and Rotterdam convention. In addition, ProTerra bans pesticides listed on the WHO class 1 a & b and Pesticide Action Networks ‘Dirty Dozen’ list. ProTerra’s list of prohibited chemicals includes endosulfan, carbofuran and methamidophos, while the use of paraquat is allowed. Both standards allow Diquat (WHO grade 2), which is commonly used with paraquat. Under RTRS, the use of paraquat and carbofuran will be eliminated by June 2017.

Regarding land use rights, RTRS allows “disruption of traditional land use as long as compensation, subjected to traditional owners free, prior, informed and documented consent is given” (D. Meyer & Cederberg, 2013a, p.36). In ProTerra all traditional land use disruption is forbidden. Regarding greenhouse gas emissions, both schemes try to reduce emissions and increase carbon sequestration. ProTerra requires reductions over time in energy use, especially with all forms of non-renewable energy. RTRS however allows increases in fossil fuel use (D. Meyer & Cederberg, 2013a). According to D. Meyer and Cederberg (2013a) the ProTerra standards are more rigorous than RTRS. However, because RTRS is less rigorous, it is more

adaptive and can thus reach more stakeholders.

However, in 2014 the certification schemes signed a cooperation agreement in order to increase the volume of certified soy. Even if the demand for certified soy has slightly decreased during recent years they want to increase the volumes of certified soy as they expect a demand in Europe the next 3-5 years. In order to achieve this they will implement joint auditing in order to save costs, offer joint training at farm level and cooperate in market development (Proterra Foundation, 2014a).

### **What do certifications do?**

Certifications are products of the globalization of production systems and reflect a shift from public to private governance in the global agro-food system (Hatanaka et al., 2005). Cashore (2002, p. 503) has defined them as “non-state market-driven governance” as they are often introduced because a state’s willingness or capacity is insufficient to govern important environmental problems (Auld et al., 2009). Initially, certifying was an initiative of NGOs that aimed to develop and implement environmentally and socially responsible management practices for big corporations. For instance, WWF stated that their work towards establishing certification norms and regulations is done in order to “push commodity markets to a tipping point where sustainability becomes the norm” (WWF, 2012, p.3). Certifications were first applied within the forestry sector in 1991 and in 1992 were a topic of the Rio Earth Summit. Since then, several different types of certification have developed, such as fair trade and organic and are applied to a variety of products, such as palm oil, coffee, cocoa along with soybeans (Gulbrandsen, 2010). Today there exist 458 eco-labels divided between 25 industries in 197 countries (Poynton, 2015).

Certifications seek to create incentives for companies to comply with specific standards that they otherwise would not have. By linking consumer demand with production standards, certification schemes aim to create sustainable value-chains. In order to obtain a certification and be in compliance with the sustainable standards, a third-party auditing is carried out (Auld, Gulbrandsen, & McDermott, 2008; Cashore, 2002, pp. 511-513). When companies comply with the standards, they receive

recognition in the market place and receive an environmental ‘label’, which potentially gives them a price premium and/or market access (Auld et al., 2009; Bernstein & Cashore, 2007; Cashore, 2002).

In order to comment on the effect of certifications, one must understand regime effectiveness, which is most commonly defined as, “institutions of environmental governance can be considered effective if they contribute to the alleviation or resolution of the specific problem” (Underdal, 1992, 2002; Young and Levy 1999 in Gulbrandsen 2010, p. 5). Thus, to what degree the certification modifies on-the-ground impacts judges the effectiveness of the certification (Bernstein & Cashore, 2007). However, studying has proved challenging, as certifications are often relatively new, therefore it is too soon to measure their impacts. Moreover, a lack of baseline data makes it difficult to measure improvements and it can be difficult to isolate the improvements stemming from certifications from other initiatives in other institutions, such as NGOs and states (Cohn & O'Rourke, 2011, p. 160; Tikina & Innes, 2008). Furthermore, sustainable development goals are often not formulated as measurable targets, thus are difficult to measure or would demand a long-term process to assess (Backstrand, 2006).

Even though effectiveness is difficult to measure, several researchers have identified important conditions for certifications to be successful (Gulbrandsen, 2010; Auld et al., 2008). According to Newton, Alves-Pinto, and Pinto (2014) there are three elements that are crucial in order to get certifications to scale up and achieve impacts in the supply chain; they need to have rigorous standards, significant incentives for producers and influence the market at scale. By having strict standards it is more likely that certification will impact the problem it was initiated to solve (Gulbrandsen, 2010). Moreover, it avoids accusations from NGOs about green-washing and therefore keep its credibility (Newton et al., 2014). However, an effect of stringent standards can be that few producers have the capacity or are willing to participate, or that they wont accept standards that demand high costs in order to comply within the standard. Thus, the schemes will not be attractive (Gulbrandsen, 2010).

### **Soy certification in Brazil**



In terms of soybean certifications in Brazil in specific, a limited amount of research has been conducted. In this section I will present existing literature on soybean certification in Brazil, which is relevant in order to answer my research question: *Can the RTRS certification provide a future for sustainable soy production in Mato Grosso, Brazil?*

The RTRS standard was developed under a multi-stakeholder approach, which represented stakeholders from the complete supply chain. However, neither smallholders, social and environmental NGOs, global development NGOs nor consumers were taken part in the process, which has been problematized for various reasons (Elgert, 2012; Hospes et al., 2012; Schouten, Leroy, & Glasbergen, 2012). Schouten et al. (2012, p. 46) argue that this weakened the “democratic quality” of the RTRS process, as it failed to be inclusive and consequential. Schouten et al. (2012) also found that the actors with “radical approaches” suggesting fundamental changes of the system itself were excluded from the process. Instead, actors with “reformist approaches” trying to find solutions “within the current system” were setting the standards (p.46). According to Elgert (2012), this reflects the existing power relations in the soy supply chain, as the large-scale and capitalized farmers dominated the discourse about what constitutes responsible soy. The standard setting process was characterized by “contestation, rather than consensus”, where the ones in power are the same actors that can profit from the certifications (Elgert, 2012, p. 300). Baletti (2014, p. 7) also emphasizes the power relations, which he argues has facilitated “neoextractivism”. She argues that environmental NGOs are legitimizing agribusiness multinationals whereas social movements are not listened to. Thus, inequalities are reproduced and the schemes do not address structural factors that drive land concentration, environmental degradation and exclusion, which for many smallholders are the main problems with the soy industry (Baletti, 2014).

Moreover, in a study from Argentina, Tomei et al. (2010) address the institutional challenges with the RTRS standards as the scheme relies on national institutions to ensure enforcement of national environmental legislation. In Argentina the enforcement of environmental legislation is weak, thus Tomei et al. (2010, p. 388) argue it is not a “realistic safeguard” to rely on certifications to ensure sustainable production. Furthermore, Tomei et al. (2010) question certifications’ ability to reduce

agrochemical use and the impact it has on humans and nature. As pesticide use is increasing at a general level and there is an increasing rate of crops resistant to glyphosate, it is doubted if certifications can reduce pesticide use as the producers need to increase the yields “to the detriment of all else”(p.388). Moreover, they argue certifications are unlikely to address macro impacts such as GHG emissions, population displacement, soil demineralization and loss of ecosystem functions – they can at least not be dealt with by RTRS alone (Tomei et al., 2010).

However, there is belief that the soy certifications will have some positive impacts on the soy sector. This is especially regarding environmental impacts such as pesticide use, deforestation regulations and social impacts (Elgert, 2012; Gijsenbergh, 2014; D. Meyer & Cederberg, 2013a; WWF, 2014). WWF stated that their work towards establishing certification norms and regulations is done in order to “push commodity markets to a tipping point where sustainability becomes the norm” (WWF, 2012, p.3).

Due to the disagreements, Hospes (2014) is afraid that there might be a threat to the existence of global standards for “sustainable soy”. He points towards the farmers’ association Aprosoja, which withdrew from the RTRS board due to disagreement. Instead, Aprosoja developed a national standard for sustainability - the Soja Plus program. Although this could have been an effort from Aprosoja to implement standards similar to RTRS on a national level, Hospes (2014, p. 425) claims that the Soja Plus program was launched to challenge “interventions from the north”. Another issue regarding the uptake of the scheme is the decreasing non-GMO production, which according to Garrett et al. (2013) has facilitated Brazilian farmers’ strong uptake of certification schemes. The GM-free demand from Europe has created a strong trade relationship between Brazil and Europe. However, now with non-GMO production decreasing, these trade relationships will only be short-lived for certifications to have a continued viability in Brazil (VanWey & Richards, 2014). Thus, in order to safeguard the certifications’ future, institutions on the demand side need to be strengthened for soy certifications (VanWey & Richards, 2014). Moreover, the costs for undertaking certification and the level of price premium need to match in order for farmers to be encouraged to adopt certifications (VanWey & Richards, 2014). On the other side, D. Meyer and Cederberg (2013a) see the weak market demand as a result of the scheme being relatively new in the market place. In order to

overcome these challenges it has been suggested to promote the RTRS initiative further towards final clients such as food producers, biodiesel warehouses and refineries (Moreno, 2013), but also to cooperate with public forms of governance in order to transform the markets (Schouten, 2012, p. 48). However, Cohn and O'Rourke (2011) see soy certifications as poor conservation tools because it is mainly off-farm activities, such as building infrastructure that facilitate deforestation. Thus, they argue that certifications are “unlikely to do much but stamp a green seal of approval on business as usual” (Cohn & O'Rourke, 2011, p. 181).

In regards to what we know about soy certifications, several challenges have emerged. Firstly, in relation to the standards itself, several researchers believe they do not really challenge the social and environmental problems in Brazil. Secondly, lack of support from the farmers' associations, NGOs and even small market demand can make it difficult for soybean certifications to grow in significance. However, the existing research says little about what motivation or challenges farmers have in order to become certified and whether this is an attractive mechanism for them or not. From what has been mentioned, the small price premium that certifications offer is probably a limitation for certifications to grow in significance. However, this is something I want to develop further, by exploring the relationship between certifications and the society, as well as expand upon what already exists. In order to do this I aim to adopt a critical institutionalist perspective, which is presented in the upcoming chapter.

### **Theoretical perspective : Critical Institutionalism**

The objective of this research is to explore certification schemes potential to impact the soybean production in the Mato Grosso region of Brazil. In order to understand how certifications, as institutions emerge and function, I see it as valuable to position myself within an institutionalist perspective. Therefore, a theory of institutions and agency provides the theoretical foundation for the analysis of this study.

Institutional theory intends to explain how structures are established as “authoritative guidelines” for social behaviour (Scott, 2005, p. 2). It provides a “promising and productive lens for viewing organizations in modern society” and is used a lot in

guiding management studies (Scott, 2013, p. XI). Although there is no single universally accepted definition of institutions, due to the various schools of thought applying it, there is broad consensus that institutions are “structures likely to impact on the behaviour of individuals or groups of individuals” (Koning, 2011, p. 14).

There are several scientific perspectives on institutions. Cleaver (2012) divides ideas about institutions managing natural resources into two broad schools of thought; namely mainstream institutionalism and critical institutionalism. Central to the perspective of mainstream institutionalism is that institutions are designed to offer people incentives “to behave in the collective good” in order to achieve a particular goal (Cleaver, 2012, p. 8). It bases its assumptions on a rational choice approach, where the individual’s rationality is shaped by the rules and regulations. This implies that institutions can be designed to shape good governance of natural resources, in which Ostrom (1990) has been an influential contributor (Cleaver, 2012; Hall et al., 2013).

Scholars from different disciplines have problematized the focus on rational choice and crafted institutions, and argue there is a need for richer explanations of human action and society in order to understand institutions (Hall et al., 2013). Cleaver (2012) characterizes this new emerging approach as ‘critical institutionalism’ which draw insights from critical social justice, political ecology and post-structural perspectives (Cleaver, 2012, p.13). Instead of focusing on institutional design when arrangements do not function as intended, Cleaver (2012, p. 1) argues that “we need to understand *why* this is happening”. Therefore we need to look at how human actions are influenced and shaped, understand the relationship between agency and structure and focus on the context and wider structural forces shaping institutions to explain it’s functioning (Cleaver, 2012, pp. 15, 24).

From a critical institutionalist perspective there is no simple relationship between institutional form and outcomes. Resource management and outcomes are shaped by “peoples complex social identities, unequal power relationships and wider political and geographic factors” (F. D. Cleaver & De Koning, 2015, p. 4). Thus, institutions are results of what people do, as they evolve through human action (Cleaver, 2012, p. 15). People do this in order to address everyday challenges. Such *Bricolages* are often

multipurpose and consequentially uneven in functioning and impact, as they serve multiple purposes (Cleaver, 2012, pp. 45-46). For instance, the RTRS certification was not exclusively crafted to make soy farmers more sustainable. It was also important in order provide market access, as the Brazilian soy sector had started to face market problems. This means that there were specific ideas about how to provide sustainable soy, and that the certification not necessarily creates win-win situations for everyone as it fit some better than others.

Cleaver (2012) developed the concept of *institutional bricolage* in order to understand institutional formation and functioning. She describes institutional bricolage as,

A process in which people consciously and non-consciously draw on existing social formulae (styles of thinking, models of cause and effect, social norms and sanctioned social roles and relationships) to patch or piece together institutions in response to changing situations. These institutions are neither completely new nor completely traditional but rather a dynamic hybrid combining elements of “modern”, “traditional” and the “formal” and “informal”. The institutions produced through bricolage are inevitable uneven in functioning and impact, and are often fuzzy assemblages of meaningful practice, which overlap and serve multiple purposes (Cleaver, 2012, p. 45).

The idea of bricolage builds upon the work of Claude Lévi-Strauss (1966) and Mary Douglas (1986). Lévi-Strauss (1966) developed the concept of intellectual bricolage in order to explain that people make up their opinions with what is at hand. Furthermore, Douglas (1986) developed the idea and showed that human action is institutionalized through processes of bricolage. Thus, “institutions do the thinking” to a great extent on behalf of people (Cleaver, 2012).

Bricolages are highly adaptive, but must be accepted and validated by other people to become institutionalised. To endure over time and be effective they must be legitimized and “imbued with authority”, which happens through structure-agency relationships (Cleaver, 2012, p. 34). Critical institutionalism complies with a social constructivist approach or a “thick” model of human agency, where the individual influences society and is influenced by society itself. The individual’s rationality is not always self-maximization, but a mix of “economic, emotional, moral and social

rationalities informed by differing world-views” (Cleaver, 2012, p. 15). Furthermore, individuals are bound to different kinds of social relationships and therefore act according to what they perceive as appropriate (Cleaver, 2012).

Cleaver (2012) shows that institutions are shaped by past arrangements and relationships of authority. By viewing institutions created in this way one has the opportunity to see that institutional formation also involves the exercise of power. Power shapes institutional functioning and people have different capacities to shape institutions as a result of their social positions. Power relations refer to how decision-making is shaped by ideologies, beliefs and norms. This can mean that some people are more able to shape collective rule making and benefit from outcomes than others. For instance, a farmer’s ability to adopt certification not only depends on the institutions in place, but also the farmer’s resources and social status, which are influenced by power relations. This means certifications are not equally accessible to all farmers. Thus, people’s behaviour differs depending on the context and the role a person has in this context. This resembles what Cleaver (2012) characterizes as an institutional bricolage.

## **Chapter 4: The practice of certification**

This chapter and the next three upcoming chapters will present my empirical findings from fieldwork in Mato Grosso. The chapters are divided into topics that emerged as significantly important to understand how soybean certifications in Mato Grosso functions. First, this chapter involves how the certifications are practiced and it explores why farmers and larger producers, such as Amaggi choose to certify. Then, chapter six shows how certifications are perceived by non-certified-farmers and how the creation of the RTRS certifications fuelled rivalry between the farmers' association Aprosoja and RTRS. Chapter seven describe how many of my informants saw certifications as an infeasible mechanism for farmers to adopt. The chapter also present the challenges that soy farmers emphasized throughout the fieldwork. Finally, chapter eight presents the criticism that was directed towards soybean production by a number of my informants.

### **Amaggi certifies supplying farmers**

The majority of certified farms are located in the state of Mato Grosso. According to Rachael D Garrett et al. (2013) this is because Mato Grosso is the only area that has considerable non-GMO soybean production, which is in high demand by European countries. This has strengthened Brazil's trade connections with Europe and also created opportunities for international consumers to influence soybean production in Mato Grosso through market mechanisms. Thus, when certifications schemes were introduced for non-GMO production, Brazilian producers, and especially Mato Grosso were more likely to adopt certifications schemes than producers from neighbouring countries that only had GM-production. Therefore, soy producers from Brazil have gained greater market access and a larger share of the market in Europe. Consequently, this has led to more eco-conservation within Brazilian soybean production than in other countries and continued production of non-GMO soy (Rachael D Garrett et al., 2013; D. C. Nepstad, Stickler, & Almeida, 2006).

The largest private producer in Brazil, Grupo André Maggi has its own segregated supply chain to Europe, due to non-GMO production, which has facilitated the

company's uptake of certification schemes. Today, Amaggi is the only producer that source ProTerra certified soybeans and the largest producer of RTRS soy in Mato Grosso (Rachael D Garrett et al., 2013; D. Meyer & Cederberg, 2013a). In total they source 1.5 million metric tonnes of the 5 million metric tonnes of soybeans that are certified globally. Even though Amaggi plays a leading role in having certified soy, more than 50% of Amaggi's soy comes from independent farmers (Denofa, 2015b)

When interviewing Amaggi, the representative tried to explain how as a company they certified supplying farmers when they needed more certified soy for their market. According to her the company has a customer portfolio with all their suppliers in the region, both GM-soy producers and non-GMO soy producers. Within this customer portfolio the majority of the suppliers have taken part in a chain management program, which is an evaluation of the farm management. According to the Amaggi informant this system retains the same high standards on all their supplying farms. Moreover, they run this program with the farmers who are pre-financed. A pre-financed farmer refers to those farmers who borrow money from Amaggi in order to plant soy, and subsequently pay it back after harvest. For Amaggi to take a risk in lending the farmers money, they carry out the chain management program in order to check whether the farms have all the required conditions they demand. From this evaluation, Amaggi knows what level the farmer is at, which is the information they use when they need to certify more soy. This is important for them because, "in the moment we need to attend a market, the farms are ready to receive auditing where we need certifications. This is how we are working" (Amaggi informant, personal communication, January 20, 2015). The farmers who are at the highest level are asked to certify first. The company first explains the benefits of certification to the soy producer, then it is up him to make the decision whether he wants to do certify or not.

According to one of the board members in ProTerra, this strategy was the most efficient:

It is too hard to try to influence the millions of farmers or consumers, but in connecting these millions we have a few companies that are concentrating 80% of the market (...)  
It is easier to try to influence these few companies that concentrates big amounts of the products. If you influence one company here you are indirectly influencing thousands of farmers (ProTerra informant, personal communication, December 16, 2014).



Furthermore, the ProTerra informant explained that due to the low level of legal compliance in Brazil, only 10% of soy farmers are close to a certification level. Therefore, when a trader demands certified soy, the trader certifies producers that are already legally compliant. The informant argued “by doing it this way you spend less money, you will have less work and you can do it with less time”. The alternative would be to try to move farmers who are under legal compliance to a certification level. He said:

This would be a lot of work, costly and time consuming. It would probably take three to five years to move a farmer that is under legal compliance to be compliant with the certification criteria. In a private sector perspective you are normally selling shipments for the next six months, then you do not have time to do this (ProTerra informant, personal communication, December 16, 2014).

In addition to choosing farms that are legally compliant, the Amaggi representative explained that the decisions for which farm to certify and with what kind of certification depended significantly on the geographical location of the farm. The geographical location of the farm indicates to which logistic system a farm is connected. She explained:

In the case of Amaggi’s exporting routes, all non-GMO goes up north in the segregated supply chain to the port in Porto Velho and Itacotiara. The Mid-West region of Mato Grosso, which includes the Sapezal region, is a region where it is easier to transport the soy up north. Therefore, Amaggi’s soy production in the Sapezal region is all certified with the ProTerra standard (Amaggi informant, personal communication, January 20, 2015).

Rachael D Garrett et al. (2013, p. 9) argue that this structure makes the ProTerra certification “infeasible for producers who lack access to segregated supply chains and where contamination is a common risk”, and that “the ability to adopt eco-certifications is related to the local supply chain structure”. However, it must be mentioned that this differs between the ProTerra and RTRS certifications, as RTRS-soy can be sourced through a mass balance accounting, and not necessarily from farm to fork as in ProTerra. RTRS is therefore more feasible for farmers who do not have access to this segregated supply chain (2013).



Figure 4. Amaggi export route up north from Parecis region (Sapezal) through the port to Itacotiara (Amaggi, 2010).

## Interviews with certified farmers

Besides Amaggi, I interviewed two farmers certified with RTRS (certified farmer 1 & certified farmer 2) during fieldwork. Both farmers decided to certify after a request from Amaggi, as they saw it as beneficial to be in compliance with the law. Although the farmers perceived themselves as already producing correctly, they saw the opportunity for further improvements. Certified farmer 2 said:

You are more prepared for the laws that we have here in Brazil if you are certified because today there are so many things that we do not even know about in the laws (...) we want to perform the best way possible (certified farmer 2).

The certified farmers said that the results from the auditing process forced them to carry out changes on their farm. Before the RTRS certifications were issued the soy producers received auditing from the organization Aliança da Terra. This NGO carries out audits for the RTRS standard and revises all of the practices on the farms that are going to be certified. Certified farmer 1 said: “they were here for over a week in the beginning. They did everything. They looked at the borders, they looked at the waters” (certified farmer 1). Both certified farmers gave the impression that the monitoring of the farm had been thorough and detailed. The Aliança da Terra team went through the whole standard, checking the legal reserve and permanent preservation areas. After the monitoring they both had to carry out changes on their farm. Certified farmer 1 said: “we had to change the environmental part where it was degraded. Like close to the waters and such things (...) this was a process that lasted for a while” (certified farmer 1). According to principle 5.2 in the RTRS standard, “natural vegetation areas around springs and along watercourses have to be maintained or re-established” (RTRS, 2013, p. 7), and as a consequence the farmers had to replant parts of their property. The same farmer also told me that they constructed a place for cleaning the machines and storage for empty packaging from agrochemicals: “Earlier when we were cleaning the machine we did it wherever we wanted. Today we have a secured place where we do it, so we are a little bit better organized” (certified farmer 1). These changes were done due to RTRS’s 5<sup>th</sup> principle on “good agricultural practice”, where principle 5.5 states: “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”. This is demanded in order to “reduce the risk of accidents and negative impacts on human health and the environment” (RTRS, 2013, p. 8). Furthermore, the same certified farmer said: “You have to be organized even though there are no benefits because everything that is going to Europe is starting to have these tendencies where you have to follow the rules” (certified farmer 1). Moreover, certified farmer 2 also had to make some adjustments to where he cleaned the empty packaging from agrochemicals, similar to certified farmer 1. Moreover, they learned about applying chemicals, and about what they can and cannot do. Additionally, certified farmer 2 had to change the aspect of the workers housing. He said, “now it is like a hotel for them, with air condition and everything” (certified farmer 2). Moreover, they explained that certifying their farm was not expensive, as Amaggi paid for the auditing and paper work. Additionally, they did not have to make any investments of a significant amount on their farm after the auditing was conducted. However, although these farmers were certified I did not get an impression of them being concerned with environmental issues. Their incentive had been to be in compliance with the law. Moreover, these farmers, and others, were more concerned with the economic sustainability of their farms. It must be mentioned that I did not see the evidence of these changes myself, but they are based on what the certified farmers told me. The timeframe for the interviews was limited and they were conducted in the farmers’ offices. Therefore I did not have the opportunity to see the changes they made.

In terms of ProTerra, I never got the chance to interview a ProTerra-certified farmer, except the interview that I had with Amaggi, which is ProTerra certified. However, Amaggi was very controlled in its responses, and they did not allow visits on their own farms where I could talk to the farmers. It was in fact very difficult to get an interview with Amaggi at all. They refused to give me information about which supplying farms were certified. The ProTerra informant was also unwilling to give me the names of the certified farms and argued that the names were confidential information.

However, according to the ProTerra informant the farms receive an auditor that carries out an inspection according to a checklist. The auditor observes the farm,

conducts an interview with the farmer and a document review. The auditing can last from a few hours into a whole day, depending on the size of the farm (Proterra informants, personal communication, December 19, 2014). The ProTerra certification applies to three levels of operation of the agricultural value chain; level 1; agricultural production, level 2; handling, transport and storage and level 3; processing and manufacturing. In Mato Grosso, ProTerra certifies more soy-crushing plants (level 3) than single farms (level 1) as it is more cost-efficient. In the case of Amaggi, their soy is certified under ProTerra level 1. However, the soy that Amaggi buys from smaller producers is certified through a certified crushing facility (level 3). When a crushing facility is certified the core suppliers (level 1) shall be assessed. As the crushing facilities often have many suppliers it is possible to use a representative stratified sampling, where the suppliers are surveyed and classified according to how much they produce. This means that not all certified producers receive an on-site audit (ProTerra Foundation, 2014b, 2015c).

### **RTRS cooperation with NGOs**

Besides certifying farmers, RTRS cooperate with the NGO, *Instituto Centro de Vida* (ICV) and the research institute, Earth Innovation Institute (EII) in their work on sustainable soy production. EII is one of the members that represent civil society in the executive board of RTRS. The institute works towards “a shift in models of economic growth that keeps forests and fisheries intact and rewards farmers, ranchers, and fishermen for using sustainable practices” (Earth Innovation Institute, 2015, para. 4). EII has a project where the aim is to make it easier for farmers to certify. They aim to push the soy producers that are beneath legal compliance to become compliant with the law, which will make it easier for farmers to certify, In order to do that they have adopted a territorial approach, where they focus on entire regions or a municipality, instead of focusing on single farms. By doing it region by region it is possible for RTRS to certify whole regions instead of only farm-by-farm. In this way they help RTRS to mainstream sustainability and help soy producers prepare for certification (According to EII informant, personal communication, December 16, 2014). One of the representatives from EII said:

We are talking about a large amount of producers so we are focusing on the key issues, which

often are related to risks. As a farmer you cannot survive if your company is involved with deforestation, slavery, children's work and other key issues (EII informant, personal communication, December 16, 2014).

ICV is also represented in the RTRS board. They have a project where they try to figure out how soy farmers can increase profits after certification to attract more soy producers to become RTRS certified. Their idea is that if farmers start to produce more responsibly, they will spend less money on production, which makes it more profitable in the long run. Moreover, ICV said that when farmers obtain legal compliance they have fewer problems with governmental control, which gives them more time to take care of the farm. The ICV informant said, "To make your farm more profitable you need to produce more on the same land or you need to spend less money on the same production". By doing this they hope to create awareness among farmers and show that certification can work as a learning mechanism where producers are motivated to act environmentally (According to the ICV informant, personal communication, January 21, 2015).

On the demand side of certifications, both RTRS and ProTerra actively work towards consumers in creating awareness in order to make people take environmentally friendly decisions. For instance do the ProTerra foundation organise conference and seminars in production and consumption countries in order to get retailers, food processors and traders to use the ProTerra standard along their supply chain (ProTerra Foundation, 2015d). The informant from ProTerra emphasized the importance of awareness building: "What certifications do change is that it brings more awareness and brings the subjects to people's minds and this causes change" (personal communication, December 19, 2014).

Moreover, several corporate buyers in Europe have made commitments to source certified soy. Also consumer countries are committing to responsible soy production. In the Netherlands the feed sector, dairy and meat industry, farmers, food businesses and retailers have together committed that 100% of imported soy is RTRS-certified by 2015. Switzerland, Belgium, Denmark and Sweden also have similar initiatives (WWF, 2014). The ProTerra foundation cooperates with the Consumer Goods Forum, which has adopted 'Sustainable Soy Sourcing Guidelines', where they ensure that the

purchased soy does not come from deforested areas (ProTerra Foundation, 2015d). According to Lemos and Agrawal (2006, p. 305) such initiatives are what make certifications more efficient than other governance mechanisms, as neither states or international environmental agreements address individual incentives the same way.

## **Chapter 5: Knowledge gap and conflicting interests**

### **Knowledge gap**

Based on data retrieved from RTRS' overview of certified farms, certifications are a lot more frequent in the region where my study area is compared to other places in Brazil. This made me assume that farmers in the region were familiar with such schemes. However, I experienced certifications as an unfamiliar territory when I conducted interviews with soybean farmers. Although the majority of them were familiar with the term *certification* and had perceptions regarding certifications, none of them knew exactly what it involved, something which is emphasized in previous studies on soy certifications (ICONE, 2011). Some farmers associated it with the Soja Plus programme from Aprosoja, whereas others had more insight in the RTRS. Only one farmer had concrete knowledge about the ProTerra certification, and some had never heard about any of the certifications.

From my observations there was no information about certifications from the farmers' unions, or Aprosoja, to farmers. Neither were local government officials responsible for the agriculture and environment in the municipalities familiar with it. However, *if* people were familiar with any of the certifications, they associated it with something that was used exclusively for export. According to the informant from the farmers union in Sapezal, it was through my interviews that they heard about the certifications for the first time. She said: "This information about certification is something that came with you. As far as we know it is only Amaggi that has certification" (Farmers union informant, personal communication, December 3, 2014). I encountered similar statements several times. The government officials responsible for agriculture and environment working in the county council in Sapezal said, "Amaggi, which is both a producer, trader and exporter needs a certain certification with a certain standard

because [Amaggi] commercialize their soy for the ones that are buying it” (personal communication, December 8, 2014).

As already mentioned, farmers were not familiar with certifications. However, almost every farmer would then say that certification is probably something that Amaggi has since they export directly to Europe. Therefore, many meant that certification would probably not benefit them as producers anyway, since they saw certifications as a commercialization-tool used exclusively for the export market. One farmer said:

I believe it is a question of commercialization. [Amaggi] do it to make more money. They export directly, so they have some benefits. However, if you went to look for the histories about their properties, they are really not good examples in terms of deforestation. But when Amaggi has a certification, the image changes both inside and outside of the country because it is certified and thus following the laws and norms and everything (...) A company outside of Brazil will then prefer to buy soy from Amaggi rather than from another company that does not have certification. So, I believe it is mainly for commercialization (farmer 3).

Aprosoja’s withdrawal from RTRS has most likely affected the scheme’s familiarity among producers, as Aprosoja created their own sustainability program; the Soja Plus program. Aprosoja unifies at least 90% of the soybean farmers in Mato Grosso and has representatives working for them in every municipality throughout the state (according to Aprosoja informant, personal communication, January 26, 2015). Therefore, it is likely to assume that they have a substantial influence on soy producers. The informant from RTRS also expressed Aprosoja’s strong presence in farmers work:

Aprosoja with its Soja plus program is very powerful and has a lot of influence. They have a lot of lobbying in the Brazilian congress and government, and they have a lot of resources. They are very powerful. Much more than RTRS, which only has one representative in Brazil (RTRS informant, personal communication, December, 9, 2014).

### **Interest conflicts in the creation of the RTRS certification**

As reviewed in the background chapter of this thesis, several studies claimed that the standard setting of the RTRS scheme was a process full of disagreement. According



to Schouten et al. (2012), agribusinesses together with WWF and other stakeholders dominated the standards setting, thus it did not include a “representative sample of stakes in responsible soy production” (Schouten et al., 2012, p. 46). However, Aprosoja was initially a member of the RTRS board, but resigned from it in 2009. This was as a result of their disagreement with the criteria set by the board on responsible expansion of soy cultivation, which is stricter than the Brazilian Forest code. The criteria stated that producers could not clear native habitat after May 2009. Aprosoja proposed an alternative version, but this did not reach a majority in the chambers of the roundtable, which comprised of producers, civil society, industry, trade and finance. When the alternative version was rejected, Aprosoja protested and proposed to reconsider the criteria in the working groups, but the general assembly voted against the protest (Hospes et al., 2012).

During fieldwork I conducted interviews with Aprosoja and Famato (*Federação da Agricultura e Pecuária do Estado de Mato Grosso*). Famato is a federation representing all the farmers unions in Mato Grosso. The informant from Famato, who previously worked for Aprosoja, explained that Amaggi invited Aprosoja to take part in the RTRS board at that time. Moreover, Aprosoja was informed that WWF was participating in the board and that several environmental issues would be discussed. Due to the negative attention given towards the Brazilian soybean sector they decided to join the board (according to Famato informant, personal communication, December 10, 2014).<sup>1</sup> However, the Famato informant said that Aprosoja could not agree to a criterion that restricted farmers in expanding their farms legally. He said:

There were two things that by the end of the discussion we did not agree on. We were in a big meeting over there at the general assembly (...) The European guys were saying that this RTRS is green washing if not one of the principles and criteria is “zero deforestation”. If not, they

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<sup>1</sup> It was especially the report “Eating up the Amazon” published by Greenpeace in 2006, that raised negative attention towards the soy sector, in which was a key driver for the establishment of the Soy Moratorium Klooster (2006). The report argued that: “Deforestation for cash crops such as soya does not translate into meaningful development for the peoples of Brazil’s Amazon. It leads to displaced communities, illegal privatization of public lands, the suffering of enslaved workers, and barren or contaminated lands and river systems. The devastation to biodiversity is irreversible, and a sustainable resource of unimaginable richness is lost forever” (Hospes et al., 2012)

would not discuss further. But we did not agree with that because if a soybean farmer in the Amazon has not cleared his 20% of land so far, but he still has the right to do it according to the Brazilian law, how can I as an association be against that? Shall I tell the farmer: “your association has decided that you cannot clear your legal 20% even though the Brazilian law and constitution permits you to do it”? (...) Why should I not do it [deforest]? Because the Europeans want? (Famato informant, personal communication, December 10, 2014).

Moreover, the Famato informant argued that the agroindustry is afraid of gaining a bad reputation from NGOs and that the industry therefore voted in favour of the zero-deforestation-criteria. He said, “If I was Cargill or Amaggi, how can I be against something that WWF supports? That is not good for business” (Famato informant, personal communication, December 10, 2014). Furthermore, the experiences Aprosoja had in the roundtable made them lose faith in the certification and the process itself, because they did not agree in how the criteria were set. The Famato informant continued:

We also lost confidence in the process because the process was very unclear. We have to discuss technically all the principles and criteria, but this was not technical. We are voting for zero deforestation just because it is a political issue from WWF that wants to save the image of the RTRS, telling the world it is not green washing. So we jumped off. That was the best thing we ever did (personal communication, December 10, 2014).

Also, the planning manager in Aprosoja argued that it was difficult as an association to support a certification, which is not adoptable for every farmer, as it would be unfair for the ones who could not certify:

It is very difficult to defend things when some farmers do not agree. And we are an association. We need to defend the things that are common for everybody, and because of that we left the board (personal communication, January 26, 2015).

## **NGOs opposition towards the RTRS**

In addition to Aprosoja’s withdrawal, several Brazilian NGOs withdrew from the RTRS process. Before the first international conference on sustainable soy in 2005, sixty-one Brazilian environmental and social NGOs representing small-scale farmers came together and created the ‘Soy Platform of Brazil’. The platform created criteria for companies that purchase soy, which they wanted to use as a baseline when

negotiating with business actors. However, the criteria developed by the Soy platform were critical to soy production and focused mainly on the negative environmental, social and economic effects. As a consequence the soy industry refused to discuss the criteria. Moreover, the Soy Platform wanted to keep soy production free from GM-production, but this just boosted the disagreement as several of the trading companies purchased GM-soy. As a result of these disagreements, the NGOs turned their back on the RTRS process (Hospes et al., 2012).

However, some NGOs still participated, but they demanded to “replace the concept of ‘sustainable soy’ with ‘responsible soy’, as they could not accept the idea that large-scale and export-led soy cultivation would be qualified as sustainable” (Hospes et al., 2012, p. 8). Experiences from other certification schemes show that certifications are often constructed in order to be adopted by industrial-scale producers, which have the financial capital and economies of scale. (Lee, Rist, Obidzinski, Ghazoul, & Koh, 2011, p. 2512). Thus, the NGOs’ criteria is compromised by criteria from more powerful agents (Klooster, 2010).

None of the NGOs that I interviewed took part in creating the Soy Platform or participated in the opposition towards soy certification. However, the perceptions of soy production as a harmful agricultural activity for the environment were similar to the Soy Platform of Brazil. The NGO Formad was familiar with certification from biodiesel-production and their informant expressed his opinions about it:

Formad was participating in research about the sustainability of biodiesel and ethanol from sugar cane, funded by OXFAM. It was very difficult and they wanted to know: What is the sustainable soy? For us this was absurd! Because sustainable soy does not exist! (...) We do not believe in certifications. Certifications do not respond to the basic questions about: Is the production sustainable or not? The criteria does not respond to the reality which is very different (...) Nevertheless, they present the soy as it is “green” (personal communication, December 14, 2014).

### **Soja Plus - farmers own sustainability program**

One year after Aprosoja left the RTRS board, *Associação Brasileira das Indústrias de Óleos Vegetais* (ABIOVE), which is the Brazilian oilseed association, also left the

board due the criteria on responsible expansion on soy. Soon after, Aprosoja and ABIOVE established a new partnership with *Associação Nacional dos Exportadores de Cereais* (ANEC), the national grain exporter association, and *Agronegócio Responsável* (ARES), an agribusiness institute. They named it Soja Plus. The Soja Plus program is based on the national legislation instead of the global standards for sustainable soy. The purpose of the programme is to train soy producers in financial practices and help them comply with national legislation (Soja Plus, 2015). In contrast to certifications, it is free for the farmers to participate in and farmers can become compliant with the law at their own pace, instead of needing to comply with a set of criteria within a certain time (Hospes et al., 2012). The Famato informant described it like this:

Soja plus is not a certification, but we are trying to bring all the farmers in compliance, so we are not selecting any farmers. It is not a certification. Because if you have the certification and I do not - for an association it is very difficult to support that – because “why does she have a certification and I don’t?” it is not good for the association. So we want to bring everybody in compliance with the law. And then if a farmer gets the opportunity to get certified and there is a premium for it, that is a personal decision of the farmer. (...) Being part of Soja Plus you have the good information about how to be in compliance and you do it at your own pace. If I do not have the money to build the containment of my diesel tank now, let’s wait until next year. But you are part of the program and you are aware that you have to do this and that (personal communication, December 10, 2014).

An activity report Soja Plus published in 2015 states:

In Mato Grosso, since 2011, there have been 29 workshops and field days on compliance with strict Brazilian social legislation to 4,630 farmers. In 2011, 16 hours of courses were offered to 1,100 farmers and managers on health and safety at work, with an emphasis on quality of life of rural workers. Various technical materials such as textbooks and books to support the technical training were made. In 2014, forestry and agricultural engineers, known as field supervisors, conducted individual technical assistance on 600 farms in Mato Grosso. On farms 36,000 informational signs were distributed about correct safety procedures and on environmental protection. There were also delivered technical booklets, educational videos and binders to the delivery control to Personal Protective Equipment employees (EPI) and documents. Producers participating in Soja Plus contribute significantly to improving the image of Brazilian agribusiness. (Soja Plus, 2015, p. 3)

This report indicates that the Soja Plus Program is reaching out to farmers. The people working at the farmers union in Sapezal and Diamantino were familiar with the Soja Plus program as Aprosoja organizes the trainings through the unions. Some of the farmers were engaged in Aprosoja as local representatives and several farmers said that they had either heard about it or they took part in the program. One farmer said:

Most of the farms have the plaques from Aprosoja. We have some plaques, but we still need more. I believe that during next year we will be in compliance with everything, but we still need to construct some things (farmer 2).

According to Hospes (2014, p. 433) the Soja Plus program and RTRS are similar in defining sustainability and that Soja Plus “looks like a copy of RTRS in terms of principles and criteria”, but that the Soja Plus standard allows more room for soy producers to expand their production in high conservation areas than the RTRS scheme does. Instead of establishing a new certification standard, Aprosoja and ABIOVE decided to focus on helping soy farmers understand the Brazilian legislation and develop good agricultural practices. This was also preferred by the producers as they needed assistance to understand the Brazilian Forestry Code (Hospes, 2014, p. 433). Moreover, Hospes (2014, p. 434) argues that since Soja Plus is using national laws to define sustainability, they declare the state as the “highest political authority” on what is acceptable deforestation. He further argues that Aprosoja and ABIOVE launched the Soja Plus program with its “national standards” in order to challenge the interventions from the north, instead of implementing global private standards. Moreover, he argues that this “marks the beginning of the end of the hegemony of global private partnerships in defining sustainability on the ground in the South” and that certifiers such as RTRS needs to involve a broader selection of stakeholders, such as the government if they want to develop more successful certifications (Hospes, 2014, p. 434).

## **Chapter 6 Farmers challenges**

### **Not economically feasible to certify for farmers?**

Research on forest certification shows a tendency for small landholders to face higher costs when certifying (Auld et al., 2008). Therefore, economic incentives, such as price premiums are seen as important mechanisms in order to stimulate adoption of certification schemes and make certifications successful. Chavez-Tafur and Zagt (2014, p. 188) argue it is “the main bottleneck” in order for eco-certified crops to spread. Moreover, it can diminish the risk of land being converted to other uses and cover the added costs it takes to comply with certification criteria (Ebeling & Yasue, 2009; Rachael D Garrett et al., 2013), thus becomes the decisive factor for farmers deciding whether to certify or not (VanWey & Richards, 2014).

During fieldwork the informants from ProTerra, RTRS, EII and Famato all said that certifications are less interesting for small and medium-sized farms than for agribusinesses, as the majority are not in compliance with the national legislation. They said that the low level of legally compliant farmers would make the adoption costs even higher than what it was to begin with. Instead it was seen as only feasible for larger producers. Farmers themselves perceived certifications as belonging to the large companies, such as Amaggi, and therefore they did not even consider them as an option. The informant from Famato said:

And for them [Amaggi] it is much easier to be in compliance, because they are a big company. Their profits are higher than for a normal farmer. It is much easier for them to get in compliance with everything because they can afford it. It is much more difficult for a normal farmer to get in compliance with the law (personal communication, December 10, 2014).

Regarding legal compliance, labour practices and deforestation are the main issues among those farmers with small and medium-sized farms in Brazil. Legal compliance with the labour law often includes paying taxes and social security for workers who were previously employed informally (KPMG, 2013). Moreover, compliance with the forest code includes substantial costs. It is estimated that the whole process of registering a legal reserve for a property of 500 HA, which is characterized as a small farm in Mato Grosso, will cost 50,000 BRL. For properties that have Permanent protected areas (PPAs) that need to be reforested it is estimated that the cost of planting native trees is between 5,000 and 8,000 BRL per HA (ICONE, 2011). Because of the high costs, Stickler et al. (2013) argue that farmers do not have

positive incentives for being legally compliant with the forest code. Hence, the compliance level is low.

In 2012, KPMG (2012) undertook a cost/benefit analysis for certified soybean production in Brazil and Argentina. This was commissioned by the Sustainable Trade Initiative. In the case of adoption costs, KPMG estimated that for a farmer with a self-managed medium-sized farm (approximately 2500 HA)<sup>2</sup>, who is far from certification, it will take four years before the farmer breaks even with what he has spent in order to comply with the RTRS certification. In this calculation it is assumed that the farmer will receive a premium of 1.5 Euros per metric tonne every year. As a result, it is estimated that the producer may have an average profit of US\$0.80 on every tonne sold over a seven-year period. In comparison, it is estimated that it will take only one year for a large producer (an enterprise farming with business management and 30,000 HA)<sup>3</sup> to pay back the associated certification costs, as they are usually already legal compliant (KPMG, 2012). This clearly shows that the entrance costs and premiums are different depending on the size of the farms, which makes it easier for the large-scale producers. Although KPMG's analysis shows that it will be beneficial for the medium-sized producers in the long run, the report does not comprehensively include costs associated with national law compliance, as the investment can vary significantly. Therefore it will probably take more than four years for a farmer with a medium-sized farm to break-even with the adoption costs, depending on its level of legal compliance.

Another aspect of the economic infeasibility was the small price premium that certifications offer:

If you think from the farmers' side I would say that certifications are not attractive because they are not paying good money. And when you think about how much it costs to certify your property and how much you make, (...) it is not very attractive to apply for certification because the premium is low (EII representative)

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<sup>2</sup> The farmers I interviewed had farm ranging from 400-4000 HA.

<sup>3</sup> As an example are two of Amaggis farms in Mato Grosso in the size of 44500 HA (the farm Tucunaré in Sapezal) and 80800 HA (the farm Tanguro in Querência) .

For certified soy there is a premium of roughly \$1.5 per tonne for RTRS certified soybeans and \$4 per tonne for ProTerra certified soybeans. For the ProTerra certification this premium is added to an eventual premium for Non-GMO soy (Rachael D Garrett et al., 2013). However, both certified farmers I interviewed said that they had not received any premium. When asked if there were any benefits to being certified, certified farmer 2 said: “We do not earn more money with this. I believe that the companies are claiming that [the premium]”. However, he had faith that he one day would receive a premium: “We have to have some hope that we will benefit from it someday” (certified farmer 2) It seemed as though he knew that a premium existed somewhere in the supply chain, but that the trader took the benefit from it. From other research it shows that premiums do often not reach the farmer because they get “absorbed into the supply chain and processing facilities” (VanWey & Richards, 2014, p.2).

The need for a price premium for certified soy was something expressed by nearly every informant when discussing certifications. A representative from the farmers’ union in Diamantino stated: “Certifications need a different valuation because that is what we are interested in (...) if you have to change several things on your farm and you do not make any money of it, you do not have motivation” (personal communication, January, 14, 2015). Moreover, the Famato representative said, “soy producers are expected to be compensated if stricter standards than the national legislation are imposed upon them” (personal communication, December 10, 2015). In other words he meant that certifications were out of interest. Why would they certify if there was not a premium? One of the informants from EII also problematized the lack of a price premium:

Let’s say there is a premium of 5 dollars per tonne. If you are producing 20,000 tonnes it is feasible for you [to certify]. But if you are a smallholder producer producing 20 tonnes you will get 100 dollars per year, which is not feasible. So I think that is the main thing. It makes sense for large producers, but not for smallholders (EII informant, personal communication, December 16, 2014).

This means that according to the informant, a premium is very important for producers to be interested in achieving a higher level of compliance. Also, this is especially important due to the high costs included in a certification process.



However, he said that it is a challenge to add value to soy, as it is a raw material and mainly used for feeding animals:

You cannot find soy in the supermarket like coffee. You find soy in eggs, milk, fish, and bakeries. But the average man does not know this. It is different for coffee for instance. Coffee is branded from where it is from and what kind of coffee bean it is. Therefore, we are paying a lot of money for special coffee (...) but this does not happen in the soy industry because it is a hidden product (EII informant, personal communication, December 16, 2014).

Studies have shown that it is easier to create consumer demand for certified products when the product is value-added or has high-visibility, but commodity goods, such as soybeans, lack this opportunity (Tikina & Innes, 2008).

Even though several informants argued that the lacking price premium was a problem for farmers to certify, Amaggi themselves said that the price premium was not that important. Instead, the informant emphasized market recognition and market access as important factors:

By improving the management you can tell the market that you have passed all these criteria, and that this product has been produced the best social and environmental thinkable way, so it helps a lot in this sense (...) Today I think the premium is the last benefit because like I told you, it is a new market. The company does not earn money yet with this soy. So I think what benefits is the credibility of the product. I think it is more beneficial for the company to show for the market how your product is produced and that it is different. And if you after a while get a premium you can invest the money to improve the production even more to have an evolution in responsible production (personal communication, January 20, 2015).

From previous research on certifications it shows that market recognition improves the companies “corporate image” (Bernstein & Cashore, 2007; Cashore, 2002) The signalling mechanisms that certifications produce can work “as an assurance system or signal of risk sensitivity and strategy” (Overdevest & Rickenbach, 2006, p.94) and is therefore more important than a price premium for many producers. Rather than the price premium, it is it is the market that determines whether Amaggi certifies more or not:

What is really lacking for this market to consolidate is a compromise from the countries that buys. (...) And to say what are their compromises and that they will buy responsible soy. Because we have the possibility of certifying a lot more, a much bigger value of what we already have certified. But we do not certify because we do not have a high demand from the market (Amaggi informant, personal communication, January 20, 2015).

### **Economic day-to-day challenges**

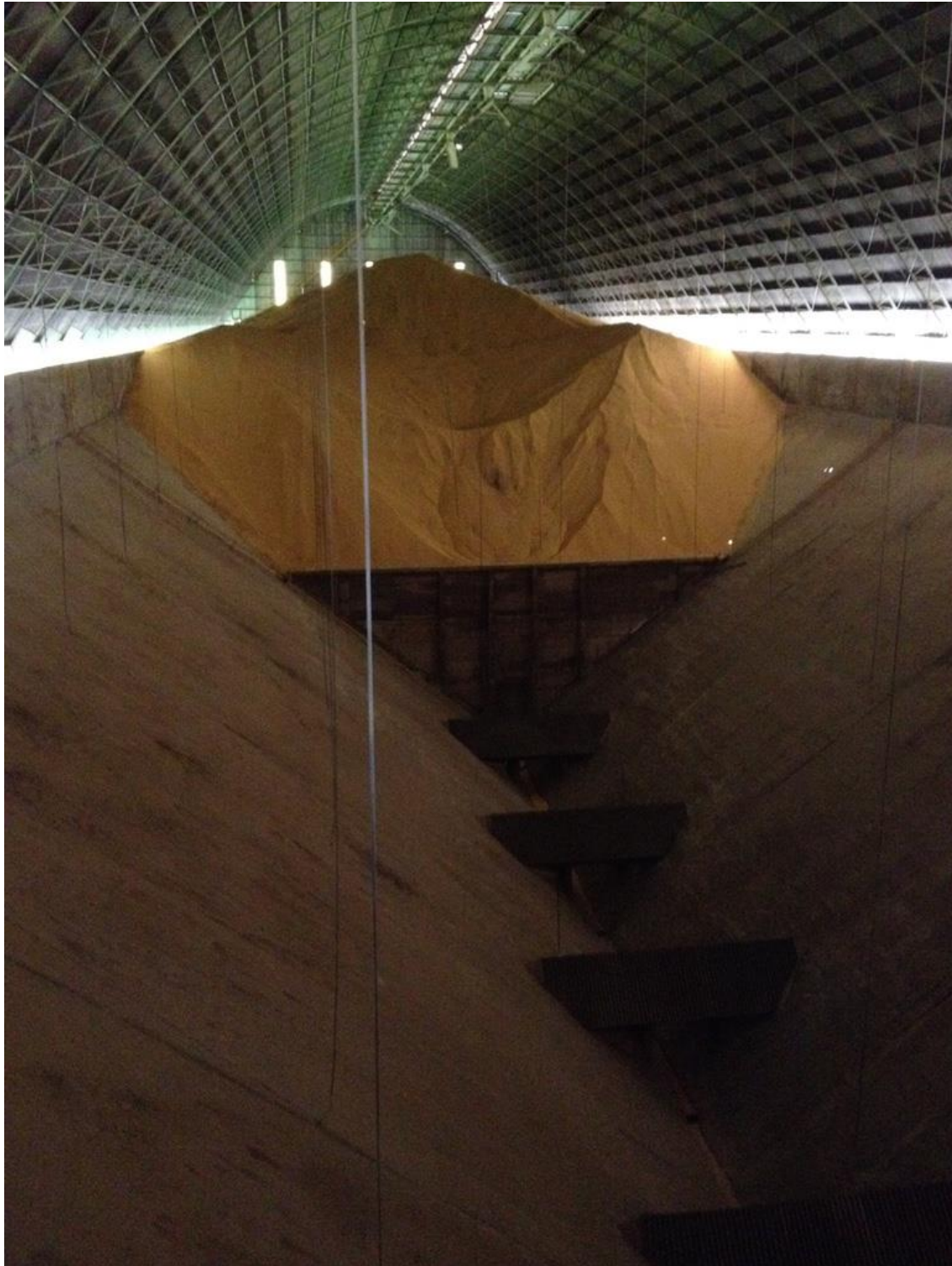
If somebody paid me to plant trees, I would plant trees. If I got a profit with that, I would do it. It would be a lot easier. But no one pays for that. Nobody pays for you to keep the area intact. If you have an area and don't do anything, you do not earn anything. We are producing food, which is important. But the biggest concern for the producer is not to produce enough food to the world. The biggest concern is that your property gives profit. If farmers say that they [produce soy] to produce food to the world it is a lie. You won't keep on producing food if it isn't profitable (farmer 3).

Instead of environmental challenges, soy farmers are more concerned with day-to-day challenges, most often connected to their economy. When I interviewed farmers and certified farmers they were worried about the challenges of high production costs, logistical costs, the current market price on soy, funding and all in all how they can improve the profitability on their farm. To them, these challenges were more important to overcome than trying to be in compliance with the law. The issue of economic sustainability was also a reasoning subject when I asked my informants whether and why they planted GM-soy or Non-GMO soy. As mentioned earlier, most farmers in the regions are gradually switching from producing non-GMO soy to GM-soy due to production costs. One producer said:

I planted non-GMO until the last harvest as the non-GMO was more valorised. It gave around one dollar more per sack, so then it was interesting. But when you compare the RR [Roundup Ready] and the non-GMO in the field, the production costs for RR are lower. The seeds have the same price, but the costs for herbicides are lower in RR. So the total costs for RR are a little bit lower. Also, we don't have the difference in retail price for non-GMO soy anymore (farmer 6).

When discussing economic challenges, one farmer said that he was building a storage facility for the soybeans this year instead of doing investments that would keep him in

compliance with the law. He explained that without having your own storing facility you are forced to sell your soy to the traders at harvest time, and as a consequence he would get a low price for his soy. If he could keep the soy longer, by having the storage facility, he could wait until the price went up, and would be left with a better income in the end. The informant from ProTerra also raised this issue as he said that many soy producers chose to either build a storage facility or buy more land instead of making improvements at their farms, as it would provide more profit in the short run.



**Figure 5 Warehouse used for soybeans, Sapezal, Mato Grosso (Photo: Tora Tokvam Drægni)**

Moreover, the logistical situation in Mato Grosso was a challenge mentioned by several producers. According to several farmers I talked to, trucks transfer all the soy on roads with varying quality to ports that all are located very far from them. One farmer said, “the logistics consume many bags of soybeans that could have been in

our pockets. Instead they are thrown in the roads because our logistics is the most expensive in the whole world” (farmer 10). According to Rachael D Garrett and Rausch (2015) show that due to limited infrastructure are logistics the largest financial challenge for soybean profitability in Mato Grosso, as “transportation costs account for 25 per cent of the total price of soy” (Rachael D Garrett & Rausch, 2015, p. 9)

### **Pesticide-resistance**

Farmers are concerned about pests and diseases in the field and several farmers have experienced resistance towards agrochemicals. As they have not eradicated pests and weeds, crops have failed, which has affected their economy. Research from Argentina reports that there has been an increase in farmers seeking advice about how to deal with the increased incidence of weeds (Tomei et al., 2010). Tomei et al. suggest that the increase in GMO soybean monocultures has increased the use of pesticides. This is particularly visible in the case of the soybean variety Roundup Ready, which is modified to resist glyphosate. In Brazil in 2009, 70 % of the soybeans cultivated were glyphosate-tolerant. This has caused reliance on using glyphosate to control weeds. Glyphosate is the active ingredient in the herbicide Roundup, and in the beginning it was made to “weed control easy and cheap and enabled earlier seeding and no-tillage” (D. E. Meyer & Cederberg, 2010, p. 6). However, after this was introduced there has been a growing resistance towards glyphosate, which in turn has increased its use. Between 2003 and 2008 the herbicide use increased by 50%. There was also a severe increase in fungicide and insecticide use. As a consequence of this resistance, Meyer and Cederberg (2010) argue that Brazilian farmers have started to use more toxic herbicides in the soybean crop.

While interviewing farmers, agrochemical-use and pests was a topic of great concern. Both because of the problems they face with increasing resistance, which makes it more difficult to control. But also because this passes on higher production costs as they have to buy more agrochemicals and experiment with new methods. One farmer clearly stated his frustration about the high costs for agrochemicals, but also the bad reputation farmers have for using it:

Some people say that the farmers use agrochemicals uncontrolled (...) nobody uses agrochemicals if they don't need, because the costs are very high. If you are using without

orientation you might be throwing it out of the window – and this is expensive. Therefore we have monitoring, so that nobody uses something if they do not have to. (...) Many environmentalists ask “why are you using agrochemicals”? We use it because we need it. We do not use it because we think it is pretty. I would love to produce without applying agrochemicals. Then my profit would be immense. But in a tropical country with a big pressure of diseases organic production is hardly possible (farmer 5).

### Indebted

Another financial aspect is that soy producers need to take a financial loan in order to buy seeds and agrochemicals. All the farmers I interviewed told me they received financing from the private company they were selling soy to, in their cases, Cargill, Amaggi and Bunge. This was preferred because it was less bureaucratic and easier to borrow money from the companies, as they are “just one phone call away”, instead of using the federal bank, *Banco do Brazil*. One farmer said it was more beneficial to lend from the traders when the soy price was unstable. By setting the price beforehand with the trader, he would be guaranteed to get back enough money to pay the loan and still have some profit. Due to unstable soy prices it could potentially be difficult for some producers to pay back the loan if they got a low price for the soy.

According to Peine (2010) the major buyers of soy in Mato Grosso are also the largest suppliers of credit to the agricultural sector, something which has facilitated the expansion of soy production. Peine (2010, p. 137) argues that, “Without credit from ADM, Cargill, Bunge and Dreyfus it is questionable whether farmers could afford to plant a single soybean in the intensively chemical-dependent *cerrado* soils”. The relation that exists between the traders and the soy farmers creates an impression that the farmers are always dependent on the traders, which results in a relationship of dependency between corporations and producers; the corporations are in control, and the producers take the risks by receiving loans to be able to produce. It is difficult to imagine that these farmers will be able to undertake severe changes at their farm to be more sustainable as they are so worried about the productivity and profitability of production.

Moreover, the key informant from the farmers union in Sapezal told me that it was a growing tendency nowadays that the smallest farmers in the area leased their land to companies, as their profit margins are narrow. She said that these farmers still

operated as farm managers, but they do not have the production costs as it is passed on to the company. Even though they lose the opportunity to earn good money, it is still lucrative because the farmer gets paid for the leasing and he does not have to take any risk. According to Gudynas (2008) there is a growing tendency that farmers lose their land because they end up in debt and therefore have to hand their land over to companies that are “oriented to global markets” (p. 516). Moreover, he warns that this tendency will transform rural life because such businesses spread and “[take] over traditional farming”. Although this is not directly linked to certifications it shows a different reality, where economic sustainability is more important than environmental sustainability.

Other informants also highlighted that farmers face an unstable economic reality;

Soybean farmers make money, but when you see all the money passing through their hands, they could have been better off if they had another scheme of production. A lot of money goes to the multinationals for buying pesticides, fertilizers and seeds (...) Farmers need to accumulate more each year in order to pay back their debt. They have entered a cycle where they are in permanent debt and depend on the agro-industrial companies. In this structure the soybean producers only sustain (...) The agro-industrial companies finance fertilizers, pesticides, seeds, they commercialize the soy and they lend out money. And farmers don't manage to get out of this cycle. In order to do that they either have to expand their land or be included in someone else's area to survive (...) The agribusiness production does not have room for many producers, it only has room for few (MST informant, personal communication, January 19, 2015).



Figure 6 Soybean field in December, Sapezal, Mato Grosso

## Chapter 7: Critical perspectives on soybean production

From the interviews with Brazilian NGOs it became clear that what they have in common is that they criticize the agricultural model that underlies soy production. With its mechanized agriculture it is said to cause a decline in areas of fertile soil, by provoking soil erosion and loosing top-soil (Fearnside, 2001; Klink & Machado, 2005). The NGOs emphasized the use of agrochemicals, distribution of land and the strong influence from agribusinesses as problematic.

### Agrochemicals

Together with the soy came the agrochemicals, which is very serious. Mato Grosso is the biggest consumer of agrochemicals in the world (...) The *Cerrado* has a very rich biodiversity and some studies shows that it is even richer than the amazon. The *Cerrado* is now facing a risk due to the soy production and the use of agro toxins because the



agro toxins kill the different insects and animals. We are very worried about this (CIMI informant, personal communication, December 11, 2014).

The informant representing CIMI showed me a picture of a dead frog that had been poisoned due to high concentration of agrochemicals in the water. He continued to mention all the negative affects chemicals had; rivers that are polluted by the agrochemicals, how polluted rivers flow into the indigenous areas and affect the people there, and explained that pesticide residue was found in human breast milk and urine.

Pesticide and fertilizer use in soybean production was of great concern. It was not only from the NGOs I heard such concern, but also from farmers and other informants. The ProTerra informant said:

Frankly speaking, a certification changes very little. (...) I would never dismiss a certification as something not useful. It is useful, but it is part of the agricultural sector. It's an interesting part because it can position a grower or even a company well in the market (...) Fertilizers, pesticides and how agriculture is done today are perhaps the most important things to discuss in terms of the environment, because it is clearly not sustainable (ProTerra informant, personal communication, December 19, 2014).

The informant from Formad said: “By throwing billions of litres of agrochemicals in the river each year it is impossible to implement sustainability in the agri-business sector” (Personal communication, December 14, 2014). Due to contamination from agrochemicals Formad recently started the forum *Fórum Mato-grossense de Combate aos Impactos dos Agrotóxicos* (Mato Grosso Forum to Combat the Impacts from Agro toxins), where the MST also participate. This forum is especially critical to producers applying agrochemicals from airplanes as they think it can pollute entire societies through the air and water. The forum is concerned with soy producers not respecting the spraying distances that are set by the federal law, but also that the law is not enforced. When talking about this he complained about the enforcement of the federal legislation:

It does not exist any organization that controls the application of agro-toxins. If I saw spraying happening illegally I have no one to call. Nor is there any monitoring of the

water. What should be done doesn't happen (...) The law permits 300 meters spraying distance, but then the governor changed it to 90 meters. So our fight as environmentalists is that they change this law again. This has to be respected.

The MST informant also talked about soy producers not respecting the national law for spraying distances and that there is no functioning system for controlling this crime or giving fines to producers that do it:

Today we have a law on the state level that is ridiculous. It says that you can't apply agrochemicals less than 90 meters from rivers, waters, from the workers houses in the field. But when we go to the municipalities the soy is planted just next the houses and they pulverize almost inside the houses (personal communication, January 19, 2015)

She was also worried about how spraying from airplanes affects small-scale farmers production and that soy producers are now renting land that small-scale producers have obtained from the agrarian reform:

Normally the agribusiness use pulverization from airplanes. Even if they keep a distance of 15 km, it affects the families who produce agro-ecologically. The air-pulverization has arrived with a lot of strength and when you throw things out in the air it is impossible to control it (...) We have settlements where the people have stopped using their plots because the soy production is very close. When the soy production is side by side it doesn't allow the families to produce *de facto*, to produce diversified or without the use of poison. So these families end up renting out their land to soy producers so they can plant soy on their plots instead. [Soy producers] use land that we have occupied and fought for. The families still live there, but the principal plot is rented out.

Due to lack of resources and technical assistance it is almost impossible for families to change what has already been produced in the area because the area has lots of chemicals in it. As chemicals have been applied the whole year, they have killed all organic life for the soil to reoccupy for producing without agrochemicals. Then it is easier for me as a farmer to rent it to a soy producer and get paid for it.

Application of pesticides and respecting the federal law was also a subject of a conversation at the farmer union's office in Sapezal. There I got the impression that farmers did not respect the distances. I heard them discuss that it was not possible to follow the law as the entire field needed to be covered with

agrochemicals in order to combat pests and diseases. Some also said that the Brazilian law was too strict. They did not understand why it was a problem to apply agrochemicals close to the rivers and houses, as this is legal in Japan and the US. Farmers' dissatisfaction with the national law was something I registered several times. For instance there were some who thought the forest code was too strict and they thought the government was sending ambiguous messages. One farmer said, "five years ago it was good to clear forest because it made the agricultural sector grow. Today we are told not to do it" (farmer 6).



Figure 7 Aircraft used for application of agrochemicals, Sapezal, Mato Grosso

### Human impact

Formad, CIMI and MST talked a lot about how the agrochemical use affects people's health. They referred to previous research from Mato Grosso based on pesticide consumption, agricultural production and pesticide toxicity that indicates that certain

health problems correlate with the major producing regions (Pignati, Oliveira, & Silva, 2014). For instance, the research found residues of nine different pesticides in breast milk in the municipality of Lucas Rio do Verde in Mato Grosso. This municipality is one of the largest Brazilian producers of soy. In this municipality the population is exposed to 136.35 litres of pesticides per capita. In comparison, the total population of Mato Grosso is exposed to 29.8 litres of pesticides per capita and for the Brazilian population the number is 3.65 litres (Palma, 2011).

The MST informant talked about the *Xingu* people, who have one of the biggest reserves in Mato Grosso. There, several people were found to have diseases that are connected to the use of agrochemicals, even if they live far from a soy property. She explained that the rivers that flows through the reserve come from a soy producing area, and that it is therefore contaminated and affects the people who use it. She also told a story about the indigenous group *Xavante* that were sprayed with agrochemicals from the air because soy producers were permitted to plant close to where they live. Furthermore, the informant from Formad discussed how agrochemicals cause neurological diseases and malformation of organs, and that the occurrence of cancer is two or three times higher in soy-producing regions in Mato Grosso than in municipalities with little soy, corn and cotton production. He said:

If you go there and ask how many have a family member with cancer, everyone will raise their hand (...) Many of these chemicals are prohibited in the EU. But continue to be used here (...) it would help a lot if the European union stopped to import soy that is still produced with chemicals that are forbidden in Europe (Formad informant, personal communication, December 14, 2014).

The NGOs try to reach out to communities with the studies available, about the negative impacts on human health and the environment from agrochemicals, as they try to create debate about producing food free from pesticides. However, one of the challenges addressed was that the Brazilian media do not write about these issues. The informant from Formad said, “The media doesn’t write about this yet, they do not believe in this” (Formad informant, personal communication, December 14, 2014). The MST informant also said it was difficult to reach out with this research because of the media:

There is cooperation between the media and agribusiness. The Globo foundation is integrated in ABAG (*Associação Brasileira do Agronegócio*). They have several newspapers and one of the biggest TV channels. You can clearly see that the focus on TV is that agribusiness is the “rescuer of the country” as agribusiness is securing our commercial balance, guaranteeing profits (MST informant, January 19, 2015).

As a consequence of this relationship she implies that there is no room for research that raises negative attention towards the soy sector. However, when I asked farmers about agrochemicals and whether they thought they had any human impact, several of them expressed deep concern. For instance, one farmer stated that there were a lot of diseases such as allergies and cancer in the areas that were linked to agrochemicals. One also explained that several women had aborted their unborn children as it looked like the foetuses were hurt or damaged. On the other hand, one of the informants from Aprosoja claimed that the research conducted by Pignati was not trustworthy, as he considered them fake. Ironically, the CIMI informant had warned me about this as he said: “if you talk with farmers about the Pignati research they will most likely say it is a lie” (CIMI informant, December 11, 2014).

However, I also asked the Amaggi informant about the criticism directed towards the soy sector and whether certified soy can be justified as sustainable, taking into account all the criticism the agricultural model receives. She replied:

There are both positive and negative impacts with soy production. The world needs to eat, needs to survive. So the soy today is used for creating animals. It is needed in the feeding of pigs, cow, chicken. The majority needs oil and lecithin, a sub product that comes from soy. So it is really a big question of human existence and food and how to produce with the smallest impact possible (Amaggi informant, personal communication, January 19, 2015).

## Land distribution

Besides the concern regarding agrochemical use, the NGOs were worried about how the steadily growing soy expansion affects land distribution. The informant from MST talked about how the different indigenous groups, the *quilombolos*<sup>4</sup> and the *posseiros*<sup>5</sup> come under pressure due to soy the expansion. These groups have

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<sup>4</sup> A Quilombolo is a community organized by fugitive slaves.

<sup>5</sup> Posseiros are people occupying common land

occupied and used land for years, but in some cases they still do not have an official title or right to use the land as the juridical processes have stopped. She argued that the state does not demarcate land for these groups anymore because they are more interested in expanding soy production: “Over the last few years hardly any land has been demarcated here in Brazil, nor in Mato Grosso” (MST informant, personal communication, January 19, 2015).

The informant from CIMI was especially concerned with how politicians and landowners try to change the legislation that protects indigenous land, and also that several indigenous peoples have started to cultivate soy themselves as the regions they live in are completely covered with soy production. The Formad informant said that the soy industry puts pressure on the settlements that produce food, as the soy producers buy up smallholders land, and thus push them further away from the commercial centres which makes it difficult for them to sell their products: “This fact also makes soy unsustainable” (CIMI informant, personal communication, December 14, 2014). Besides the negative impacts of the soy expansion on land distribution, NGOs are critical to the influence of multinational companies on politicians in Brazil. The CIMI informant argued that multinational companies that take part in the soy industry sponsor the politicians. Also, the informant from Formad argued that agribusinesses are dominating politics in Brazil as you see politicians favouring ‘the big ones’.

However, it was not only the NGOs that criticized the agricultural model and how it restricts sustainability in the sector. The informant from *Secretaria do Estado do Meio Ambiente* (SEMA) problematized the fact that Brazil exports soy as raw material, and therefore loses the opportunity to add value to the product, which could benefit the Brazilian population to a greater extent:

It is important that the state start to think about alternative economies that go beyond primary production in agriculture. We do not **have to** send the unprocessed soy to you guys. We can add value to the soy here. We are exporting water; we are exporting primary resources, our soil, and our natural resources. (...) We have to use the natural resources in the best way possible and in a way that benefit many people, not only a few. We have a few people who earn a lot with a high income from exploiting natural resource directly or indirectly. With agriculture and timber. And then we have a big group of people who have a low income and low education level. So we

need that the state uses their sources better and create workplaces, build infrastructure and improve the life conditions for people. This is critical. (...) For us who care about the environment this is important. Because if we try to use the natural resources better and distribute the wealth that comes from soy, we will have less degradation (personal communication, January 20, 2015).

## Chapter 8: Analysis and discussion

The previous four chapters provided an in-depth presentation of how certifications are practiced and how they are perceived by farmers and other actors in civil society. This chapter returns to the problem statement to answer the case-specific research question; *Can the RTRS certification provide a future for sustainable soy production in Mato Grosso, Brazil?* To answer this question I focus on three themes that stand out as particularly important: 1) Lack of supply chain support, 2) The role of Amaggi, and 3) Feasibility for farmers. By looking further into these three themes, I will present and discuss some of the challenges the certification scheme faces, both now and in the future. Moreover, I position myself within a critical institutionalist perspective and use the analytical concept of institutional bricolage to inform the analysis, more specifically to help understand the formation and functioning of soybean certifications.

### Lack of supply chain support

Considering the negative impacts from soybean production in Brazil, it is important to reflect on how far responsible business solutions represent, or fail to represent adequate solutions to the problems. When discussing how the RTRS certification can impact the sustainability of soy production in Brazil, I see it as valuable to look back to when the RTRS scheme was created.

When the RTRS certification was initiated, soybean production was a largely debated issue. Therefore, RTRS was created to provide incentives for farmers to stop deforestation and carry out more sustainable practices, thus the zero-deforestation criterion was an important one. However, the farmers' association, Aprosoja, clearly experienced the zero-deforestation issue as a strong political issue from the international NGOs, in order to not be accused of green-washing (Hospes et al., 2012). For Aprosoja this was not a legitimate criterion, as it would prevent their members from expanding their lands legally. Moreover, they said it was difficult to take part in a program where they felt that the criteria were not discussed technically, which made them lose confidence in the process. The RTRS did not represent what Aprosoja saw as sustainable soybean production as they are mainly concerned with



financial rewards in relation to sustainable soy production. Aprosoja wanted to improve the conditions within the existing system but appeared to only be interested in certifications if they led to economic development (Schouten et al. (2012). Hence, Aprosojas withdrawal from the RTRS board can be seen as a choice guided by both moral and economic rationality, shaped by loyalty for their members, as it would restrict the opportunities to expand their production and increase their profitability. However, for the initiators, zero-deforestation had to be included and was most likely very important in order for the scheme to be perceived as legitimate on the market side of the supply chain.

Through fieldwork, I experienced Soja Plus to be a much more familiar program for both farmers and people working in the farmers' union or at the county council, whereas RTRS was perceived as something that belonged to the exporting companies only. Aprosoja represents 90 % of the soy farmers in Mato Grosso and is in my experience a very influential organization among farmers. By not taking part in the RTRS, and promoting their own sustainability program instead, RTRS faces weaker producer participation. Thus, it is unlikely that farmers will certify unless they are already in a trade relation to Amaggi or take part in one of the projects drawn out by ICV or EII. Moreover, Aprosojas creation of the Soja Plus program most likely further restricts the spread of RTRS. The findings from my fieldwork support Hospes' argument about Soja Plus having a much wider participation than the certification schemes. Hospes even claim that the creation of the Soja Plus "marks the beginning of the end of the hegemony of global private partnerships in defining sustainability on the ground in the South" (Hospes, 2014, p. 435). Previous research from the forest certification scheme, FSC, shows that supply chain support has been crucial in order for certifications to increase and have a profound impact (Lars H. Gulbrandsen, 2005).

I see Aprosojas withdrawal from the RTRS process and their creation of the Soja Plus program as a major limitation to the success of RTRS. When the scheme lacks legitimacy among the producers, there is reason to believe that RTRS certification will have little impact on the Brazilian soy sector.

According to the analytical concept bricolage, new institutions are a “necessary improvisation” of everyday challenges and consist of various elements in order to be legitimized and fit a particular context. Institutions are a result of what the decision makers, or the ones in power, perceive as the right thing to do (Cleaver, 2012, p. 46). The observation regarding lack of support from Aprosoja can relate to Cleaver’s argument about people having different levels of ability to influence institutions due to power relations (Cleaver, 2012; F. D. Cleaver & De Koning, 2015). When certain actors’ perceptions of sustainability are maintained through creating certification standards, it indirectly shows that power structures are maintained. This can also be seen as “symbolic power” (Cleaver, 2012, p. 40) as the board members of the RTRS had the capacity to impose their perceptions of what determines sustainable soy production, whereas Aprosoja withdrew from the board. Thus, from a critical institutionalist perspective, the lack of support from Aprosoja can be seen as a result of invisible power working through the institutions, where the Brazilian farmers’ interests represented on the RTRS board were not heard. The result of this was that it became impossible to create a certification that everyone could agree on.

An alternative for the board would have been to acknowledge the farmers’ interests. One can speculate that the two sides could have agreed upon a certification scheme that would have been a middle ground between Soja Plus and RTRS. The direct result of this would have been the involvement of the majority of Mato Grosso’s soybean farmers and improved production in the whole industry. Of course, the improvements under such a scheme would have been small on the individual farmer level, but as a whole due to the great numbers, the improvements for the industry would have been significant. However, from a critical institutionalist perspective this is unlikely to happen as it would have been unacceptable for the European markets, and therefore impossible to implement. Moreover, a critical institutionalist perspective does not explain the wishes of the ‘powerless’ side. It is likely that any initiative to create a middle-ground would have been refused by the farmer anyway, due to the fact that the Brazilian soy sector aims to expand its production.

Power structures also explain why several NGOs withdrew from the RTRS board and why NGOs’ concerns over soybean production are not addressed to any significant level. When creating RTRS, the NGOs represented a “radical” approach to

sustainability that suggested “fundamental changes of the system itself” (Schouten et al., 2012, p. 49). However, these criteria were not accepted by the companies on the RTRS board because they thought it only focused on the negative effects of soy production (Hospes et al., 2012). Consequentially, Baletti (2014, p. 7) argues that the RTRS has reproduced inequalities and does not address the structural factors that drive land concentration, environmental degradation and exclusion, which for many smallholders are the main problems with the soy industry. The exclusion of certain NGOs can be related to a critical institutionalist perspective where the formation of institutions are authoritative processes where some bricoleurs are able to influence the formation and others are not (Clever, 2012).

As neither the farmers nor the Brazilian NGOs’ approaches were accepted in the RTRS board, I argue that the process clearly resembles a bricolage as the standards were patched together with rules and elements being legitimate to specific stakeholders who represent the market and the international NGOs, such as WWF. This supports Elgerts' (2012) argument that the RTRS process reflected existing power relations in the soy supply chain. In all, it can be argued that RTRS does not address the economic reality of the farmers, nor the sustainability issues addressed by Brazilian NGOs. Hence, support from two very substantial groups is lacking. However, RTRS will most likely continue to exist as it seen as a legitimate and sufficient from the demand side.

### **The role of Amaggi**

To fully comprehend the situation in Mato Grosso one must include a discussion of Amaggi. Throughout the empirical chapters, Amaggi stood out as a key producer in terms of producing and supplying certified soy. Besides being the largest producer of certified soy, Amaggi also ask supplying farmers to certify when the company need more certified soy for their market.

Why Amaggi has such a significant role can be explained by their representation in the RTRS board. In contrast to Aprosoja, Amaggi took part in setting the criteria of the RTRS standard and became the first producer to certify with RTRS. Furthermore, it is now the biggest trader of RTRS-certified soybeans in Mato Grosso (D. Meyer &

Cederberg, 2013a). Being a ‘first mover’ often offers competitive advantages as they can influence the decision making so the scheme fits their capacities (Gulbrandsen, 2010). Moreover, when certain actors can influence a standard setting process, there is always a risk that they will not set standards that challenge their own economic profitability, but instead set standards that are based on their own capacity (Auld et al., 2008; Beder, 1996). For instance, when the industry is actively participating in standards-setting, it can be expected to result in “industry-friendly standards”, whereas NGOs often contribute to stricter social and environmental conditions (Gulbrandsen, 2010, p. 4). According to Elgert (2012), this eventually made the certification fit large producers better than medium-sized producers. Moreover, Amaggi already had strong trade linkages to the European market, which according to Garrett et al. (2013, p. 9) has facilitated Amaggi’s uptake of certification schemes. Certifications are often adopted by producers with high vertical integration in the chain as it reduces the transaction costs all the way to the end customer (Ebeling & Yasue, 2009).

The observations of Amaggi’s dominating role in terms of producing and sourcing certified soy relates to Cleaver’s (2012) idea that institutional formation is an authoritative process, where some stakeholders have a higher level of ability to affect the institutional outcome than others. The implications of this are that some can benefit from the institution whereas others are excluded (Cleaver, 2012). Cleaver argues that people’s ability to take part and benefit from an institution is affected by their social position and social relations. Both of these theoretical arguments may explain how Amaggi achieved their almost monopolistic role in the market for certified soy in Mato Grosso.

Another important aspect of understanding certifications’ future potential can be drawn from Cleaver’s idea about institutions being multipurpose. Bricolages are often multipurpose, meaning that they are created to encompass several goals. In this case, certifications have other purposes than to produce sustainable (certified) soy. For instance, certifications not only provide sustainable supply-chains, but provide Amaggi with market access and recognition, which according to them is an important benefit to being certified (Amaggi informant, personal communication, January 20, 2015).

According to Cleaver (2012), multipurpose institutions are often ambiguous in their functioning and ineffective in addressing the purpose they were initially created to address. This can be seen in Amaggi's incentives to certify. During the interview with Amaggi they emphasized the importance of certifying their production and that they were ready to certify a lot more, but would wait for the market to consolidate. Thus, even though producers are in position to certify more, certification as a market mechanism prevents them from doing more than what is absolutely necessary. This makes me question the feasibility of using a market mechanism to improve the sustainability level of the Brazilian soy sector. The only way Amaggi will certify more soy is through higher market demand. Therefore, the certifications' multiple purposes weaken the ability to provide a sustainable future.

### **Feasibility for farmers**

In order to understand the feasibility for farmers to certify, one must initially look at the farmers who have certified. For the two independent certified farmers I interviewed, it was an easy decision to make as they saw it as important to follow the law. By becoming certified they received guidance on how to be in compliance with the law, which would prevent them from being fined. According to them and several other informants the Brazilian law is complex and difficult to follow, thus the certification offered them an incentive to be legally compliant. However, they would most likely not have become certified and benefitted from the institution without the trade relationship they already had to Amaggi, which awarded them the opportunity in the first place. Moreover, their high level of legal compliance and the geographical location connected them to one of Amaggi's certified warehouses, and were decisive factors in order for them to be picked. This supports the argument of Garret et al. (2013) about soybean certifications in Mato Grosso only being accessible for farmers who are connected to a certain supply chain geographically. An important argument in the discussion below is to show how it is expensive to certify for the average farmer. However, the certified farmers did not face severe costs because they were already in compliance with all or most of the criteria demanded by the certification. This aligns with adoption patterns which emerged from other studies, where only the ones who face low adoption costs certify (Lars H. Gulbrandsen, 2010).

These observations about farmers adopting certifications because of trade relations, economic position and level of legal compliance can relate to a critical institutionalist perspective where human agency is seen as complex and shaped by factors such as power dynamics and social structures (Cleaver, 2012). According to my observations, farmers' motivations to certify are not only a result of rational decisions informed by the certification. Instead, it is apparent that human agency is relational as trade relationships shape farmers' decisions to certify.

The majority of farmers were not familiar with the certification schemes. Therefore, I had to try to understand why they did *not* certify, and explore their perceptions of certifications. Above I stated that RTRS faces challenges in receiving supply chain support due to Aprosoja's withdrawal and the creation of their own sustainability program. This eventually prevents the distribution of knowledge of RTRS among farmers, as Aprosoja advertise their own program instead. However, throughout my research I also acknowledged that the RTRS certification is nonetheless a rather infeasible scheme for the average farmer to adopt due to high adoption costs. This has mainly to do with costs connected to get legally compliant. Given that the adoption costs are high and the price premium is low, the RTRS certification appears to be an unattractive scheme for farmers.

Although a higher price premium hypothetically could make more farmers certify, why it is supposedly too expensive to certify needs to be explored. From the certification criteria, it is evident that legal compliance is a mandatory. Furthermore, the costs of reforestation, among other expenses, are very high for the average farmer. Additionally, as only 10% of the farmers in Mato Grosso are legally compliant, the total adoption costs of having the majority of farmers compliant are financially demanding. Therefore, this research suggests that the low level of legally compliant farmers seems to be the major obstacle for certification becoming a viable scheme for farmers. Although EII and ICV carry out projects that address the compliance problem, they have limited resources and only concentrate on specific areas.

Adoption patterns highlighted in other studies show that it is necessary to provide significant incentives, such as price premiums, in order to persuade producers to do something they otherwise would not, and to attract a large amount of producers (Auld

et al., 2008; Gulbrandsen, 2010, p. 36; Newton, Alves-Pinto, & Pinto, 2014).

However, as mentioned by one of the EII informants, it is difficult to add value to soy due to its lack of visibility. Commodity goods such as soybeans lack this opportunity, which can be an obstacle for adding value to the product (Tikina & Innes, 2008).

Another aspect to be taken into account is the farmers' economy, which stands out as an important issue in this research. Although Brazilian soybean farmers are perceived as wealthy in some Brazilian contexts, this research has shown that their economy is fragile, as the majority require loans each year due to the capital intensive production (Fearnside, 2001). Farmers struggle with pesticide resistance and high logistical costs, which they finance through loans from the traders (Peine, 2010). Moreover, the market price for soybeans is unstable (G. d. L. T. Oliveira, 2015). Thus, the farmers' profitability depends on access to capital and international markets for soy (Fearnside, 2001; Garrett et al., 2013). I do not see how today's certifications can address these challenges for the farmers as such challenges are down to underlying economic structures.

The infeasibility for the average farmer to certify relates to Cleaver's (2012) argument that institutions that evolve through bricolage result in unfair outcomes for many people. Considering the above discussion about the RTRS standards' setting being imbued with power structures, which eventually excluded Aprosoja, farmers' approach to sustainability was discredited. Cleaver (2012) argues that institutions are created *by people for people* to address everyday challenges. Since the certifications were initiated from the demand side to address the sustainability problem, the criteria had to be as strict as possible in order to be legitimate. Consequentially, the certifications fit some actors better than others. While for some farmers, and Amaggi, RTRS has provided access to markets and access to help on how to become legal complaint, for others it is infeasible to certify, or as the case is for many - they are unaware of any certification scheme.

If the ambition really was to mainstream sustainability, one would think that the initiators of the RTRS scheme should have focused more on how to help the vast majority of farmers who are not legally complaint. As a result, only the farmers who

are already legal complaint adopt the mechanism, thus the adoption negatively correlates with the potential on-the-ground impacts. In order for the RTRS to grow, mechanisms need to be installed that encourage more farmers to take the step towards compliance. As illustrated, such a mechanism for the RTRS programme is close to non-existent today. Installing such mechanisms for RTRS alone would be a major task. I therefore suggest that this challenge primarily needs to be addressed by the Brazilian government. I will address this issue in more detail in the final discussion below.

### **A future for certifications?**

Drawing on the discussion of the three significant themes that emerged from my findings, I will now refer to the case-specific research question and highlight a few challenges that lie ahead; *Does the RTRS certification provide a future for sustainable soy production in Mato Grosso, Brazil?*

### **Does the RTRS certification have a future?**

To offer a brief summary, I will draw from both the findings and theoretical analysis of the study; I argue the lack of support from both farmers and the Brazilian NGOs creates a weak base of support. The one stakeholder in Brazil that is positive to the scheme is also the one that benefits the most from it, namely Amaggi. Most farmers, on the other hand, see certification as something that belongs to the elite and not applicable to them, as it is too expensive. But what does this say about the future? Firstly, limited support must be seen as limited potential for growth. If no farmers picture themselves as able to be certified, it will be difficult to include them. Similarly, the failure to address farmers' economic reality also provide a situation where it is difficult to see growth in the number of certified farmers. Secondly, Amaggi's role as a monopolist and marked driven actor ensures that there will be no introduction of new or better incentives for farmers to certify. No evidence has been found that indicates a willingness from Amaggi to certify more than absolutely necessary. In other words, one more indication that it is unlikely that being certified will become commonplace. The common reason explaining why all of these aspects have emerged can be explained through the CI perspective and its insight on power relations: Institutions are shaped by the power of their founders and not necessarily by



the goal they are supposed to fulfil. Finally, having concluded that there is no positive outlook for an increase in certified soy, it is difficult to see anything or anyone that can change the current system. In my opinion, the status quo is the most probable situation for many years to come.

### **Is the RTRS scheme a viable platform for sustainability?**

As stated, there are many approaches to study sustainability. For the sake of simplicity this research focused on deforestation and the farmers change their practices. Based on my findings, there are three ideas in particular that need to be emphasized. Firstly, the certified farmers had to make adjustments on their farms when they got certified. For both of them it was mainly construction work, whereas one of them also had a small area that required reforestation in order to be legally compliant. On one hand, the findings indicate that RTRS certification requires producers to undergo a series of controls, and receive guidance as to how they shall make improvements to their farm in order to carry out responsible production. Strict adherence to these rules would appear to provide credible claims of a concern with sustainability and improved levels of environmental protection. Thus, certifications encourage soy producers to adopt even higher standards than previously, which potentially improves the governance of the Brazilian soybean sector in certain regions (Garrett et al., 2013, p. 10). Moreover, the certification initiates projects that inspire other organizations to work towards sustainability. In this respect, the certification can work as a “learning mechanism” where producers are motivated to “act environmentally” (Overdevest & Rickenbach, 2006, p. 96). Considering such observations, it is credible to claim that certifications provide a more sustainable alternative than existing practices do.

Secondly, although the farmers I interviewed had to make changes on their farms, informants revealed that the certified farmers are the ones who are already legally compliant or almost legally compliant before they become certified. Thus, the changes they need to make in order to become certified are minimal, and the decision to participate negatively correlates with the potential on-the-ground results, as certified farmers already had deforested their maximum amount. (Auld et al., 2008, p. 197). Moreover, regarding deforestation, none of the farmers I interviewed had areas

that could be deforested legally left on their property. Regarding Amaggi, I did not obtain data on the percentage of land they had deforested before the certification was initiated, but it is likely to assume that they had deforested their maximum amount. Therefore, there is no actual difference between being deforestation-free and legally compliant. Hence, the certification legitimizes certified soy as deforestation-free even though it is the same as being legally compliant. This can relate to Cleaver's argument that bricolage involves piecing together "old and new to make something different" in order to seem familiar and legitimate (Cleaver, 2012, p.40). This can also be related to bricolage as 'old' rules, in this case the forest code, are put into new institutions and therefore take on another meaning, while gaining credibility, although it is the same forest regulation that has always been there.

Finally, the approach to the actual content of the RTRS certification is shown in this study and others (Baletti, 2014; Elgert, 2012; Schouten et al., 2012) is defined by certain actors. Considering the criticism on soybean production emphasized by some of my informants and highlighted in numerous other studies, there is reason to ask whether the RTRS certification actually addresses the social and environmental challenges that have been directed towards the Brazilian soy sector.

Drawing on the above discussion, I conclude that the RTRS certification has limited potential to gain ground in the future and I see no reason for farmers to certify (without an increase in demand). However, if the certification *did* gain ground among farmers and was seen as an attractive mechanism, it is still questionable as to whether this would significantly improve the sustainability of the soy sector and create real change.

### **Potential improvements**

As mentioned in the introduction, this paper does not put emphasis into market demand, but it is difficult to overlook it entirely. Although there is a slightly increasing demand for certified soy from European countries, it can only stimulate demand to a certain degree. China is by far the market driver and it is estimated that China will take 70-80 % of Brazilian soy exports by 2020 (Kessler et al., 2013). A demand from Chinese consumers of certified soy would change. However, so far

there is little engagement in eco-certification outside northern European countries (KPMG, 2013). A research done by Tikina and Innes (2008, p. 1361) argues that consumers only seek certified products in “limited, well-developed, environmentally concerned markets or for niche products”, which makes it difficult to imagine a significant increasing demand for certified soy. With a change in Chinese consumption pattern and a following interest in certified soy, a new reality will emerge for the soy sector. From being a niche concern it has to become mainstream.

Another aspect that can change the situation is the price certified farmers receive. Considering the lack of feasibility for farmers to certify, one apparent solution could be to introduce a significant price premium. Having certification without a significant price premium must be questioned. I find it difficult to understand how the actors involved hope to increase the certified produce without introducing real incentives for farmers. In a society with abundant resources, the farmers themselves could very well take the initiative to be more responsible. In the Brazilian context, where most soy producers struggle with the economy, it can only be seen as an illusion to believe that they will invest in sustainability if they are not compensated for it. It is difficult to pinpoint who should pay such a price premium, but it would be interesting and important to investigate the potential for increasing the sales price. One interesting question is if the markets are willing to increase the amount they pay for soy, with more widespread knowledge of how the soy is produced.

Another issue that would be worth spending more academic resources on is the potential involvement of the government to make the certification more efficient. This study has shown that weak enforcement of Brazilian law has caused a high level of non-complaint farmers. This indicates that the Brazilian government influence farmers' actions, as weak environmental enforcement create disincentives for being legally complaint. For soybean farmers, the opportunity costs are so big, that it is worth taking the risk of deforesting. In order to increase the amount of farmers who are legally complaint and ready to be certified, I believe the government plays a crucial role in contributing to change. If enforcement of laws had been stronger it is likely to assume that more farmers would now be legally compliant. Moreover, the government needs to provide positive incentives for the farmers

Finally, in order for the certification to have greater impact, one could argue that the criteria should be less rigorous. In this way more farmers could participate and the potential effect would increase. Contrastingly, stricter criteria could represent 'true sustainability'. However, in that scenario the supply chain support would most likely be even weaker than today. Therefore, trying to change the current situation seems difficult. Drawing on the theoretical arguments, the underlying power structures must be challenged to create a viable scheme. Power must be fairly distributed and all parties must agree on a common goal. Moreover, the actors who define the certification must be motivated to improve sustainability, rather than act upon their own commercial or political interests. If each single party is only thinking about its own welfare, the result will be a compromise rather than achieving a larger common goal. The obvious final question is therefore: Is a new certification necessary?

## Chapter 9 Conclusion

The objective of this thesis was to explore the potential of certification schemes to increase the sustainability of the soybean industry in the Mato Grosso region of Brazil. A qualitative case study with a ‘grounded’ approach was used, with semi-structured interviews as the main data collection method. The theoretical perspective of critical institutionalism was adopted throughout the analysis of the data.

In my fieldwork it was essential for me to understand the realities for the different actors involved. I particularly wanted to study the farmers and their perceptions and experiences with certifications to inform my understanding of certifications. Often portrayed as a wealthy enemy of the environment, the average Brazilian soy farmer is just as often struggling to make ends meet. Being in such a situation, sustainability issues become second priority. I was in all surprised to discover that farmers were not aware of the possibility to certify. This was the first clear indication of the limitations of the current certification. Moreover, by understanding the lack of support from the farmers’ associations and the role of Amaggi as an important certified producer further limitations revealed. Understanding more of the realities on the ground in Brazil, of the farmers, the NGOs, and the multinational corporations, I wanted to deepen my studies into the relationships and power structures of these actors, and how they influence the actual implementation of the certification scheme.

Through a critical institutionalist analysis I argue that the RTRS certification is imbued by power structures. Firstly, the certification produces uneven outcomes; some farmers benefit whereas others are excluded, which weakens the scheme’s ability to grow in significance. Secondly, authoritative processes affect the certification’s content, which questions its ability to combat the existing challenges of soybean production. Both of these factors establish the overall conclusion that the certification cannot be characterized as a successful institution. The answer to the research question: *Does the RTRS certification provide a future for sustainable soy production in Mato Grosso, Brazil?* is therefore not very positive. Although I do not foresee the situation worsening, neither do I see it improving.

The initial motivation for starting on this research was the overall question: *How can certifications improve the sustainability of Brazilian soy production?* This research does not provide enough data to answer this question. However, two suggestions emerged throughout the discussion. One is to increase the price premium to create better incentive for farmers. Another is the role of the government. If the Brazilian government had stronger enforcement of national law as well as provided positive incentives for farmers to be legally compliant, more farmers would have been in position to certify. On a more general level, as a student of certification, one must at some point draw attention to the questions: Is a certification created to legitimize existing practices? Or is it created to generate real change? There is no single answer to this. As research of other certifications has shown, there are both good and bad cases. Therefore, although my understanding of the soybean certifications is relatively pessimistic, I remain of my belief that certifications may be successful if constructed and implemented with the right motivation.

This research and its conclusions could be seen as a guideline for the creation or improvements of certifications. And probably more important, any initiative to create or improve a certification should take into account the power structures and the possible unequal outcomes that emerge as a result, so effectively described by critical institutionalism. It is my clear understanding that this field of theory offers valuable insights and could be used more by academics and decision makers.

On a more pragmatic level, I believe the conclusions in this research are valuable for the greater public. We are surrounded by soy but relatively little attention is given to its production. As already known, soy is amongst the main contributors to deforestation and has a major impact on climate change; amongst many other problematic environmental issues surrounding soy production. When the soy initiative to create certified soy was began, it was with the intention of dealing with the environmental issues. Having conducted this analysis, two important questions emerge: How would consumers react if they had better knowledge of the impacts of soy production? And more significantly: Is it legitimate to label the certified soy as sustainable? I am not in a position to answer decisively, but I would like to see more academic work and political focus drawn to these very questions.



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# Appendix

## List of interviews

1. Farmer 1
2. Farmer 2
3. Farmer 3
4. Farmer 4
5. Farmer 5
6. Farmer 6
7. Farmer 7
8. Farmer 8
9. Amaggi 1 03.12.14
10. Farmers' union 04.12.14
11. County Council 08.12.15
12. RTRS informant 09.12.14
13. FAMATO 10.12.14
14. CIMI 11.12.14
15. FORMAD 14.12.14
16. Earth Innovation Institute 16.12.14
17. ProTerra 17.12.14
18. ISA 19.12.14
19. ProTerra 19.12.14
20. Farmers' union 14.01.15
21. County Council 15.01.15
22. MST 19.01.15
23. Amaggi 1 20.01.15
24. SEMA 20.01.15
25. ICV 21.01.15
26. Aprosoja, 22.01.2015
27. Certified farmer 1
28. Certified farmer 2
29. Aprosoja 26.01.15

30. FUNAI 27.01.15