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**DISSEMINATION OF SUSTAINABILITY IN SUPPLY CHAIN: AN ANALYSIS OF  
THE CONTRIBUTION OF A ROUNDTABLE**

**Porto Alegre – RS**

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**Ana Paula Ferreira Alves**

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THE CONTRIBUTION OF A ROUNDTABLE**

PhD thesis presented to Post-Graduation Programme in Management (PPGA) of Federal University of Rio Grande do Sul (UFRGS), in partial fulfilment of the requirements for the degree of Philosophy Doctor in Management.

Supervisor: Prof<sup>a</sup>. Dr<sup>a</sup>. Marcia Dutra de Barcellos.

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*To Ivonete (in memoriam),*

*Ivone,*

*and Marizete.*

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*“Ser capaz de recomeçar sempre, de fazer, de reconstruir, de não se entregar, de recusar burocratizar-se mentalmente, de entender e de viver a vida como processo, como vir a ser...”*

*Paulo Freire*

*“We have to talk about liberating minds as well liberating society.”*

*Angela Davis*



## ABSTRACT

Sustainability in supply chain has become an established area of research and discussions on this area generally focus on the sustainable supply chain management (SSCM) concept. The literature has been highlighting the focal company perspective for supply chain sustainability. However, this firm is not exclusively responsible for sustainability in supply chains. We argue that efforts to disseminate sustainability in supply chains are more complex when the first movement towards sustainability does not start from the focal company. This complexity requires the establishment of new discussions and new partnerships between organizations in a supply chain. In this context, multi-stakeholder partnerships (MSPs) seem to be a strategy to deal with the complexity and challenges of the supply chain sustainability, since MSPs provide a way to address complex issues that businesses cannot address on their own. Roundtable is a voluntary MSP aiming to discuss complex issues into a form that improves the participation of all stakeholders and gives them equal standing at the table of negotiations. To develop this argument, we use institutional theory as theoretical support, based on organizational field, legitimacy and especially isomorphism concepts. Additionally, we proposed the sustainable supply chain coordination concept (SSCC), defined as the control of the impact of individual actions (for each stakeholder) to achieve sustainability objectives in the supply chain business. We assume that SSCC and SSCM are complementary concepts. SSCC refers to the influence of internal actions on the sustainable supply chain; and SSCM refers to the management of supply chain strategies, operations, and actions aiming at sustainability. Therefore, the research question is: how does the multi-stakeholder partnership roundtable influence the dissemination of sustainability in a supply chain? This study aims to analyze the dissemination process of sustainability in a Brazilian beef supply chain, through the multi-stakeholder partnership roundtable. Thereby, we investigate the Brazilian beef supply chain. Brazil is considered one of the biggest beef exporting countries in the world. Concomitantly, the Brazilian beef industry has been facing criticism related to socio-environmental issues along the supply chains. These circumstances created a sense of urgency to examine sustainability in this food supply chain. To develop this research, we conducted a qualitative case study. Brazilian Roundtable on Sustainable Livestock was the case selected. The research was conducted in two phases. First, 14 interviews were conducted with different stakeholders, aiming to recognize the importance of the Roundtable. Second, six Roundtable meetings were observed, aiming to understand the group's dynamic, and we conducted 4 interviews with supply chain members, aiming to analyze the influences of Roundtable meetings at the supply chain level. Results indicate that sustainability becomes a criterion of legitimacy in the Brazilian beef supply chains mainly due to reports published by NGOs. Understanding the complexity of sustainability and the nature of livestock activity, the Brazilian Roundtable on Sustainable Livestock was formally constituted in 2009. Results indicate the Roundtable contributes to the dissemination of concepts, definitions, values, and successful initiatives since sustainability is already legitimized in the Brazilian beef supply chains. Organizations thus seek to adopt legitimized practices through isomorphic pressures or to legitimize their initiatives with stakeholders. These processes occur at the Roundtable meetings. Therefore, the dissemination process occurs during the stakeholders' interactions and discussions at the Roundtable meetings. Aiming to analyze the influences of the Roundtable discussions on the Brazilian beef supply chain sustainability, we identified three categories of influences: sustainability initiatives defined before Roundtable meetings; the meaning of sustainability; and, GIPS discussion and implementation. We examined these categories as part of the disseminating process of sustainability in the Brazilian beef supply chain through the Roundtable. The dissemination process occurs through isomorphic pressures (coercive, mimetic, and normative). Supply chain sustainability initiatives were adopted before the beginning of the Roundtable discussions. They were adopted to comply with the legislation. In this context, we understand the importance of GTPS for Brazilian beef supply chain sustainability and its role as coordinator of the sustainable supply chain. This study contributes to the understanding of the dissemination process of sustainability in the supply chain when the first movement does not start with the focal company. Understanding this dissemination process seems to be a good direction to recognize the role and importance of different actors for supply chain sustainability.

**Keywords:** Supply Chain Sustainability. Dissemination of Sustainability. Sustainable Supply Chain Coordination. Roundtable. Brazilian beef supply chain.

## RESUMO

A sustentabilidade em cadeia de suprimentos vem se tornando uma área de pesquisa consolidada. As discussões da área geralmente focam no conceito de gestão da sustentabilidade em cadeia de suprimentos (SSCM). Nesse sentido, a literatura tem destacado a perspectiva da empresa focal. Contudo, destaca-se que essa empresa não é exclusivamente responsável pela sustentabilidade em cadeias de suprimentos. O argumento dessa tese evidencia que os esforços para disseminar a sustentabilidade nas cadeias de suprimentos são mais complexos quando o primeiro movimento em direção à sustentabilidade não parte da empresa focal. Essa complexidade requer o estabelecimento de novas parcerias entre organizações em uma cadeia de suprimentos. As parcerias multi-stakeholders (MSPs) parecem ser uma boa estratégia para lidar com a complexidade e os desafios da sustentabilidade da cadeia de suprimentos. Particularmente, a roundtable é uma MSP voluntária, com o objetivo de discutir questões complexas de uma forma que melhore a participação de todos os stakeholders e possibilite uma mesma posição para todos nas negociações. Para desenvolver esse argumento, a teoria institucional foi utilizada como suporte teórico, com base nos conceitos de campo organizacional, legitimidade e, principalmente, isomorfismo. Ainda, propôs-se o conceito de coordenação da sustentabilidade em cadeia de suprimentos (SSCC). SSCC é definida como o controle do impacto de ações individuais (de cada stakeholder) para alcançar os objetivos de sustentabilidade nos negócios da cadeia de suprimentos. Assume-se que SSCC e SSCM são conceitos diferentes, porém complementares. SSCC refere-se à influência de ações internas na sustentabilidade da cadeia de suprimentos; e, SSCM refere-se ao gerenciamento de estratégias, operações e ações da cadeia de suprimentos visando à sustentabilidade. Diante dessas considerações, tem-se o problema da pesquisa: como a parceria multi-stakeholder roundtable influencia a disseminação da sustentabilidade em uma cadeia de suprimentos? Este estudo tem como objetivo analisar o processo de disseminação da sustentabilidade em uma cadeia de suprimentos, por meio da roundtable. Assim, investigou-se a cadeia de suprimentos de carne bovina brasileira. O Brasil é considerado um dos maiores países exportadores de carne bovina. Concomitantemente, a indústria brasileira de carne bovina vem enfrentando críticas relacionadas a questões sociais e ambientais ao longo das cadeias de suprimentos. Essas circunstâncias criaram um senso de urgência para investigar a sustentabilidade nessas cadeias de suprimentos. Para desenvolver esta pesquisa, um estudo de caso qualitativo foi conduzido. A Brazilian Roundtable on Sustainable Livestock foi o caso selecionado. A pesquisa foi realizada em duas etapas. Primeiro, foram realizadas 14 entrevistas com diferentes partes interessadas, com o objetivo de reconhecer a importância da Roundtable. Segundo, foram observadas seis reuniões da Roundtable, com o objetivo de entender a dinâmica e as interações do grupo, e foram realizadas 4 entrevistas com os membros de uma cadeia de suprimentos, com o objetivo de analisar as influências das reuniões da Roundtable no nível da cadeia de suprimentos. Resultados indicam que a sustentabilidade se tornou um critério de legitimidade nas cadeias de suprimento de carne bovina no Brasil, principalmente devido a relatórios publicados por ONGs. Entendendo a complexidade da sustentabilidade e a natureza da atividade pecuária, a Brazilian Roundtable on Sustainable Livestock foi formalmente constituída em 2009. Os resultados indicam que a Roundtable contribui para a disseminação de conceitos, definições, valores e iniciativas bem-sucedidas, já que a sustentabilidade é legitimada nessas cadeias. As organizações buscam, assim, adotar práticas legitimadas através de pressões isomórficas ou legitimar suas iniciativas com os stakeholders. Esses processos ocorrem nas reuniões da Roundtable. Portanto, o processo de divulgação ocorre durante as interações e discussões dos stakeholders nas reuniões da Roundtable. Nesse contexto, identificaram-se três categorias de influências: iniciativas de sustentabilidade definidas antes das reuniões da Roundtable; o significado de sustentabilidade; e discussão e implantação do GIPS. As categorias foram analisadas como parte do processo de disseminação da sustentabilidade na cadeia de suprimentos por meio da Roundtable, que ocorre através de pressões isomórficas (coercitivas, miméticas e normativas), e tem seu início na própria interação nas reuniões da Roundtable. As iniciativas de sustentabilidade da cadeia de suprimentos foram adotadas para cumprir a legislação, antes do início das discussões da Roundtable. Entende-se o papel da Roundtable como responsável pela coordenação da sustentabilidade na cadeia de suprimentos analisada. Este estudo contribui para a compreensão do processo de disseminação da sustentabilidade na cadeia de suprimentos, quando o primeiro movimento para a sustentabilidade não parte da empresa

focal. Entender o processo de disseminação parece ser uma boa direção para reconhecer o papel e a importância de diferentes atores para a sustentabilidade da cadeia de suprimentos.

**Palavras-chave:** Sustentabilidade na cadeia de suprimentos. Disseminação da Sustentabilidade. Coordenação da Sustentabilidade na Cadeia de Suprimentos. Roundtable. Cadeia de suprimentos de carne bovina brasileira.

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## LIST OF ABBREVIATIONS

ABIEC	Brazilian Beef Exporters Association
BNDES	Brazilian Development Bank
BRSL	Brazilian Roundtable on Sustainable Livestock
BRSL	Brazilian Roundtable on Sustainable Livestock
CAR	Rural Environmental Registry
CWE	Carcass Weight Equivalent
FAO	Food and Agriculture Organization of the United Nations
GHG	Greenhouse Gases
GIPS	Sustainable Livestock Indicators Guide
GSCM	Green Supply Chain Management
GTA	Animal Transit Guides
GTPS	Sustainable Livestock Working Group
GTPS	Grupo de Trabalho da Pecuária Sustentável
MPF	Ministério Público Federal
MSP	Multi-Stakeholder Partnerships
NGO	Non-Governmental Organization
NGOs	Non-Governmental Organizations
PPA	Permanent Preservation Areas
SCC	Supply Chain Coordination
SCM	Supply Chain Management
SISBOV	Sistema Brasileiro de Identificação e Certificação de Bovinos e Bubalinos
SSCC	Sustainable Supply Chain Coordination
SSCM	Sustainable Supply Chain Management
TAC	Conduct Adjustment Term
TBL	Triple Bottom Line
WCED	World Commission on Environment and Development

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## 1 INTRODUCTION

The recent financial and economic crisis has not meant a decreasing interest in sustainability. On the contrary it has arguably fomented research into ways businesses can address external risks and become truly sustainable in the long-term (TOUBOULIC; WALKER, 2015b, p. 38).

Although sustainability was seen in the past with some skepticism among academics and practitioners, literature has become significantly more robust (SILVESTRE, 2016). In the organizational context, academics, executives, managers and other actors have been recognized that sustainability is an important issue to consider in business. According to Kiron et al (2015), most managers understand that the success of the companies depends upon the economic, social and ecological contexts in which they operate. Since sustainability issues become more global and essential to success, managers are realizing that they need to involve their partners in sustainable initiatives (KIRON et al, 2015). Therefore, following Seuring and Gold (2013), we understand that the effective introduction of sustainability in companies requires actions that go beyond organizational boundaries.

One of the most promising areas in inter-organizational studies is the interaction with sustainability (ÜLGEN et al., 2019). Thus, research areas related to sustainability have been emerging, such as sustainable operations, reverse logistics, closed-loop chains, sustainable supply chain, supplier development, decision-making, socially sustainable supply chains, sustainable supply chain risks, multi-tier supply chains, etc. (SILVESTRE, 2016; GOLD, SCHLEPER, 2017). Combining such approaches reflects the idea that the introduction of sustainability into companies is based on the relationships between organizations and people (TOUBOULIC; WALKER, 2015a).

This thesis focuses on the dissemination of sustainability in supply chains. Our understanding of dissemination encompasses the diffusion of initiatives and practices from external and/or internal organizational influences that contribute to this propagation. We also need to clarify our understanding of sustainability, since there are different interpretations, definitions, and conceptions about the topic (BAUMGARTNER, 2011; BURGER; CHRISTEN, 2011). Hopwood, Mellor, and O'Brien (2005) state that sustainability is a term loaded with various definitions and multiple meanings. In addition, Ashby, Leat and Hudson-Smith (2012) argue that there seems to be confusion between the terms sustainability and sustainable development, and also corporate social responsibility, since they are often used

synonymously. Sustainability is related to sustainable development, but we understand that the terms have different meanings.

According to Hopwood, Mellor, and O'Brien (2005), the result of the growing global awareness of environmental problems, social inequality and concerns associated with a healthy future for humanity contributed to the generation of the concept of sustainable development. Thus sustainable development is defined as the “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987, p.43). This concept was published in Our Common Future report, by the World Commission on Environment and Development, in 1987, and it remains the most disseminated concept of sustainable development in the world.

Despite the dissemination of the sustainable development concept, this definition allows for distinct interpretations and for multiple discourses that oppose and complement each other (NASCIMENTO, 2012), according to the ideological orientation, values, and concepts of each author (SÖDERBAUM, 2009). For instance, Kuhlman and Farrington (2010) argue that sustainable development concept can be interpreted as needs *versus* resources, or as the short *versus* the long term. However, sustainable development concept is almost always seen in terms of three dimensions – social, economic and environmental – especially due to the influence of the Triple Bottom Line (TBL) concept (KUHLMAN; FARRINGTON, 2010).

Proposed by Elkington (1997), one of the most widespread interpretations of sustainable development is the Triple Bottom Line (TBL). According to TBL, sustainability must incorporate social, environmental and economic dimensions simultaneously. The social dimension involves the eradication of poverty and the definition of the standard for a decent life, with a fair and equitable distribution of natural goods and services among all the people. The environmental dimension includes rethinking existing modes of production and consumption to ensure that ecosystems can maintain their self-repair or resilience. The economic dimension comprises continuous innovations focused on eco-efficiency and linked to the dematerialization of the economy, maintaining the profitability of firms (ELKINGTON, 1997; NASCIMENTO, 2012).

Considering the organizational perspective, TBL aims to analyze the performance of the company beyond the traditional measures of profit, return on investment and value generation, including social and environmental issues in performance indicators (SLAPER; HALL, 2011; ELKINGTON, 1997). According to Silvestre (2016), the term sustainability refers to the concern with the dimensions of TBL in organizations. Therefore, in this thesis,

we understand sustainability as a term that means simultaneous concerns with environmental, social and economic aspects – associated with TBL. We assume sustainable development as a broader concept, involving discussions about the development and the present and future generations

According to Baumgartner (2011), the dialogues between concepts and approaches to sustainability and different areas of knowledge are influencing the discussion about the thematic. In this context, Silva and Nascimento (2016) affirm that aiming to approach sustainability in a particular area of study, researchers should consider: (a) the singularities of the theme; (b) the possibility of interaction between approaches; and, (c) the consistency within the research context. Sustainability research should contribute to the understanding of related problems and to the development and implementation of solutions to solve them. In addition, researchers must consider the rigor, relevance, normative aspects and dynamism of the thematic (BAUMGARTNER, 2011).

Issues related to sustainability in inter-organizational relationships are very complex and varied (PULLMAN; MALONI; CARTER, 2009) and the TBL concept seems to help academics and managers deal with such issues (TOUBOULIC; WALKER, 2015b). However, according to Hall, Matos, and Silvestre (2012), supply chains that focus only on financial performance are likely to become unsuccessful. Therefore, environmental and social practices in the supply chain will also become unsuccessful. Additionally, academic studies commonly focus on answering the question: what will the company earn financially by introducing environmental and social practices? In other words, the dominance of economic measures is a norm that drives not only the vast majority of practice but also the preponderance of research. Economic benefit in the supply chain stands out from the socio-environmental benefits (MONTABON; PAGELL; WU, 2016).

Different approaches explain the different configurations of inter-organizational relationships. According to Parmigiani and Rivera-Santos (2011), it is important to recognize the purpose of the inter-organizational relationship. In this context, we highlight the supply chain perspective. The supply chain is the arrangement of interdependent organizations aiming to deliver products and/or services and to satisfy costumers' needs. The management and coordination of the supply chain involve adaptations and changes in the global network of organizations (PATHAK et al., 2007), moving from an individual perspective to inter-organizational interactions.

To achieve its purpose, the supply chain must be properly managed. Supply chain management (SCM) is defined by Mentzer et al. (2001) as the strategic and systematic

coordination of key business processes by a specific company, aiming the continuous increase in the performance of organizations that are supply chain members. Although the concept of supply chain management is widely disseminated, we emphasize the concept of supply chain coordination (SSC). SCC involves maintaining control of companies' actions according to a common supply chain goal (ARSHINDER; DESHMUKH, 2008).

In Mentzer et al. (2001) definition, the authors highlight the role of a specific company – the focal company. The focal company has power and influence in the supply chain and, because of this, is responsible for managing and coordinating the supply chain. In addition to the focal company, the supply chain is formed by diverse stakeholders. Stakeholder is a term defined as any individual, group of individuals or organization that can influence or be influenced by the achievement of the supply chain goals (FREEMAN, 2004).

In this context, discussions on sustainability and supply chain generally share a focus on concepts that aim to meet economic, environmental and social performance, based on the Triple Bottom Line approach (ELKINGTON, 1997), and investigate this performance over an extended period (PAGELL; SHEVCHENKO, 2014). Thus, the Sustainable Supply Chain Management (SSCM) concept emerges. The concept aims to integrate the three dimensions of sustainability into strategies, routines, and processes of the supply chain (PAGELL; WU, 2009). SSCM is conceptualized by Carter and Rogers (2008) as the strategic integration of an organization's social, environmental, and economic goals in key inter-organizational business processes. Carter and Rogers' (2008) definition of SSCM is based on TBL, as well as on four facets of sustainability support: risk management, strategy, transparency, and culture.

Management is fundamental to supply chain sustainability. However, we understand that the coordination of the sustainable supply chain is also relevant. Based on the SSC concept, in this thesis, we define sustainable supply chain coordination (SSCC) as the control of the impact of individual actions (for each stakeholder) to achieve sustainability objectives in the supply chain. SSCC refers to the influence of internal actions on sustainable supply chain; and SSCM refers to the management of supply chain strategies, operations and actions aiming to create a sustainable supply chain. Thus, SSCM and SSCC are complementary concepts to understand supply chain sustainability.

The effective sustainable supply chain occurs when all supply chain members adopt sustainability practices in their operations. Supply chain sustainability should be viewed as underlying both internal and external business processes, focusing on the role of collaboration between supply chain partners (TOUBOULIC; WALKER, 2015b). Ashby, Leat, and Hudson-Smith (2012) affirm that the integration of sustainable practices in the supply chain should

include increased stakeholders' engagement, cooperation, communication, integration, risk management, and long-term relationship. We emphasize that sustainability practices refer to effective actions to benefit the environment, people and society and profitability of the company, supply chain or industry. In this thesis, we use sustainability initiatives and sustainability practices as similar expressions.

Therefore, stakeholder relationship is fundamental for the dissemination of sustainable initiatives in supply chain (WOLF, 2011). The development of stakeholders' engagement, the establishment of long-term partnerships, and the adoption of appropriate measures to reach economic, environmental, and social performance (REEFKE; SUNDARAM, 2017) are facilitated by multi-stakeholder partnerships (MSP). MSP is an initiative where stakeholders can learn together in an interactive way, where representatives from organizations can speak and be heard, and where everybody's ideas can be harnessed to drive innovation and find ways forward that are more likely to be in the interests of all (BROWER et al., 2016).

According to Ponte (2014), considering various terms used to describe MPS, roundtables have become more common to deal with sustainability issues. Roundtable is a voluntary initiative aiming to discuss complex issues into a form that improves the participation of all stakeholders and gives them equal standing at the table of negotiations (PONTE, 2014; CASTRO; SWART, 2017). Since the roundtable allows stakeholders discussions and negotiations, the dissemination of sustainability in supply chains seems to be facilitated by this MPS. We address this argument in the following topic.

## **1.1 Research Question**

The literature emphasizes the focal company role for supply chain sustainability (MONTABON; PAGELL; WU, 2016), indicating the focal company as responsible for the introduction and dissemination of sustainability initiatives in the supply chain since this company is responsible for the supply chain coordination and management. However, this firm is not exclusively responsible for sustainability in supply chains. According to Silvestre (2016), the focal company is not always responsible for the first movement towards sustainability in supply chains. For example, there are cases in which the first movement starts from a stakeholder. Stakeholders also play an essential role to introduce and to disseminate sustainability initiatives in the supply chain (SEARCY, 2017).

Silvestre (2016) states that sustainability practices in supply chains are initiated by pioneering organizations and then disseminated to the receptors. Thus, the pioneering

organization is the organization that initiated the movement towards sustainability in the supply chain, which is not necessarily the focal company. In turn, receptors are the other organizations in the supply chains that will later absorb the knowledge and adopt these sustainability initiatives. The author argues that this dissemination process of sustainability in supply chains is not automatic and requires a deliberate effort of the pioneering and other stakeholders.

Based on this, different issues have emerged. How does the dissemination process of sustainability occur when the first movement does not start from the focal company? How does the dissemination process happen when the pioneer organization is not the focal company? If the focal company is not the only member that can stimulate the adoption of sustainability, how can this process of disseminating sustainability practices in supply chains happen? Who is responsible for disseminating sustainability initiatives in the supply chain? What sustainability practices are disseminated in supply chain? These questions were the starting point of this thesis.

To develop this understanding, we use institutional theory as theoretical support. Studies have been using institutional theory to understand and to analyze supply chain sustainability (SAYED; HENDRY; BELL, 2017; SCHNEIDER, 2016; SANCHA; LONGONI; GIMÉNEZ, 2015; SILVA, 2015; MELO et al., 2015; ABDALA; BARBIERI, 2014). Based on organizational field, legitimacy and especially isomorphism concepts (DIMAGGIO; POWELL, 1983; SUCHMAN, 1995), we understand that institutional theory supports the analysis of the dissemination process of sustainability in supply chains, including when this process starts from different stakeholders.

According to the institutional theory, the legitimacy and other types of symbolic performance (such as status or reputation) are key drivers for inter-organizational relationships. Organizational actions are socially constructed and constrained by exogenous forces in the organizational field. These exogenous forces – or isomorphic pressures – lead organizations to seek an acceptable template by suffering coercive pressures, mimicking successful cases or following norms (DIMAGGIO; POWELL, 1983). In some organizational fields, the isomorphic template may be related to relationships with certain partners (PARMIGIANI; RIVERA-SANTOS, 2011). Therefore, the dissemination process of sustainability occurs through isomorphic mechanisms to gain legitimacy within the organizational field.

We argue that efforts to disseminate sustainability in supply chains are more complex when the first movement does not start from the focal company. Thus, this complexity

requires the establishment of new discussions and new partnerships between organizations in a supply chain. Stakeholders can especially exert their influence through participation in multi-stakeholder partnerships (SEARCY, 2017). In this context, multi-stakeholder partnerships (MSPs) seem to be a strategy to deal with the complexity and challenges of the supply chain sustainability, since MSPs provide a way to address complex issues that businesses cannot address on their own (SEARCY, 2017). MSPs seem to contribute to the introduction and dissemination of sustainability practices. These partnerships improve multi-stakeholder interactions by allowing groups to work together to solve a large and complex problem and to exploit new opportunities (BROUWER et al, 2016).

Thus, multi-stakeholder partnerships are playing an increasing role in supply chain sustainability (SEARCY, 2017). Several initiatives can be considered MSPs. We decided to focus on the roundtables, because of its nature of improving the participation of all stakeholders and also portraying to give the stakeholders equal standing at the table of decisions and negotiations (PONTE, 2014). We assume that the roundtable's role is fundamental not only for providing a democratic space for stakeholders from the same industry to discuss sustainability issues but also for the dissemination of sustainability at the supply chain level.

The thesis argument that will be defended is when the first sustainability movement starts from a stakeholder; the specific multi-stakeholder partnership roundtable seems to be an alternative to understanding how the dissemination process of sustainability in the supply chain occurs. This is because efforts to disseminate sustainability in the supply chain are more complex when the first movement is not initiated by the focal company. We assume that the roundtable contributes to the dissemination of sustainability in supply chains. Therefore, the research question is: **How does the multi-stakeholder partnership roundtable influence the dissemination of sustainability in a supply chain?**

Since the researcher's first contact with the beef supply chain, there was motivation to explore the complexities, challenges, and opportunities of this specific supply chain. In addition, this contact enabled the understanding of the research potential in Brazilian beef supply chains and the theoretical and practical contributions that can emerge. The beef industry is an activity of large representation for the economy and agricultural production in Brazil (FLORINDO et al., 2017). In the domestic market, there is consumer demand for low prices and high product quality in different distribution channels. According to Knoll et al. (2017), the beef industry in Brazil is no longer a traditional supplier of beef carcass, and has transformed itself into a supplier of specialized products. In the international context,

Brazilian beef has been has increased its international market share (VIEIRA; TRAILL, 2008). Brazil is considered one of the world's biggest beef exporting countries (KNOLL et al., 2017; ABIEC, 2019).

Concomitantly, Brazilian beef industry has been facing criticism related to product safety, environmental issues, and social responsibility along the supply chain (KNOLL et al., 2017). One of the main drivers of this criticism was the pressures made by the NGO Greenpeace. Beef production has been the focus of extensive sustainability debates since livestock is recurrent seen as environmentally unsustainable (FERNANDES et al., 2019). Brazilian beef supply chain has been under pressure from national and international organizations because of deforestation (WALKER; PATEL; KALIF, 2013), global warming (RUVIARO et al., 2016) and carbon footprint issues (FLORINDO et al., 2017).

Additionally, Knoll et al. (2017) affirm that Brazilian beef supply chain remains a work in progress and needs to deal with challenges, such as animal handling and animal age in the primary sector, food safety, logistical inefficiencies throughout transportation (SOYSAL; BLOEMHOF-RUWAARD; VAN DER VORST, 2014), trust and governance of the supply chain (VIEIRA; TRAILL, 2008; CARRER; SOUZA FILHO; VINHOLIS, 2014), processing issues in beef processors (slaughterhouses) (VIEIRA; TRAILL, 2008; KNOLL et al., 2017) and innovation and competitiveness in the beef production (FERNANDES et al., 2019).

The Brazilian beef supply chain is mainly composed of suppliers of inputs for livestock, farmers, slaughterhouses and distributors, wholesalers, retailers and final consumers – and other stakeholders, including the governmental organizations, non-governmental organizations and the media (KNOLL et al., 2017; CARRER; SOUZA FILHO; VINHOLIS, 2014). In general, this supply chain is characterized by the lack of integration between these partners (EUCLIDES FILHO, 2004; KNOLL et al., 2017). For the proper system operation, the relationship between the parties must be integrated.

In this context, the Brazilian beef supply chain is complex, not necessarily because of the number of stakeholders, but rather because of the variety of them. Additionally, there is a variety of complex transactions in the supply chain (CARRER; SOUZA FILHO; VINHOLIS, 2014). The complexity highlights two important issues: (1) the need for cooperation between partners to achieve supply chain objectives and to react more quickly to the pressures (EUCLIDES FILHO, 2004); and, (2) difficulty of management and coordination, which are necessary to match the heterogeneity of the consumer beef market with the heterogeneity of the supply sources for the production (CARRER; SOUZA FILHO; VINHOLIS, 2014).



This complexity highlights the difficulty of management and coordination and the need for cooperation between partners to achieve supply chain objectives (SILVA; ALVES, BARCELLOS, 2016). Additionally, the introduction of sustainability in supply chain requires a continuous and cooperative relationship between supply chain stakeholders. Aiming to achieve supply chain sustainability and consequently to mobilize all stakeholders around a shared vision for sustainable development, it is necessary to understand the inherent supply chain complexity and the plurality interests that result from the range of stakeholders (KIRWAN; MAYE; BRUNORI, 2017).

Sustainable livestock addresses traceability, reduction of deforestation areas, efficiency of the production, and reduction of greenhouse gas emissions, certification, and independent auditing of all stakeholders. In addition, efforts must be directed towards the elimination of slavery labor (ARAÚJO; BUENO, 2011). Ruviaro et al. (2016) emphasize that it is necessary to include not only environmental aspects for a sustainable supply chain. It is important to consider social aspects, such as the promotion of social responsibility, improvement of working conditions, ethical relationships with employees, clients, suppliers and other stakeholders; occupational health and safety at work and compliance with human rights and labor laws. The beef supply chain sustainability is also dependent on the economic performance and competitiveness factors (NUNES; BENNETT; MARQUES, 2014).

The combination of economic, social and environmental issues in the supply chain results in beef produced with environmental and social respect (NUNES; BENNETT; MARQUES, 2014; GIANEZINI et al., 2014). Thus, introducing and disseminating sustainability initiatives in the beef supply chain operations add value to the business; increase efficiency, effectiveness, and productivity; improve cooperation between stakeholders; and, improve the image of Brazilian livestock and agribusiness in the international market.

In response to the pressures, there is a need to gain a deeper insight into the complexity of the Brazilian beef supply chain – especially related to the introduction and dissemination of sustainability in the supply chain. According to Gianezini et al. (2014), the analysis the Brazilian beef supply chain sustainability is relevant because it can contribute to discussions that support scientific understanding and managerial decisions. Thus, it is necessary to examine alternatives to achieve a more sustainable beef supply chain management and coordination. Understanding how sustainability is introduced and disseminated in the Brazilian beef supply chains is needed.

Therefore, the introduction of sustainability in the supply chain requires a continuous and collaborative relationship between supply chain members. Brazilian Roundtable on Sustainable Livestock (or the Grupo de Trabalho da Pecuária Sustentável) was created in 2007 and formalized in 2009, as an answer to the pressures. The Roundtable purpose is to discuss and to formulate the common principles, standards, and practices adopted by the beef sector to build sustainable, fair, environmentally correct and economically viable livestock. We understand that the Brazilian beef supply chain, as a research object, will help us to analyze how sustainability is disseminated in the supply chain through Brazilian Roundtable on Sustainable Livestock.

## 1.2 Research Purposes

In order to answer the research question, the main research purpose is **to analyze the dissemination process of sustainability in a Brazilian beef supply chain, through the multi-stakeholder partnership roundtable.**

Aiming to achieve the main research purpose, we defined the following specific objectives:

- (a) To understand the context of the Brazilian beef supply chain sustainability;
- (b) To identify the stakeholders of the Brazilian beef supply chains, aiming to build the organizational field;
- (c) To analyze the stakeholder interactions during the Roundtable meetings; and,
- (d) To analyze the influences of the Roundtable interactions and discussions on the adoption of sustainability at the supply chain level.

## 1.3 Motivation

Sustainable supply chain management is a powerfully growing area of research (GOLD; SCHLEPER, 2017; REBS et al., 2018). A fact that confirms this growth is the increase of papers published in journals and conferences (MARTINS; PATO, 2019; REEFKE; SUNDARAM, 2017; TOUBOULIC; WALKER, 2015b) and also the increase of research projects that are being developed (SILVA; FRITZ; NUNES, 2017). Touboulic and Walker (2015b) add that the number of literature reviews published in this area has been increasing in recent years, which in turn indicates that the research field is reaching maturity (MARTINS; PATO, 2019).

Even though studies about sustainability in supply chains are growing significantly (PAGELL; SHEVCHENKO, 2014), further research is needed on the role played by other elements and actors. In general, studies focus on the sustainable supply chain management concept. However, we understand that other concepts may contribute to the understanding of the supply chain sustainability. In this study, we propose a focus on the sustainable supply chain coordination concept.

Montabon, Pagell, and Wu (2016) affirm that sustainable supply chain research is commonly conducted from the focal company perspective, investigating sustainability-related performance measures of the focal firm. Although SSCM research is aimed at the entire supply chain and all its stakeholders, studies have mainly overlooked other stakeholders and the communities in which the supply chain operates. Future research will have to explicitly recognize the claims of stakeholders without an economic stake in the supply chain (PAGELL; SHEVCHENKO, 2014). The inclusion of different stakeholders' perspectives can significantly contribute to understanding, for instance, how sustainability is being introduced and disseminated in supply chains (SILVESTRE, 2016).

Reefke and Sundaram (2017) identified three research opportunities related to sustainability in supply chains: sustainability dimensions/characteristics (economic, environmental and social), management dimensions/enablers (governance, risk, and compliance), and performance management. Winter and Knemeyer (2013) claim that future SSCM research should investigate the connection between elements of supply chain management and sustainability to better understand how management can influence the success or failure of sustainable initiatives in supply chains. Touboulic and Walker (2015b) add that researchers must go further and investigate how supply chain members influence other supply chain organizations through organizational decisions. Therefore, supply chain management and coordination appear as relevant aspects to reach true supply chain sustainability.

Additionally, Silvestre (2016) affirms that future research should focus on how sustainable initiatives are disseminated in different inter-organizational relationships in distinct contexts. Since the dissemination process is not automatic, it calls for further investigation on the role played by other elements such as stakeholders' partnerships. Addressing this research gap will allow us to understand how sustainability is disseminated in supply chains. The role of the focal company in this dissemination process is also an area that requires further exploration (SILVESTRE, 2016).

According to Gold and Schleper (2017), sustainable supply chain management has emerged as an academic sub-conversation among European and Northern American supply chain management scholars. More recently, however, interest has also shifted towards emerging and developing countries (GOLD; SCHLEPER, 2017). Being the one of the largest economies in the world and representing almost three percent of the global population, Brazil plays a major role in contributing towards sustainability in supply chains (FRITZ; SILVA, 2018). The country has been facing a wide variety of sustainability challenges, such as depletion of natural resources, pollution, environmental degradation, forced and insufficient labor rights, socio-economic inequality, and corruption.

Analyzing the current Latin American publications on sustainability in supply chains, Fritz and Silva (2018) identified the high proportion of the publications on supply chain sustainability in Brazil compared to other Latin American countries. However, Brazilian publications follow global SSCM discussions to a certain extent only (SILVA; FRITZ; NUNES, 2017). Silva et al. (2015) conducted a literature review on SSCM publications in 37 Brazilian journals selected for 15 years – from 2000 to 2014. According to the authors, results indicated that the understanding of SSCM includes recurrent discussions with environmental or economic dimensions. However, a comprehensive definition of the concept is lacking. Only one of the identified papers presented a relationship between management, sustainability, and supply chain in the context of SSCM.

Silva, Fritz, and Nunes (2017) identified that scientific publications on SSCM in Brazil focused on practical issues of collaboration with key stakeholders (aspect stakeholder inclusiveness), knowledge sharing (aspect knowledge management), effectiveness (aspect productivity), and risk management. The authors recommended as future studies the specificities of the country and how these specificities can serve research in other similar countries or regions; the analysis of sustainability considering the entire supply chains; the theoretical contributions regarding the meaning of sustainability in the supply chain in Brazil and comparisons with other definitions.

Therefore, this creates a research gap and an opportunity for Brazilian researchers to contribute to the field. Considering current sustainability challenges in Brazilian supply chains and the impact business and policy may exert, a research field on SSCM in Brazil can emerge as an important area of study (SILVA; FRITZ; NUNES, 2017). SSCM researchers in Brazil should engage in the empirical analysis of data collected that is led by practice-induced problem formulations (GOLD, 2016).

Finally, the Brazilian beef supply chain may be labeled as ‘sensitive’, since its activities are prone to impact the environment and society as a whole (GOLD, 2016). Particularly motivated by external market pressures, companies are investing in sustainability initiatives involving supply chain partners. The largest Brazilian slaughterhouses adopted sustainable practices to meet the demands of their buyers, mainly the international marketing (ABIEC, 2019), engaging in initiatives that aim to create solutions to many of these demands through the participation and engagement of multiple stakeholders (SCHNEIDER, 2016; SILVA; ALVES, BARCELLOS, 2016).

In this scenario, multi-stakeholders partnerships seem to contribute to the dissemination of sustainability initiatives in supply chains (SEARCY, 2017). Particularly, the multi-stakeholder partnership Brazilian Roundtable of Sustainable Livestock seems to contribute to the improvement of the world’s largest beef value chain through knowledge and science, with the engagement, commitment and collaboration of these multiple stakeholders in order to achieve sustainability (SCHNEIDER, 2016). Therefore, it is interesting to investigate the role and contribution of this multi-stakeholder partnership for the dissemination of sustainability in Brazilian beef supply chain.

This study is aligned with sustainable development goals. We identified four goals related to the sustainable beef production debate. The first identified goal refers to zero hunger, by ending hunger, achieving food security and improved nutrition, and promoting sustainable agriculture. The second goal links to responsible consumption and production, by ensuring sustainable consumption and production patterns. The third identified goal is life on land, by protecting, restoring and promoting sustainable use of land and forests. Finally, there is the partnership for the goals. The goals are integrated, thus, an action in one area will affect outcomes in the others (UNDP, 2019). Thus, the contribution of this research is highlighted.

Additionally, we assume four contributions to this study. First, we contribute to the study of inter-organizational relationships since we explore a new relationship configuration between diverse organizations. Considering this new configuration – the roundtable – we analyze its influence on the dissemination process of sustainability initiatives in a Brazilian beef supply chain. This understanding is enabled by the theoretical support of the institutional theory, whose concepts allow a better understanding of the dynamics and interactions among the actors in the organizational field. Therefore, we use the institutional theory because this theory facilitates the understanding of this dissemination process.

Second, we present empirical evidence on the role of a different actor, which is not the focal company, toward supply chain sustainability. This study contributes to the understanding

of the dissemination process of sustainability in supply chains when the first movement does not start with the focal company. Third, this study highlights the concept of supply chain coordination and its importance to supply chain sustainability. Four, we present the practical contributions of this study to the Brazilian beef supply chain. Managers can be encouraged to interact with stakeholders through roundtables toward supply chain sustainability.

#### **1.4 Thesis Structure**

This thesis is organized into seven sections. In this first section, we present an introduction and delimitation of the subject, the research problem definition, purpose, and specific objectives and the motivation for the study. We discuss sustainability in the supply chain, addressing sustainable supply chain management concept and sustainable supply chain coordination, institutional theory and the roundtable as a multi-stakeholder partnership in the theoretical background – the second section. In the third section, we describe the methodological procedures used to conduct this research.

Results are organized into three sections. In the fourth section, we present an overview of the current panorama of sustainability in the Brazilian beef industry and supply chains. We identify the stakeholders of the Brazilian beef supply chain sustainability and analyze the interactions of these stakeholders at the Roundtable discussions in the fifth section. Finally, in the sixth section, we discuss the influences of the Roundtable discussions on the Brazilian beef supply chain sustainability. In the seventh section, we discuss the main results of this thesis. The eighth section refers to the final considerations. References and appendices are listed below.

## 2 THEORETICAL BACKGROUND

No organization is an island – all need relationships with other organizations to survive and grow (...) We define these relationships as being strategically important, cooperative relationships between a focal organization and one or more other organizations to share or exchange resources with the goal of improved performance (PARMIGIANI; RIVERA-SANTOS, 2011, p.1109).

We organized this section into four topics. In the first topic, we address supply chain sustainability, the sustainable supply chain management and sustainable supply chain coordination concepts. In the second topic, we discuss the institutional theory and also studies in the sustainable supply chain management area, which use institutional theory as theoretical support. In the third topic, we explain the multi-stakeholder partnership roundtable. Finally, the last topic presents the theoretical framework of this research.

### 2.1 Sustainability and Supply Chain

Sustainability in supply chain has become an established area of research (REBS et al., 2018). However, both academic and practitioners recognize the thematic as a challenge (BARBOSA-PÓVOA; SILVA; CARVALHO, 2018), especially because of the integration of sustainability and supply chain areas (TOUBOULIC; WALKER, 2015). Previously to argue about this integration, we discuss the supply chain management approach and we also explore the supply chain coordination concept. This discussion contributes to the understanding of supply chain sustainability.

Supply chain management has brought a new approach to the study of organizations (PARMIGIANI; RIVERA-SANTOS, 2011). Assuming the supply chain perspective is to move from an internal organizational focus to inter-companies relationships. This perspective focuses on supply chain strategies and decisions, including how individual organizational movements (usually, but not necessarily, from the firm that manages and coordinates the supply chain) influence these strategies and decisions. The supply chain approach is multidimensional and should be considered meso-analytical since it is related to the micro-level (firms' operations) and the macro-level (public policies, for instance) (PEDROZO; ESTIVALETE; BEGNIS, 2004).

According to Pedrozo, Estivaleta, and Begnis (2004), the term 'chain' commonly refers to the idea of sequence, the idea of members that establish interdependence. Following this idea, the supply chain generally is defined as a linear path, which integrates the activities

related to the flow and transformation of goods, from the extraction of raw materials to the final user, producing value to customers and creating a competitive advantage (BEAMON, 1999). Serdasaran (2013, p.533) describes a supply chain as a “complex system with various companies, high number, and variety of relations, processes, and interactions between and within the companies, dynamic processes, and interactions”. The complexity is part of the supply chain nature. Thus, a supply chain means is an inter-organizational relationship configuration (PARMIGIANI; RIVERA-SANTOS, 2011), aiming to deliver products and/or services and to satisfy the customers’ demands.

Christopher (2005) affirms that the supply chain is composed of organizations that need to have some relationship to achieve performance goals, especially those valued by costumers. Chopra and Meindl (2003) affirm that a supply chain consists of all actors directly or indirectly involved in reaching customer requirements, including manufacturers, suppliers, distributors, warehousing companies, and retailers. Therefore, the supply chain emerged as an option for companies to compete in the market (CHRISTOPHER, 2005). In this context, the supply chain must be properly managed to operate in the highly competitive market and to create and to deliver value to its customers. The success of managing a supply chain requires changes at the center of management, moving from an individual perspective to the integration of inter-organizational activities.

According to Lambert, Cooper, and Pagh (1998), the Global Supply Chain Forum defines SCM as the integration of key business processes, from end-users to first suppliers that deliver products, services, and information, which generate value to customers and other stakeholders. Mentzer et al. (2001) conceptualize SCM as systemic and strategic coordination of the traditional business functions and tactical functions of these businesses in a supply chain, by a specific company, aiming to improve the long-term performance of each company and the supply chain as a whole. We understand that supply chain management approach based on the dependencies between the organizations, from the origin of the materials, through the production and the consumption of the items, until the final disposal.

As explicitly emphasized by the concept of Mentzer et al. (2001), managing the supply chain is the responsibility of a specific organization. In the supply chain approach, the focal company is this specific organization. Focal companies are those organizations that usually manage and coordinate the supply chain, maintaining contact with the organizational client or the final consumer, and designing the product and/or service delivered by the supply chain (SEURING; MÜLLER, 2008). In this thesis, we understand the focal company as the organization that is usually responsible for the supply chain management and coordination.



The focal company is therefore responsible for the supply chain business, and also for the monitoring of the supply chain members. Consequently, the focal company has influence and power precisely because this company is responsible for these supply chain activities.

On the other hand, the other supply chain members are the stakeholders. A stakeholder is a term that defines “any group or individual who can affect or is affected by the achievement of the organization objectives” (FREEMAN, 1984, p.46). Even though they may not be considered stakeholders by the focal company or other supply chain members, Friedman and Miles (2006) emphasize that individuals or groups can consider themselves supply chain stakeholders. Excluded from being a stakeholder are only those who have no power (cannot affect the firm) and have no claim or relationship (are not affected by it). Persons, groups, neighborhoods, organizations, institutions, societies, and even the natural environment are generally qualified as actual or potential stakeholders (MITCHELL; AGLE; WOOD, 1997). The term stakeholder includes investors, shareholders, company owners, employees, consumers, producers, suppliers, government agencies, nongovernmental organizations, media and communication companies, civil society, community and others (FREEMAN, 2004).

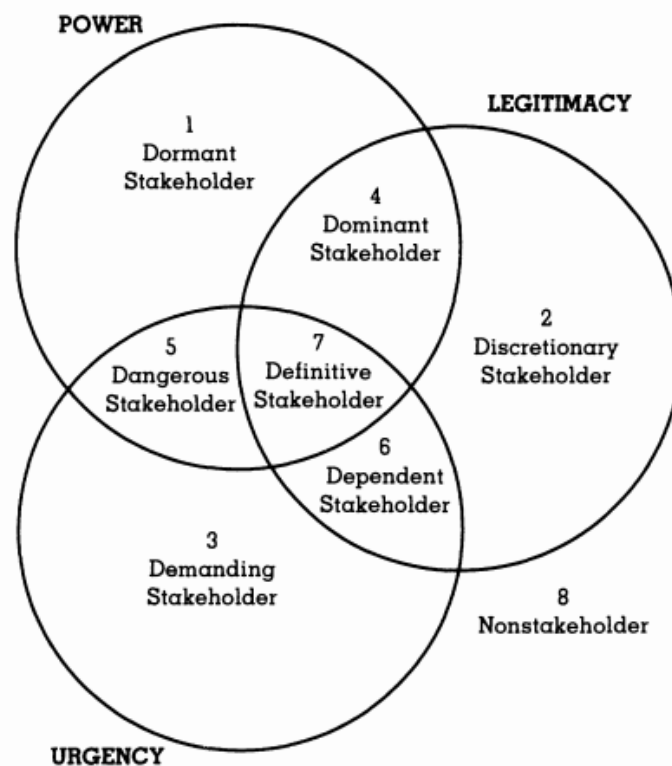
Mitchell, Agle, and Wood (1997) argue there are different types of stakeholders and managers of organizations prioritize certain types of stakeholders to achieve certain ends or because of perception factors. Therefore, the identification typology proposed aims to facilitate the mapping of the different types of stakeholders and the understanding of their relationships. The authors developed “a dynamic model, based upon the identification typology, that permits the explicit recognition of situational uniqueness and managerial perception to explain how managers prioritize stakeholder relationships” (MITCHELL; AGLE; WOOD, 1997, p. 854). The model proposes dynamism in the systematic identification of stakeholders, based on different attributes. Table 1 presents these attributes. Each attribute can change for any organization or any relationship between the stakeholder and the managers of firms.

Attributes	Meaning
Power	A relationship among social actors in which one social actor, A, can get another social actor, B, to do something that B would not have otherwise done.
Legitimacy	A generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, definitions.
Urgency	The degree to which stakeholder claims call for immediate attention.

**Table 1 - Meaning of Stakeholders Attributes**

Source: Mitchell, Agle, and Wood (1997)

The attributes analysis allows the identification of organizations, groups or individuals that should be considered stakeholders of the firm or supply chain. The stakeholder identification typology thus emerges from the combinations of the three attributes. According to the authors, seven types are possible logically and conceptually: three possessing only one attribute, three possessing two attributes, and one possessing all three attributes. There is also an extra type who does not possess attributes (no power, legitimacy, and urgency in relation to the firm): the nonstakeholder (MITCHELL; AGLE; WOOD, 1997). Figure 1 shows the eight types of stakeholders, including the nonstakeholder.



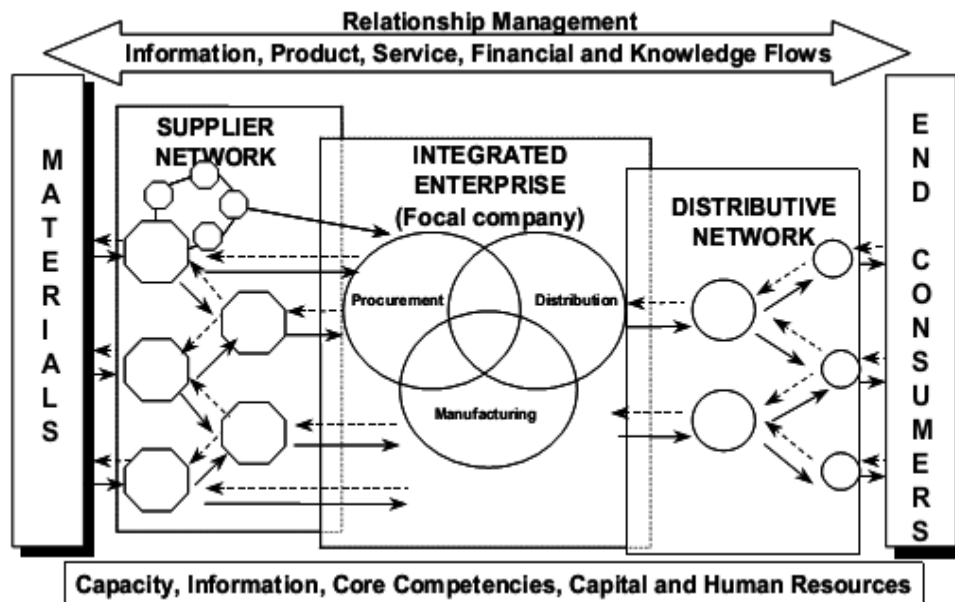
**Figure 1 - Stakeholder Typology**  
Source: Mitchell, Agle, and Wood (1997, p. 874)

The possession of one of the attributes linked to low salience classes (areas 1, 2, and 3 of the Figure). The authors called this class the latent stakeholders, including dormant, discretionary, and demanding stakeholders. The possession or the attributed possession of two of the attributes linked to moderately salient stakeholders (areas 4, 5, and 6 of the Figure). These are the expectant stakeholders, since they expect something from the focal company and supply chain. The expectant stakeholders include dominant, dependent, and dangerous stakeholders. In turn, the combination of all three attributes (including the dynamic relations among them) defines the highly salient stakeholders (area 7 of the Figure), or the definitive

stakeholders. Finally, individuals or entities possessing none of the attributes are nonstakeholders or potential stakeholders. By acquiring the missing attributes, any stakeholder can become a definitive stakeholder (MITCHELL; AGLE; WOOD, 1997).

Dormant stakeholders possess power to impose their will on a firm or supply chain; however, by not having a legitimate relationship or an urgent claim, their power remains in general unused. Discretionary stakeholders possess the attribute of legitimacy, but they have no power to influence the firm and no urgent claims. Demanding stakeholders possess urgency as the only relevant attribute. Dominant stakeholders are both powerful and legitimate. Their influence in the firm or supply chain is assured, because their expectations matter to managers. Dependent stakeholders have urgent legitimate claims, since they depend upon others for the power necessary to achieve their will. Dangerous stakeholders possess urgency and power, and an illegitimate status. Lastly, definitive stakeholders are legitimate powerful, and their claims are urgent. Firms give priority to this stakeholder type (MITCHELL; AGLE; WOOD, 1997).

Therefore, the supply chain is formed by a focal firm and diverse classes of stakeholders that interact continuously. The supply chain can be formed by a plurality of stakeholders, which will determine its forms of action and its coordination mechanisms (PEDROZO; ESTIVALETE; BEGNIS, 2004). The stakeholder relationship depends on several factors, such as the size of the supply chain and the number of stakeholders. Considering that a stakeholder can influence the organizations that are part of the supply chain or be influenced by them, the focal firm's managers should define a strategy for maintaining good relationships with these actors (FREEMAN, 2004). Figure 2 shows the interactions between the different supply chain members. Supply chains will have diverse configurations depending on different organizations.



**Figure 2 - Supply Chain Interactions**  
 Source: Bowersox, Closs and Cooper (2013).

Although the concept of supply chain management is widely disseminated, we emphasize the concept of supply chain coordination (SSC). Furlanetto (2003) defines supply chain coordination as the management of individual actions (for each member) according to a common goal (supply chain goal) and consists of information transmission, incentive promotion, and control use in a system. Reefke and Sundaram (2017) affirm that SCC includes information flows and planning activities. Therefore, several intersections between planning, execution, and control should occur, to eliminate the asymmetry of information between supply chain members and to guarantee better results for the supply chain. Arshinder and Deshmukh (2008) argue that SCC involves maintaining control of overall supply chain processes. In this thesis, we understand SCC as the coordination of the interdependence between different members of the supply chain and the influence of individual organizational decisions in the supply chain.

Furlanetto's (2003) concept highlights coordination as the management of individual actions, i.e., the management of practices of each organization to achieve the supply chain objectives. SCC includes the coordination of the internal practices of each organization that are part of the supply chain and the influence of those practices on the supply chain performance. In this context, the focal company is usually the specific organization responsible for SCM – and we add that this firm can be also responsible for SCC. The focal company may use coordination mechanisms to organize and to control organizations to achieve supply chain performance objectives. Such coordination mechanisms include

information and technology sharing, incentive systems, contracts, collaborative initiatives, risk management, and joint decision-making. Additionally, SSC addresses issues related to the reputation and image of the organizations that are part of the supply chain (REEFKE; SOUDARAM, 2017; ARSHINDER; DESHMUKH, 2008).

Based on this discussion, we understand that SCC and SCM are concepts that link to each other and have similar meanings. Aiming to analyze the nature of each concept, we verified that some authors define SCM as supply chain business coordination; while other researchers define SCC as the management of the individual decisions of each organization to reach supply chain goals. However, we must go beyond this similarity to better understand the concepts that are being studied in this thesis. SCC refers to the influence of the internal practices on supply chain; and, SCM refers to the management of supply chain strategies, operations, and businesses. Thus, we understand that there is a complementarity between the coordination mechanisms of the supply chain, the management of individual practices of the organizations and also the management of supply chain business. The complementarity is precisely on the fact that SCM and the management of the organizations' practices are influenced by supply chain coordination mechanisms, while, at the same time, they influence these mechanisms.

In this thesis, the focus is on the dissemination process of sustainability in a supply chain. Discussions on sustainability and supply chain generally share a focus on the sustainable supply chain management (SSCM) concept. Due to the complementarity of SCM and SCC, it is important to understand how sustainability in the supply chain area addresses these concepts. We discuss sustainable supply chain management and also sustainable supply chain coordination.

Previously to the discussion on sustainable supply chain management and coordination, we highlight the first debates integrating sustainability and supply chain approach. These debates emerge from the integration of environmental management and supply chain management. The desire to improve economic performance motivated the organizations and supply chains to implement the environmental management (BESKE; SEURING, 2014). Therefore, efforts to introduce environmental practices into supply chains contributed to the emergence of the Green Supply Chain Management (GSCM) concept (SRIVASTAVA, 2007).

GSCM expanded the scope of supply chain management by including environmental aspects to the economic management criteria. According to Srivastava (2007), GSCM is an environmental integration in the supply chain, including product design, demand and material

selection, manufacturing processes, delivery of the final product to consumers and waste management, aiming to reduce environmental impact without sacrificing quality, cost, reliability, performance or efficiency in energy consumption. Carter and Easton (2011) argue that initially the terms ‘sustainability’ and ‘environment’ were misused as synonyms by researchers and managers. This fact may explain why some authors use GSCM and SSCM for the same meaning.

However, expected contributions to sustainable development should not be limited to the reduction of environmental impacts. Many authors continue to interpret business sustainability mostly in the strict GSCM sense (MARTINS; PATO, 2019), and the environmental and economic dimensions continue the focus of many publications on the area. Nevertheless, the integration of the social dimension is part of the sustainable supply chain management research maturity (MARTINS; PATO, 2019). The supply chain businesses must contribute to the generation of social benefits along the supply chain, especially in developing countries (MARTINS; PATO, 2019; KOBERG; LONGONI, 2019; FRITZ; SILVA, 2018). For instance, Fritz and Silva (2018) affirm that the meaning of social dimension in Latin America links to the introduction of human elements in the supply chain and also to the influence of the supply chain activities in people’s lives.

Advances on the discussions related to sustainability in supply chain reinforce the necessity to integrate the three TBL dimensions (economic, social and environmental) in the inter-organizational relationship. The literature emphasizes that social issues also need to be integrated in the supply chains (SEURING; MÜLLER, 2008; PAGELL; WU, 2009; ASHBY; LEAT; HUDSON-SMITH, 2012; GIMENEZ; SIERRA; RODON, 2012; PAGELL; SHEVCHENKO, 2014; SILVA et al., 2015; MONTABON; PAGELL; WU, 2016; RAJEEV et al., 2017; GOLD, SCHLEPER, 2017; FRITZ; SILVA, 2018; BARBOSA-PÓVOA; SILVA; CARVALHO, 2018; MARTINS; PATO, 2019; KOBERG; LONGONI, 2019). According to Martins and Pato (2019), social aspects are still underrepresented in the literature and represent significant research opportunities. Thus, future research on the topic should consider a supply chain’s social and environmental performance as equally or more valid than economic performance (SILVA; FRITZ; NUNES, 2017).

In this context, Montabon, Pagell, and Wu (2016) assume that sustainability is an inherently integrative concept. Thus, it is not possible to achieve sustainable performance without the three dimensions of sustainability being effectively included in decision-making, strategies and companies’ activities in the supply chain (PAGELL, WU, 2009). Ashby, Leat, and Hudson-Smith (2012) argue that, in addition to the need to integrate economic, social and

environmental dimensions of sustainability into the supply chain strategies and operations, supply chain and sustainability are areas that still require a more holistic approach. This is the context for the emergence of the sustainable supply chain management (SSCM) concept. We address the SSCM concept in the next topic.

### *2.1.1 Sustainable Supply Chain Management (SSCM)*

Discussions on sustainability and supply chain generally emphasize concepts that aim to meet economic, environmental and social criteria based on the TBL approach (ELKINGTON, 1997). In this context, the discussions usually focus on Sustainable Supply Chain Management (SSCM) concept. SSCM become a topic of interest for academics and practitioners in the last decade (DUBEY et al., 2017a; GOLD, SCHLEPER, 2017; BARBOSA-PÓVOA; SILVA; CARVALHO, 2018), since the publication of seminar papers (see SEURING; MÜLLER, 2008; CARTER; ROGERS, 2008; PAGELL, WU, 2009).

There are different definitions of SSCM – at least twelve definitions according to Ahi and Searcy's (2013) survey. Table 2 presents a summary of SSCM concepts. Definitions of SSCM keep advancing, and the subject continuously evolves. The area covers topics such as supplier development, decision-making, socially sustainable supply chains, sustainable supply chain risks, multi-tier supply chains, etc. (GOLD, SCHLEPER, 2017).

We highlight three points regarding the SSCM definitions. First, the variety of SSCM concepts reveals the diversity of constructs and perspectives adopted by authors in the field, such as procurement/purchasing perspective and supply chain perspective (TOUBOULIC; WALKER, 2015b). In general, definitions seem to incorporate the concept of TBL, with specific references to the environmental, social and economic dimensions. Additionally, these concepts include the notion of pressures from external stakeholders. Suppliers, clients, nongovernmental entities, community members, government agencies and even competitors, which traditional supply chains generally ignore or treat just as adversaries, are included by these definitions (PAGELL; WU, 2009; BESKE; LAND; SEURING, 2014). Seuring and Müller (2008) identified the main external pressure groups (or central trigger) for supply chain sustainability – customers and the government.

Author(s)	SSCM Definition
Carter and Rogers (2008, p.368)	The strategic and transparent integration and achievement of an organization's social, environmental and economic objectives in the systemic coordination of the main interorganizational business processes to improve the long-term economic performance of the individual company and its supply chains.
Seuring and Müller (2008, p.1700)	The management of capital flows, materials and information, as well as cooperation among companies along the supply chain, aiming at three dimensions, economic, environmental and social, which are requirements of customers and stakeholders.
Pagell and Wu (2009, p. 38)	The specific managerial actions that are taken to make the supply chain more sustainable with an end goal of creating a truly sustainable chain.
Gimenez, Sierra and Rodon (2012, p. 150)	A firm's plans and activities that integrate environmental and social issues into SCM in order to improve the company's environmental and social performance and that of its suppliers and customers without compromising its economic performance.
Ahi and Searcy (2013, p. 339)	The creation of coordinated supply chains through the voluntary integration of economic, environmental, and social considerations with key inter-organizational business systems designed to efficiently and effectively manage the material, information, and capital flows associated with the procurement, production, and distribution of products or services in order to meet stakeholder requirements and improve the profitability competitiveness, and resilience of the organization over the short- and long-term.
Pagell and Shevchenko (2014)	The design, coordination, control and organization of a supply chain to make it truly sustainable with minimum expectation being to achieve economic viability, while ensuring no harm to environment and social systems over an extended period of time.
Dubey et al. (2017a, p.1120)	The voluntary integration of social, economic, and environmental considerations with the key inter organizational business systems to create a coordinated supply chain to effectively manage the material, information and capital flows associated with the procurement, production and distribution of products or services to fulfil short term and long term profitability, stake holder requirements, competitiveness and resilience of the organization.

**Table 2 - Sustainable Supply Chain Management Concepts**

Second, SSCM definitions emphasize that SSCM goes beyond the traditional conception of business, while still being concerned with economic performance (TOUBOULIC; WALKER, 2015b). Once pressured, the focal company usually passes this pressure on to suppliers. Thus, the focal company commonly needs to consider a longer part of the supply chain (SEURING; MULLER, 2008). Compared to the traditional supply chain, Seuring and Müller (2008) indicated three different characteristics: (a) SSCM requires the exam of social and environmental impacts, in addition to economic impacts in the supply chain; (b) SSCM involves more performance objectives, due to the introduction of social and environmental aspects; and (c) SSCM requires more integration and cooperation between supply chain partners. Thus, SSCM increases the complexity of the supply chain.

Third, Dubey et al. (2017b) classified SSCM definitions into two categories – SSCM as a management philosophy and SSCM as a set of management processes. The category ‘SSCM as a management philosophy’ links to organizational culture. In recent years, organizations have started embracing SSCM as their guiding philosophy. This category links



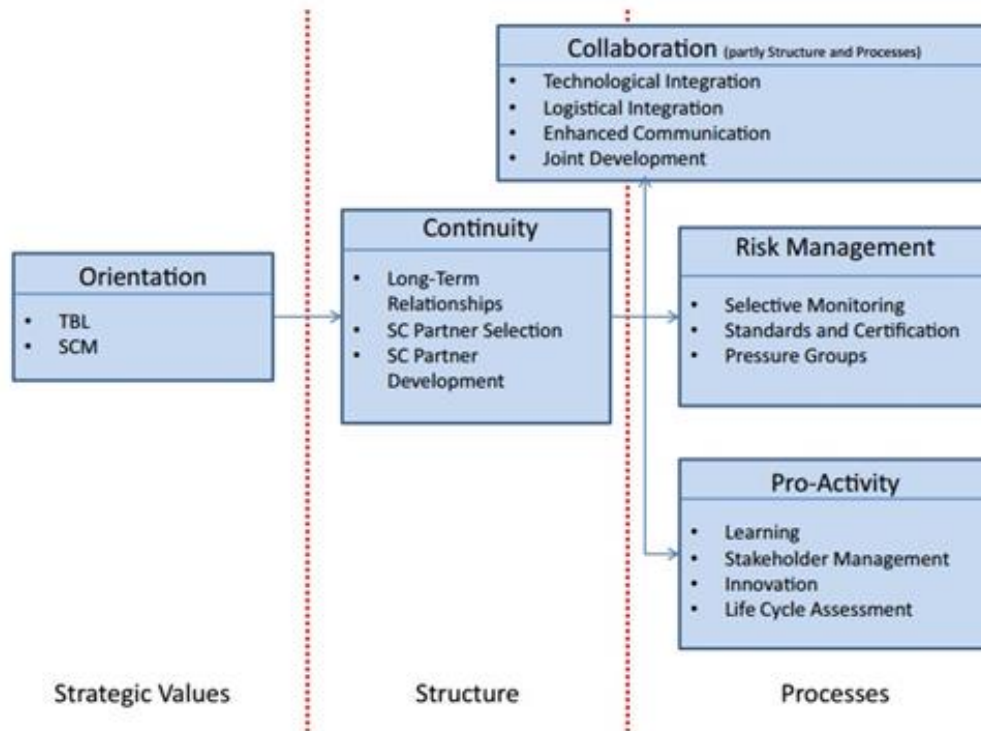
to the company's orientation to TBL to achieve truly sustainable performance (BESKE, LAND, SEURING, 2014). The category 'SSCM as a set of management processes' based on Pagell and Shevchenko (2014). The authors affirm that SSCM could be understood from a process perspective and in particular from a cycle and push/pull view. In this context, Gimenez, Sierra, and Rodon (2012) argue that SSCM definitions imply the adoption of initiatives to improve the environmental and social impacts of focal firms' internal processes. They also imply the adoption of sustainability initiatives with their suppliers and customers.

According to Pagell and Wu (2009), initiatives that lead to the sustainable supply chain are similar to best practices in traditional supply chain management. The authors affirm that the capability to innovate and the managerial orientation toward sustainability are precursors to successful sustainable supply chain management. Those organizations which have an innovation capability and a managerial orientation toward sustainability will engage in two unique sets of activities: a reconceptualization of the supply chain stakeholders and concern for supplier continuity. This reconceptualization links to the explicit inclusion of NGOs, community members and even competitors in the supply chain. In addition, a sustainable chain based on TBL would have to be sustainable from a traditional economic standpoint; to have well-designed measurement and reward systems that link employee outcomes to sustainability outcomes; and, to have rewards and incentives for the achievement of sustainability objectives (PAGELL; WU, 2009).

Beske and Seuring (2014) identified five categories to analyze SSCM: strategic orientation, continuity, collaboration, risk management and proactivity (for sustainability). The authors affirm that these categories allow the internal and external analysis of the supply chain. Figure 3 presents the categories and their practices structured on three hierarchical levels (strategic values; structure; and processes). Strategic orientation refers to the strategic values level. This category represents the strategic values of the company, including the orientation for TBL and orientation for the supply chain. Continuity, on the other hand, links to the structure level of the supply chain. This category includes long-term contracts with suppliers, customers and other stakeholders, strategies to increase competitiveness in long-term, strategies to construct partnerships, and permanent interaction aiming to establish long-term relationships (BESKE; SEURING, 2014).

Collaboration links to structure level and processes level since the category influences not only the supply chain processes but also its structure. It includes structural decisions about how to integrate partners technically and logistically and the joint development of sustainable products and processes. The two other categories refer to processes level: risk management

and proactivity. Risk management involves individual control of suppliers, the adoption of certification standards, and the monitoring of stakeholders' demands. Finally, proactivity represents the commitment of the company with sustainability issues in the supply chain and how it is shared with partners (BESKE; SEURING, 2014).



**Figure 3 - Sustainable Supply Chain Management Categories and Practices**

Source: Beske and Seuring (2014, p. 324)

The reason why supply chains implement sustainability initiatives varies in terms of the key motivation behind these actions. Understanding this “why” question is essential for the advancement of research and practice of sustainable supply chains (SILVESTRE, 2016). Pressures and incentives of governments, customers, rivals and other stakeholders are constantly indicated as pushing companies towards the adoption of sustainability and to monitor other businesses along the supply and demand chains (GOLD, SCHLEPER, 2017). Seuring and Müller (2008) indicated, as motivators for SSCM, cases of companies exposed to campaigns by NGOs due to social and environmental impacts in their supply chains (both focal companies and suppliers) and the integration of social and environmental aspects into management systems.

According to Silvestre (2016), motivations for introducing supply chains to pursue sustainable operations are driven by two key factors: risks and opportunities. Supply chains

pursue more sustainable practices because they identify business opportunities in the marketplace. On the other hand, supply chains pursue sustainable initiatives because of the risks they may face if they decide to not act. Risks can be associated with for example new and often stricter (in terms of environmental and social performance) government laws and new regulators' policies; with pressures from different stakeholders; and/or with pressures from new sustainability approaches implemented by competing supply chains (SILVESTRE, 2016).

Gimenez and Tachizawa (2012) argue that a driver or motivator is a factor that initiates and motivates organizations to adopt SSCM. The enabler is a factor that assists firms in achieving these sustainable practices. The authors classified enablers into two groups: internal and external enablers. Internal enablers cover factors within the focal firm that help achieve sustainable practices, including the firm's environmental commitment, senior or top management support, the availability of resources, the strategic role of the purchasing function, the development of supply management capabilities of purchasing personnel, the role of the project leader and appropriate performance measurement systems. In turn, external enablers address factors beyond the firm's boundaries, including trust, national culture, logistical and technological integration and clarity of objectives. External enablers link to the characteristics of the supply chain relationship (GIMENEZ; TACHIZAWA, 2012).

However, there are barriers to the implementation of sustainability initiatives in the supply chain. There must be internal controls, monitoring, integration, awareness, engagement, and transparency, to reduce environmental impacts and social problems. The integration of the focal company and stakeholders and also stakeholders' engagement are important aspects for the introduction and dissemination of sustainability in the supply chain (SEURING; MÜLLER, 2008; PAGELL; WU, 2009). Ashby, Leat, and Hudson-Smith (2012) affirm that to effectively introduce sustainability initiatives in the supply chain, the focal company must define cooperation and communication strategies to better integrate the stakeholders.

Therefore, the focal company plays a relevant role in SSCM. This company is usually responsible for the sustainable supply chain management to achieve social and environmental objectives, beyond economic goals (CARTER; ROGERS, 2008). To achieve these objectives, the supply chain must also be coordinate. We argue that the focal company is commonly responsible for the sustainable supply chain coordination. We address sustainable supply chain coordination in the next topic.

### 2.1.2 Sustainable Supply Chain Coordination (SSCC): a concept proposal

In addition to the management, we assume that sustainable supply chain coordination is also relevant for supply chain sustainability. We define Sustainable Supply Chain Coordination (SSCC) as the control of the impact of individual actions (for each stakeholder) to achieve sustainability objectives in the supply chain business. Since SCC and SCM are complementary concepts, SSCM and sustainable supply chain coordination are also complementary. SSCC refers to the influence of internal actions on the sustainable supply chain; and SSCM refers to the management of supply chain strategies, operations, and actions aiming at sustainability.

SSCC demands internal controls, monitoring, integration, awareness, engagement, and transparency, to reduce environmental damage and social problems throughout the supply chain. Therefore, sustainable supply chain coordination requires the coordination of issues related to sustainability in the internal and external scope, considering the stakeholders (REEFKE; SOUDARAM, 2017). The supply chain coordination and, consequently, the sustainable supply chain coordination are specifically related to the governance of the relationship between partners.

Therefore, the focal company is generally responsible for managing and coordinating sustainability strategies and initiatives beyond its organizational boundaries (REEFKE; SUNDARAM, 2017). Sustainable supply chain coordination is highlighted as a benefit for focal companies to maintain control of supply chain strategies and operations toward sustainability. The control mechanisms seem to be understood as contributive elements for supply chain sustainability. Focal companies must design and develop responsible and transparent coordination mechanisms for the relationship with stakeholders. Although the focal company role is fundamental to the supply chain sustainability, the SSCC is not exclusive to this company. In other words, a different stakeholder can assume the coordination role for sustainability.

The introduction of sustainability in supply chains is not exclusively related to the focal company. Silvestre (2016) argues that sustainability initiatives in supply chains are initiated by pioneering organizations (which are not necessarily focal companies) and then disseminated to the rest of the members. Additionally, the author affirms that this dissemination process is not automatic and requires a deliberate effort of the pioneering and other stakeholders. Sancha et al. (2017) investigated the dissemination (called SCM diffusion) of sustainable practices along the supply chain. The authors studied how the implementation

of sustainable practices of first-level suppliers influences the implementation of second-level sustainable practices by conducting a quantitative study. Results indicated that the suppliers' commitment to sustainability is the main enabler to SCM diffusion.

We assume that the dissemination process of sustainability is related to SSCM and SSSC. Stakeholder engagement contributes to effectively introduce sustainability initiatives in supply chains (ASHBY; LEAT; HUDSON-SMITH, 2012). The development of stakeholder engagement practices, the establishment of standards for developing long-term partnerships, and the adoption of appropriate measures to reach economic, environmental, and social performance (REEFKE; SUNDARAM, 2017) are facilitated by multi-stakeholder partnerships.

The purpose of this research is to analyze the dissemination process of sustainability in a Brazilian beef supply chain, through the multi-stakeholder partnership roundtable. This study focuses not only on the focal company but on the other stakeholders that are supply chain members of the supply chain. Montabon, Pagell, and Wu (2016) argue that sustainable supply chain research is usually conducted from the perspective of a focal firm. This means that studies investigated sustainability-related performance measures of the focal firm while generally overlooking other stakeholders of the chain and the communities in which the supply chain operates. We explore a different actor of the supply chain and its contribution to supply chain sustainability.

In this context, we emphasize the food supply chain. Food supply chains over recent years are being pressured on the environmental and social impacts of their activities. Food supply chains are variously defined and understood, dependent on the supply chain complexity, perspective of stakeholders involved and the geographical context (KIRWAN; MAYE; BRUNORI, 2017). Particularly, pressures from stakeholders encouraged the introduction of sustainability in the Brazilian beef supply chains, aiming to reduce the impact of livestock on the environment. In the next topic, we discuss the theoretical support for the study of the dissemination process of sustainability in the Brazilian beef supply chain.

## **2.2 Institutional Theory**

There are different theoretical lenses to analyze the relationship between organizations. Touboulic and Walker (2015) argue that researchers commonly use macro theories – resource-based view, stakeholder theory, institutional theory, and transaction cost theory – to analyze sustainability in the supply chain. According to Gold, Seuring, and Beske

(2010), organizational theories can contribute to a better understanding of relationships between organizations. Considering these theories, we understand that institutional theory seems to be aligned with the analysis of the dissemination process of sustainability in the supply chain. The institutional theory offers answers to different questions – for instance, the analysis of sustainability practices in supply chains, according to (TOUBOULIC; WALKER, 2015), and the reason for inter-organizational relationships exist (PARMIGIANI; RIVERA-SANTOS, 2011).

According to Wooten and Hoffman (2008), institutional theory encompasses a broad area of knowledge that has grown in importance and popularity over the past decades. Based on concepts such as institutionalization, norms, myths, and legitimacy, the institutional theory was developed in three different orientations: economic, political, and sociological orientation. In organizational studies, the sociological approach has prevailed. Valuing symbolic-normative properties of the structures, this approach provided new possibilities to expand the understanding about dimensions of the environment and the inter-organizational relations that occur in this environment (CARVALHO; VIEIRA; GOULART, 2005). In this study, the focus is on the sociological orientation of institutional theory.

Institutional theory emphasizes the position of an organization in the social structure. Assuming the institutional perspective is to highlight the cultural and social elements in the study of the society and the study of organizations. According to institutional theory, it is not the market or the legislation that allows the maintenance of the organizations in society, but rather the institutionalized myths that create and sustain the various organizational forms (CARVALHO; VIEIRA, 2003). Thus, the explanation of organizational strategies, operations, and practices is in the manifestations of powerful institutional norms (such as the educational system, laws, status of professions, etc.) which operate, on many occasions, as institutionalized myths (CARVALHO; VIEIRA, 2003; SCOTT, 1987).

Additionally, assuming the institutional perspective is to identify the set of fundamental values of a determined context that forms, for instance, organizational forms and practices. Therefore, it is important to understand the context in which organizations are located to understand their structures and processes. The context models the decisions that are made and facilitates the predictability of organizational action.

Meyer and Rowan (1992) argue that organizations tend to use already defined and rationalized lines of action in the society that will enable them to find legitimacy for their activities and defend their survival over time. Once these practices are legitimated, they become part of the organization's value system (SCOTT, 1987). However, organizations are

not passive social elements and, in turn, also shape their specific contexts (PETTIGREW, 1985). Thus, formal structures assume both a passive and an active character in the configuration of social reality. Organizations affect and are affected by the context.

Greenwood et al. (2008) affirm that organizational institutionalism has interests in institutions and institutional processes, both at the organizational level and the organizational field level. The organizational field is commonly used as a theoretical basis for understanding this group of interactions and relationships. According to Scott (1991), this concept is the central construct of institutional theory. Over the last few decades, institutional literature has sought to understand the complexity of the organizational field (WOOTEN; HOFFMAN, 2008). However, organizational field is not a simple concept to be delimited (THORNTON; OCASIO, 2008).

In a relevant theoretical study, Wooten and Hoffman (2008) cite Scott's (1995) concept: organizational field is "a community of organizations that share common meanings systems and whose participants interact frequently and necessarily with others than with actors outside the field" (SCOTT, 1995, p.56). According to DiMaggio and Powell (1983), organizational fields are characterized by an increase in the degree of interaction between organizations in the field, by the emergence of structures of domination and coalition patterns. "Organizational fields are historical phenomena and their spatiotemporal location is relevant for the longitudinal comprehension of institutionalization processes, recognizing that they are associated with the creation of symbolic orders and models of social relationship" (MACHADO-DA-SILVA; GUARIDO FILHO; ROSSONI, p. 188).

According to Wooten and Hoffman (2008), in the first studies, researches conceptualized the organizational field as the domain in which the actions of an organization were structured by its relationship network. From the evolution of inter-organizational relationships studies, researchers expanded the notion of the organizational field to include organizations that were not necessarily bound by geography. Thus, organizations that manufacture similar products or services, suppliers of resources and consumers of products/services, regulatory agencies, etc., could be included. This expansion allows for a variety of mechanisms to be emphasized in research at a variety of different levels, such as markets, industries, inter-organizational networks, and geographic communities (THORNTON; OCASIO, 2008).

The organizational field may include components such as government, critical partners, funding sources, professional and trade associations, special interest groups and the general public – any component that imposes a coercive, normative or mimetic influence on

the organization (WOOTEN; HOFFMAN, 2008; DIMAGGIO; POWELL, 1991). Emerging research understands the organizational field as dynamic, evolving through the entry or the exit of particular organizations or populations, and through changes in patterns of interaction and also in the balance of forces between organizations (WOOTEN; HOFFMAN, 2008). In this thesis, we follow the concept proposed by DiMaggio and Powell (1983). We understand that the organizational field is a set of organizations that share common systems of meanings and that interact more frequently with each other, when compared with actors from outside the field, thus constituting a recognized area of institutional life.

Once the organizational field is structured, forces emerge. According to Candido et al. (2018), powerful forces begin to act in the organizational field, restricting the action of the actors and making them very similar to each other. Therefore, one of the effects of these forces is to make organizations more similar to each other in the same field. Moreover, the tendency of organizations to use already defined and rationalized lines of action contributes to the homogeneity of organizations' structures and processes (MEYER; ROWAN, 1992). Isomorphism is a concept that has been used to deal with the homogeneity of organizational structures and processes as a search for legitimacy (CARVALHO, VIEIRA, 2003). Therefore, isomorphism is the main concept for the development of this research.

Peci (2006, p. 5) defines isomorphism as "the limiting process that forces one unit of the population to resemble other units facing the same set of environmental conditions". The aim sought by organizations that demonstrate isomorphic behavior concerning other companies seems to be self-defense in the face of problems for which they do not have their solutions (CARVALHO; VIEIRA, 2003). The process of institutional isomorphism is a way of gaining legitimacy within the organizational field as a response to different types of institutional pressures (DIMAGGIO; POWELL, 1983).

However, Greenwood et al. (2008) argue that the homogeneity of organizations should not be considered a direct result of institutional isomorphism, but only an effect that can emerge from isomorphic pressures (GREENWOOD et al., 2008). Following the same logic, Boxenbaum and Johnsson (2008) affirm that the central idea of institutional isomorphism should consider building similarities between organizations in a socially constructed environment - not simply by adapting to the external environment. According to Pettigrew (1985), this is because organizations are not passive collective social elements and, in turn, influence the context in which they are inserted. Therefore, we argue that isomorphism is a process in which organizations present characteristics similar to those of other organizations that interact in the same organizational field, aiming to gain legitimacy in this context.



According to DiMaggio and Powell (1983), the isomorphism process emerges in response to three different types of institutional pressures - coercive, normative and mimetic. Coercive pressures are exerted by formal and informal forces, exercised by powerful organizations or entities on which organizations depend (DIMAGGIO; POWELL, 1983). The force and persuasion represent such forces. The legal environment, rationalizing states, and large organizations are factors identified as sources of pressure (PECI, 2006). Carvalho and Vieira (2003) exemplify that this phenomenon may appear in the relationship of a subsidiary with the head office when the second organization requires the adoption of measures by the first organization.

Mimetic pressures emerge from the uncertainty and the results of organizations that attempt to model themselves based on other successful organizations (DIMAGGIO; POWELL, 1983). In other words, mimetic action emerges when an organization adopts the procedures and practices already developed and consolidated in other organizations that belong to its specific environment (CARVALHO, VIEIRA, 2003). According to Peci (2006), organizations shape themselves, reflecting other organizations, unintentionally (e.g. through employee transfer or turnover) or intentionally (e.g. through consulting firms).

Normative pressure is a form of professionalism associated with common training or membership in professional and trade organizations. Therefore, normative pressures result from the process of professionalization and professional networks (DIMAGGIO; POWELL, 1983). Carvalho and Vieira (2003) argue that professionalization is one of the most frequent forms of normative pressure, since having a particular occupation leads to sharing norms and knowledge with other individuals. Organizations are confronted with normative pressures to be perceived as legitimate by the professional community (BHAKOO; CHOI, 2013). According to Vieira and Carvalho (2003, p.32), “the education system and, in particular, universities, where a great number of professionals are formed, are privileged vehicles of norms, regulations, and practices common to a profession”.

Institutional theory assumes that organizational practices are socially constructed and constrained by exogenous forces in the organizational field, commonly leading to pressures for organizations to adopt an isomorphic model. These isomorphic pressures lead organizations to search for an acceptable model by imitating other successful organizations or following industry or professional standards. By adopting this model, organizations can enjoy improved legitimacy, status, and reputation as well as performance gains (PARMIGIANI; RIVERA-SANTOS, 2011).

Organizations seek legitimacy for many reasons. According to Suchman (1995), many authors employ the term legitimacy, but few define the term. The author defines legitimacy as “a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions” (SUCHMAN, 1995, p. 574). Carvalho and Vieira (2003) affirm that the legitimacy of the formal structure is not accepted as a consolidated issue.

The legitimacy is socially constructed because it reflects the congruence between the behaviors of the legitimated entity and the shared beliefs of some specific social group (SUCHMAN, 1995). Thus, legitimacy links to social construction being validated by the actors of an organizational field. The legitimacy of organizational practices varies, for example, according to the pressures exerted in the organizational field. We emphasize that what is considered legitimate in one organizational field is not necessarily legitimate in another. Once there is legitimation, the process of institutionalization emerges. According to Suchman (1995), legitimacy and institutionalization are virtually synonymous.

Institutional theory provides a theoretical lens for identification and examination of influences that promote the legitimacy of organizational practices and survival of organizations (GLOVER et al., 2014). Aligned with the theory, isomorphism concept contributes to the understanding of the pressures that organizations exert on other companies by considering a supply chain or other inter-organizational relationship. This pressure may, for instance, include the adoption of sustainability practices in the supply chains. Our focus to analyze the dissemination process of sustainability in a Brazilian beef supply chain is the isomorphism. In the following topic, we address institutional theory used as support for sustainable supply chain management studies.

### *2.2.1 Institutional Theory as a Theoretical Support in Sustainable Supply Chain Studies*

Considering the perspective of institutional theory, the main motivators for the existence of inter-organizational relationships are legitimacy and other types of symbolic performance. Organizational actions are socially constructed and constrained by exogenous forces in the organizational field, generally leading to pressures to conform. These isomorphic pressures lead organizations to seek an acceptable template by mimicking successful peers or following industrial or professional norms. Thus, legitimacy and other types of symbolic performance (status, reputation) are key drivers for inter-organizational relationships.

Regardless of the inter-organizational relationship configuration, the search for these drivers explains the existence of this relationship (PARMIGIANI; RIVERA-SANTOS, 2011).

In this context, institutional theory has been used as support for inter-organizational studies. Particularly, studies that explore the complex nature, challenges, drivers and facilitators of sustainability in the supply chain use the institutional theory as theoretical support (TOUBOULIC; WALKER, 2015). Considering the environmental dimension of sustainability, Tate, Ellram, and Dooley (2014) investigated the transaction cost and institutional drivers behind suppliers' adoption of environmental practices. The research specifically focused on the more reactive suppliers (recipients), aiming to understand why these more conservative suppliers may or may not be likely to adopt environmental practices. Results indicated that the suppliers' perceptions of the specific relationship with a buyer and the costs associated with understanding the environmental requirements play a more important role than any type of institutional pressures (such as mimetic, normative or coercive pressures).

Glover et al. (2014) used institutional theory and institutional logic to explore the role of supermarkets in the development of legitimate sustainable practices in dairy supply chains. According to the authors, institutional theory offers explanations of why certain practices are chosen without an obvious economic return to organizations. Results indicated that organizations in powerful positions are exerting coercive isomorphic drivers. Supermarkets pressure smaller organizations to adopt sustainable practices in the dairy supply chain.

Sancha, Longoni, and Giménez (2015) evaluated the impact of institutional pressures at the country level on the adoption of sustainable supplier development practices. The authors argue that coercive, normative and mimetic pressures drive firms to adopt sustainable supplier development practices to make suppliers more sustainable. Results show that mimetic pressures have a positive effect on the adoption of sustainable supplier development and that this influence is positively moderated by the firm's level of supplier integration. Moreover, the results suggest that sustainable supplier development is a proactive practice adopted by the focal company (the organization that has a significant influence and coordinates the supply chain).

In the Brazilian context, Abdala and Barbieri (2014), Silva (2015), Melo et al. (2015) and Schneider (2016) used institutional theory as a theoretical basis to analyze the supply chain sustainability. Abdala and Barbieri (2014) studied the determinant factors of the pressures and environmental practices on the management of the sustainable supply chain. Silva's (2015) study aims to analyze the promotion of the institutional logic of sustainability

in supply chains. In addition to two cases in the United Kingdom, the author analyzed two Brazilian cases and identified that in the Brazilian cases there was a higher level of internal effort for the implementation of sustainable practices by organizations (focal companies).

Melo et al. (2015) analyzed the internationalization of emerging market companies from the perspective of institutional theory. Results indicated that the institutional environment of both the country of origin and the country abroad impact on the phenomenon of international entrepreneurship and the decisions of the internationalization process. Schneider (2016) studied the governance of the beef value chain in Brazil. The author states that sustainability is currently a driver that influences the beef value chain. Results indicated that the governance of the beef chain is dynamic and strongly influenced by the institutional environment. Furthermore, the multi-stakeholder initiative plays an important role in the governance of the beef chain.

Therefore, we understand that the organizational field, isomorphism and legitimacy concepts are important to this research. Particularly, we focus on the isomorphism concept to analyze the dissemination process of sustainability in a Brazilian beef supply chain. Following Sayed, Hendry, and Bell (2017), we mobilized the organizational field concept to theoretically interpret the supply chain. The supply chain can be understood as an organizational field, which contains different organizations independently of whether such organizations are in the same industry or have the same technology (SAYED; HENDRY; BELL, 2017). In other words, from the use of this concept to understand the supply chain, we can identify different organizations from the organizational field, independently of whether such organizations are in the same industry or have the same technology.

In the supply chain (as an organizational field), it is possible to analyze relations, influences and dynamics of such organizations that suffer the same pressures and share resources, values, symbols, myths, references (SAYED; HENDRY; BELL, 2017). The use of the organizational field concept allows us the identification of relationships, influences, dynamics, etc. among organizations. Organizations tend to use defined lines of action that will enable them to find legitimacy for their practices (MEYER; ROWAN, 1992). These already defined lines of action are followed in isomorphism, a way of gaining legitimacy in the supply chain. We understand that isomorphism is a process in which organizations begin to present similar characteristics to others that interact in the same organizational field (DIMAGGIO; POWELL, 1983). This process occurs because organizations aim to gain legitimacy in the organizational field.

Considering the supply chain as an organizational field, we emphasize that the isomorphism process occurs in organizations that are part of an organizational field (or supply chain). In other words, isomorphism does not occur in the supply chain configuration, or the organizational field, but in the organizations that are part of the supply chain. Isomorphism is a process related to the organizations' characteristics of an organizational field, not about the relations between these organizations. The supply chain represents the inter-organizational relationship, and relationships may have different configurations – depending on the need and interests of the organizations.

Regardless of the type of inter-organizational configuration, coercive, mimetic, or normative isomorphic pressures can lead organizations to be similar to other organizations that share values, myths, and symbols. Theory indicates that institutional pressures may play a key role in the adoption of sustainable practices by reactive or recipients suppliers (TATE; ELLRAM; DOOLEY, 2014). Thus, we discuss isomorphic pressures in the context of sustainability, especially because we focus on the isomorphism in this research.

Coercive pressures occur from influences exerted by those actors in powerful positions in the supply chain (as an organizational field) (GLOVER et al., 2014). According to Tate, Ellram, and Dooley (2014), coercive pressures appeal to the most reactive members of the supply chain. Thus, the pressures may have the strongest influence on the later adopters of environmental and sustainability practices; however, both normative and mimetic mechanisms are relevant. Sayed, Hendry, and Bell (2017) argue that coercive pressures may appear in the form of government-defined rules and regulations that require the implementation of specific sustainability practices. In addition, these pressures can be exerted by costumers who put pressure on suppliers to reach specific sustainability requirements (SAYED; HENDRY; BELL, 2017; KOSTOVA; ROTH, 2002).

According to Glover et al. (2014), mimetic pressures occur when organizations imitate the actions of successful competitors in the organizational field. Companies are more likely to adopt sustainability practices if other firms, that have similar characteristics, are members in the same industry or supply chain (as an organizational field) decided to adopt such practices. Thus the adoption is likely a result of mimicry of those companies that are considered successful (TATE; ELLRAM; DOOLEY, 2014). In the context of sustainability, mimetic pressures derive from, for example, competition among organizations in terms of sustainability practices.

Normative pressures can result from the social obligation that organizations experience to be seen as an organization that does 'the right thing' about the society and the

environment (SAYED; HENDRY; BELL, 2017; GLOVER et al., 2014). According to Kostova and Roth (2002), external factors influence the adoption of sustainable practices by an organization, such as the behaviors of other suppliers and professional associations. Normative pressures can be exerted by sustainable alliances and trade associations and the desire of organizations to associate with these organizations. Moreover, Tate, Ellram, and Dooley (2014) affirm that other professional networks may influence an organization to pressure its suppliers to adopt sustainable practices.

Given these considerations, as an organizational field, the supply chain allows the analysis of the relations, influences, and dynamics of such organizations that suffer the same pressures and share material resources, values, symbols, myths, references. Different pressures influence organizations' strategies and organizational decision-making. Firms seek to adopt legitimate practices or legitimize their practices with other stakeholders or actors of the organizational field. In this context, the isomorphism process is a form of gaining legitimacy in the supply chain. Therefore, legitimacy refers to the adoption of sustainability practices seen by stakeholders as being proper and appropriate (GLOVER et al., 2014).

From the perspective of institutional theory, we should not establish that a supply chain is sustainable. We must understand how firms in an organizational field define the meaning of sustainability, what practices are disseminated in the supply chain, and how such sustainability practices have become a criterion of legitimacy in the organizational field. We argue that sustainability practices can contribute to the legitimacy of organizations, since – in the organizational field in which these organizations are located – sustainability has become a criterion for defining what is legitimate.

Additionally, we assume that the dissemination process of sustainability occurs through isomorphic mechanisms since organizations seek legitimacy. This argument supports us in understanding the sustainability dissemination process especially when the first movement does not start with the focal company but with a stakeholder. In this context, stakeholders play an essential role in the dissemination of sustainability in supply chains since they are influenced by the supply chain businesses and also can influence these businesses (SEARCY, 2017). Stakeholder multi-partnerships seem to contribute to the dissemination of sustainability practices in supply chains since these partnerships improve stakeholder interactions (BROUWER et al, 2016). In the following topic, we discuss the specific multi-stakeholder partnership roundtable.

### 2.3 Roundtable: a specific multi-stakeholder partnership

Multi-stakeholder partnerships (MSPs) have gained popularity as mechanisms to address complex problems whose resolution requires the alignment of different purposes (FOWLER; BIEKART, 2017). This popularity can be explained by the fact that MSPs provide a way to address complex issues that businesses cannot address on their own (SEARCY, 2017). The term MSP captures a set of specific institutional features and qualities that allow multiple stakeholders to participate in decision-making (PONTE, 2014). According to Searcy (2017), MSPs are focused on the collaborative efforts of a range of stakeholders to address shared interests and challenges.

Castro and Swart (2017) understand MSP as joined voluntary activities in which different sectors of society are involved and which is beneficial for all participants. Additionally, Brower et al. (2016) define MSP as a platform where stakeholders can learn together in an interactive way, where representatives from organizations can speak and be heard, and where everybody's ideas can be harnessed to drive innovation and find ways forward that are more likely to be in the interests of all.

There are different ways for groups to work together to solve a large and complex problem or exploit a promising new opportunity (BROUWER et al, 2016). For instance, MSP can involve intermittent dialogues or practical long term-collaborations (FOWLER; BIEKART, 2017). However, there are some requirements common to MSP: (a) high degree of partners' involvement, based on the intention of cooperating and on the obligations; (b) clear inputs in terms of resources and competences, risk sharing, commitment to institutionalize the partnership beyond its own boundaries; (c) having a monitoring system that allows to control a member's compliance and the partnership's performance (CASTRO; SWART, 2017). According to Fowler and Biekart (2017), this monitoring system is needed to organize the MSP and to guide the partnership to achieve what is intended.

Thus, the MSP role is fundamental since it is a platform where stakeholders can learn together in an interactive way, where representatives from organizations can speak and be heard, and where everybody's ideas can be harnessed to drive innovation and find ways forward that are more likely to be in the interests of all. There are diverse structures for MSP – some may be very structured and backed by formal organizational arrangements and others may be much more *ad hoc* and flexible. Moreover, different groups can take the lead in initiating MSPs. NGOs may work to bring business and government together around an environmental or social concern. The business may partner with the government and NGOs to

introduce sustainable initiatives in their operations. Particularly in the food sector, companies have joined in partnerships with stakeholders from the public sector and civil society (BROWER et al., 2016).

Several terms are used to describe partnerships and interactions between organizations, including collaborative arrangements, cross-sectoral partnerships, inter-sectoral partnerships, multi-stakeholder initiatives, a partnership between industry, learning alliances, global action network, multi-actor platforms, roundtable, etc. (BROWER et al., 2016; CASTRO; SWART, 2017). Among these, roundtables have become more common to tackle sustainability issues improving stakeholder interactions (PONTE, 2014).

Roundtables are arrangements based on deliberative democratic rationality, because of their communicative processes, which include a wide variety of stakeholders, can create common good and are open, inclusive and consensus-based (SCHOUTEN; LEROY; GLASBERGEN, 2012). The roundtable is an open space of multi-stakeholder integration and engagement, enabling them to create shared value by solving a joint problem or opportunity (AAKHUS; BZDAK, 2015). Companies are one of the multiple interest groups doing the standard-setting in roundtables (DE MAN; GERMAN, 2017).

Formed by a World Wide Fund for Nature (WWF) initiative with retailers, government officials and a few forestry companies, the Forest Stewardship Council (FSC) is the first roundtable model. This roundtable model was copied – with some changes and simplifications – to several sustainability initiatives for agricultural commodities (DE MAN; GERMAN, 2017). Thus, roundtables for sustainability are initiatives consisting of different stakeholders, from different societal levels, which aim to jointly tackle sustainability issues of industry, supply chain or product mainly by developing and disseminating standards for better sustainable practices (CASTRO; SWART, 2017). Roundtables are arrangements to improve the sustainability of a global value chain, industry or supply chain. They are multi-stakeholder partnerships that allow stakeholders to participate as members (making decisions) or observers (just following the meeting) (SCHOUTEN; GLASBERGEN, 2011). Ponte (2014) defines:

The term ‘roundtabling’ better emphasizes the current process of fitting a variety of commodity-specific sustainability situations into a form that not only ‘hears more voices’ (as in multi-stakeholder) but also portrays to give them equal standing at the table of negotiations (roundtable), thus raising higher expectations in terms of accountability, transparency, inclusiveness and ‘proper’ democratic process (Ponte, 2014, p. 262).

Castro and Swart (2017) affirm that Ponte’s (2014) definition of roundtable



emphasizes the equal right to participate for all stakeholders as a key distinguishing characteristic of roundtables compared to other MSPs. The development of standards and the certification and accreditation schemes are also a common characteristic of roundtables. Additionally, Ponte (2014) affirm that some specific institutional features are required for multi-stakeholder partnerships to be considered as roundtables – such as an executive director, an assembly or council, committees or working groups with experts on the concerning topics, and support staff. Fowler and Biekart (2017) highlight the contribution of the interlocutor for the roundtable. The interlocutor is the structure or the organization that allows roundtable discussions to occur. The management structure is an essential condition for the achievement of the roundtable purposes (FOWLER; BIEKART, 2017).

Based on these considerations, in this thesis we define roundtable as a multi-stakeholder partnership to improve the interactions and the relationship with stakeholders, considering their different interests and the need for the solution of issues that could not be resolved individually (as a company). Roundtable meetings are voluntary initiatives to offer open space for discussion on relevant issues to different stakeholders in an industry and/or a supply chain. Such issues should be discussed until stakeholders' interests, expectations, strategies, and objectives are mostly aligned. From this alignment, decisions are made and commitments and agreements are signed by the roundtable participants. We emphasize that in general roundtables are industry-level discussions. However, although it occurs at the sector level, the decisions also influence the supply chain and the organizational level.

Examples of roundtable partnerships for sustainability are the Roundtable for Sustainable Palm Oil (RSPO), the Roundtable on Responsible Soy (RTRS), the Roundtable on Sustainable Biomaterials, and the Global Roundtable for Sustainable Beef (GRSB). Castro and Swart (2017) indicate also different partnerships in the food industry, such as the Sustainable Agriculture Network, World Cocoa Foundation, and Sustainable Rice Platform.

Roundtable for Sustainable Palm Oil is a European-driven initiative of the World Wide Fund for Nature (WWF) and Unilever, which connects Southern production and Northern consumption. The production of palm oil is associated with many sustainability issues, including deforestation, erosion of biodiversity and violation of social rights. NGOs' campaigns against production methods and expansion of palm oil production led to the development of the RSPO as a multi-actor arrangement to improve the conditions of palm oil production and expansion. Since the first meeting, participants agreed on the objective of promoting sustainable palm oil, both relating to the management of existing plantations and the establishment of new ones (SCHOUTEN; GLASBERGEN, 2011).

The expansion of soy production has been highlighting the need for more sustainable production, because of environmental and social impacts related to the soy industry, especially in Latin America and Asia. The Roundtable on Responsible Soy (RTRS), initiated in 2004, was based on the RSPO-model and, consequently, has a very similar architecture (SCHOUTEN; LEROY; GLASBERGEN, 2012). Formerly Roundtable on Sustainable Biofuels, the Roundtable on Sustainable Biomaterials (RSB) was established when critical questions on biofuels were being discussed in policy and activist circles – such as agricultural expansion, global environmental problems (in particular deforestation and climate change), and the need for food, feed and fiber (including for biofuel use) (PONTE, 2014).

Global Roundtable for Sustainable Beef (GRSB) is a multiple stakeholder partnership formed in 2012 to advance the sustainability of the beef value chain, reached consensus on a global definition of sustainable beef and establishment of five broad principles within which sustainability is categorized. According to GRSB, sustainable beef is defined as a socially responsible, environmentally sound and economically viable product that prioritizes five principles: natural resources; people and the community; animal health and welfare; food; and, efficiency and innovation (SOUZA et al., 2017).

Silvestre et al. (2018) emphasize that the multi-stakeholder partnerships might not be always a “good thing” or “as good as they claimed to be”. According to the study conducted with corruption cases in the Brazilian beef supply chains, the authors suggest that multi-stakeholder interaction might lead to unanticipated negative impacts. For example, some organizations might maliciously use stakeholder management mechanisms (such as the Roundtable) to deceive the public and to opportunistically manipulate partners to pursue their self-interests. However, initiatives such as RSPO, RTRS, RSB, and GRSB highlight the potential contribution of the roundtables to improve sustainability initiatives in industry, supply chain, and organizations.

Although studies have been conducted on roundtables, the question of how MSPs contribute to addressing globally relevant and complex sustainability issues remains under discussion among academics, policymakers, and managers (DENTONI et al., 2018). Thus we need to move further and recognize the role of different stakeholders for the dissemination of supply chain sustainability – especially when this dissemination is encouraged by another actor than the focal company.

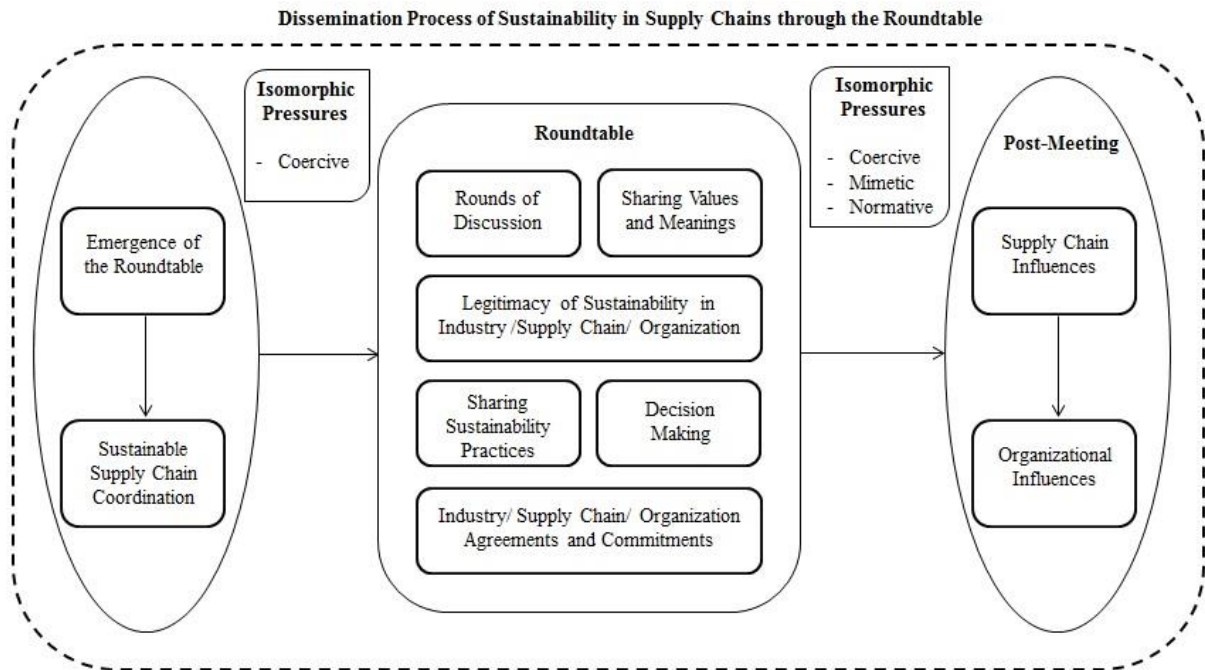
In this context, the dissemination of sustainability initiatives seems to have been facilitated by the roundtable, since the roundtable allows the stakeholder involvement, participation and engagement in the discussion of complex issues, such as sustainability.

Stakeholder participation in the discussion contributes to the success of the implementation of the commitments. We argue that the roundtable can contribute to supply chain sustainability not only for providing a democratic space for stakeholders to discuss sustainability issues but also for the effective dissemination of sustainability in supply chains. The following topic presents the research framework.

## **2.4 Theoretical Framework**

Efforts toward supply chain sustainability are more complex when the first movement is not from the focal company, the firm that usually manages and coordinates the supply chain. Thus, this complexity requires new stakeholder relationships toward supply chain sustainability. In this thesis, we argue that roundtable – as a specific stakeholder partnership – contributes to the dissemination process of sustainability in supply chains. Understanding this dissemination process seems to be a good direction to recognize the role and importance of different actors for supply chain sustainability.

Our argument is summarized in Figure 4. We argue that the process of disseminating sustainability begins at Roundtable meetings. The meetings include rounds of negotiation and discussion – in this case – related to sustainability issues. Once there is the legitimacy of sustainability and sustainability initiatives, values and meaning are shared, decisions are made and agreements and commitments are signed. Therefore, objectives regarding environmental, social and economic dimensions are defined and orientations of how these goals must to be achieved are drawn.



**Figure 4 - Theoretical Framework**

According to Figure 4, isomorphic pressures emerge as sustainability becomes legitimized. As already mentioned, isomorphic pressures can be coercive, normative and mimetic. These pressures occur at the Roundtable meeting and also what we call “post-meetings”. Thus, these pressures allow the dissemination process of sustainability to occur when the first movement for sustainability does not come from the focal company, but from another stakeholder – in this case, the Roundtable. The post-meeting phase addresses the influences of the Roundtable discussions at the supply chain and organizational level. In this study, the focus is on supply chain influences, particularly related to the dissemination of sustainability. The next section describes how this research was conducted in order to support the argument.

### 3 METHOD

The acceptance of empirical research in the SCM realm has greatly expanded our understanding of how to manage supply chains. These tools have made significant contributions to the understanding of how to make existing supply chains more sustainable (PAGELL; SHEVCHENKO, 2014, p. 48).

This section presents the methodological procedures applied to conduct this research aiming to answer the research question and to achieve the research objectives. We described the research classification, the case selection, techniques and procedures for the data collection, and the procedures for the data analysis. We organized the chapter into topics according to each of these procedures.

#### 3.1 Classification of Research

The study is based on qualitative research. The main reason for using qualitative research must be related to the requirement of the research question (FLICK, 2014). Considering the research questions, the “how” questions are explicitly suited to explore qualitative research when compared with quantitative research (GAUS, 2017). The research question of this thesis is “How does the stakeholder partnership roundtable influence the dissemination of sustainability in a supply chain?”. Thus, we understand that the research question that guides this study requires qualitative research, which justifies our methodological decision.

Denzin and Lincoln (2011, p.3) define qualitative research as “an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them”. Qualitative research consists of a set of interpretive and material practices, which are concerned with the scientific study of realities (SILVERMAN, 2013). Interest in qualitative research has grown considerably over the last few decades. According to Flick (2014), this growth is a result of the rapid social change and new social contexts and perspectives to investigate.

Based on these qualitative research definitions, Rossman and Rallis (2003) indicate eight common characteristics to the qualitative research: (a) the natural world guides the qualitative researchers; (b) qualitative researchers try to understand people through multiple interactive and humanistic methods; (c) qualitative researchers make a sustained focus on

context integral to their work, and assume that exploring these complexities enables a detailed understanding of human experience; (d) qualitative researcher systematically reflects on how she/he affects the ongoing flow of everyday life and is affected by this everyday life; (e) qualitative research is an exquisite sensitivity to personal biography; (f) qualitative research has an emergent nature; (g) qualitative research is fundamentally interpretive, focusing on description, analysis, and interpretation.

These characteristics support the argument that concrete cases in their temporal and local particularity or their contexts guide the qualitative research (FLICK, 2014). Qualitative research uses interpretive/theoretical frameworks seeking to understand the phenomena in context-specific settings (GOLAFSHANI, 2003). Understanding the phenomena includes the analysis of the voices of participants, the reflexivity of the researcher, a complex description and interpretation of the research problem, and its theoretical and practical contribution (CRESWELL; POTH, 2017). The criteria for excellent qualitative research align with this idea. Proposed by Tracy (2010), the criteria include a worthy topic, rich rigor, sincerity, credibility, resonance, significant contribution, ethics, and meaningful coherence.

In this context, we address the philosophical assumptions: the ontology, epistemology, axiology, and methodology. Denzin and Lincoln (2011) affirm that philosophical assumptions are key premises that are folded into interpretive frameworks used in qualitative research. According to Creswell and Poth (2017), the philosophical assumptions are often applied within interpretive frameworks that scholars use when they conduct a study (CRESWELL; POTH, 2017). Creswell and Poth (2017, p.22) define interpretive frameworks as “paradigms or beliefs that the researcher brings to the process of research or they may be theoretical orientations that guide the practice of research”.

Considering such interpretative frameworks, we grounded this research into postpositivism. Postpositivism is related to a reality that is socially constructed rather than objectively determined (NOOR, 2008). Scholars engaged in qualitative research using postpositivism employ a social science theoretical lens. Postpositivist researchers understand the research as a series of logically related steps, belief in multiple perspectives from participants rather than a single reality, use rigorous methods of qualitative data collection and analysis and use multiple levels of data analysis for rigor and encourage the use of validity approaches (CRESWELL; POTH, 2017).

Under the qualitative research, there is a diversity of methods and approaches recommended by different authors and disciplines. Creswell and Poth (2017) affirm that some approaches have been consistently used over the years, such as case studies, ethnography, and

grounded theory. Defining the research purpose represents the beginning of qualitative research. The research method should be drawn from the research question and purpose (GAUS, 2017). The selected method for this research is the case study. We justify this selection because of: (a) the research problem aims to answer “how?” about the phenomenon; (b) the research focuses on a contemporary phenomenon; and, (c) it is not possible to separate the phenomenon from its context.

The case study is one of the main methods in the social sciences (THOMAS, 2011). Yin (2014) defines a case study as an empirical inquiry that examines a contemporary phenomenon within its real-life context when the boundaries between the phenomenon and its context are not evident, and the research explores multiple sources of evidence. Gerring (2004) conceptualizes the case study as “an intensive study of a single unit or multiple units to understand a larger class of (similar) units (GERRING, 2004, p.342). Eisenhardt and Graebner (2007) explain that a case study is a research strategy for building and testing theories.

The case study approach is an ideal approach when researchers want to understand holistically and deeply a contemporary phenomenon in its context (YIN, 2014; GAUS, 2017). Case studies are usually characterized by close interaction with practitioners. They deal with real situations (GIBBERT; RUIGROK; WICKI, 2008), enabling the understanding of the complex real-life activities (NOOR, 2006) and extracting new learning about a real-world behavior and its meaning (YIN, 2014). Following this idea, Gaus (2017) affirms that the investigation of the interrelated elements in their natural context aims to produce deep understandings and the appreciation of the case. Flyvbjerg (2006) states that the closeness of the case studies to real-life situations and their multiple details are relevant for the development of a nuanced view of reality.

We emphasize the importance of the context of this method. The context provides a better and deeper understanding of the contemporary phenomenon in particular (YIN, 2014). According to Gibbert, Ruigrok, and Wicki (2008), the study of the phenomena in their contexts is an important difference in case studies when compared to other research methods. Another important concept is the case. The case or unit of analysis is commonly a bounded entity – a person, organization, behavioral condition, event, or another social phenomenon (YIN, 2014). Gerring (2004) affirms that several relevant dimensions or variables embrace the case. For this research, we selected a single case study. In a posterior topic, we present the criteria for case selection.

Additionally, we conduct this research from two steps – exploratory and descriptive steps. Exploratory research aims to develop, clarify and modify concepts and ideas (GIL,

2010), contributing to a new understanding of the problem (COOPER; SHINDLER, 2003). Cooper and Shindler (2003) affirm that important variables may not be known or consolidated. This is the reason why exploratory research is necessary. In turn, the descriptive step aims to explain how the phenomenon was observed during the research, as well as the characteristics found in confronting the theory with the studied context. Descriptive research describes the facts and phenomena of a given reality and establishes relationships between the variables studied (TRIVIÑOS, 2007).

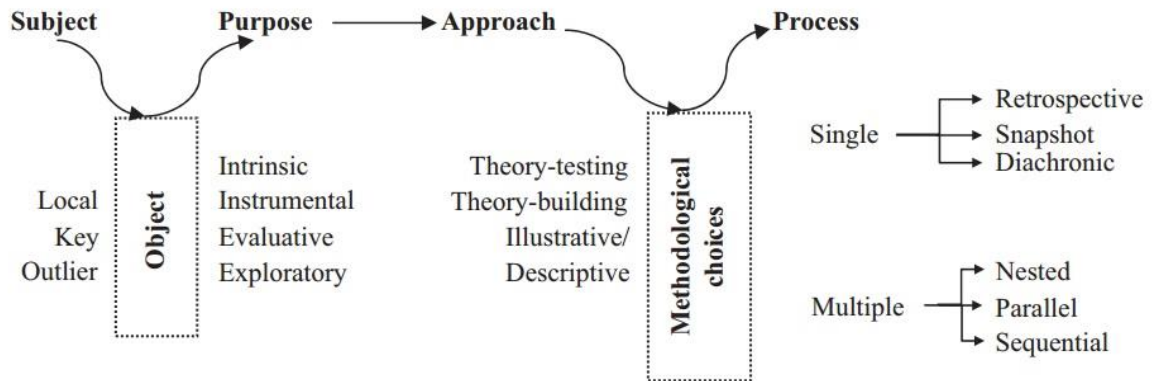
Multiples methods have been adopted by researches to describe and to understand the relation of sustainability and supply chain management (TOUBOULIC; WALKER, 2015b). Predominantly SSCM researchers have explored issues through case studies and surveys. Those methods enable capturing insights from industry, providing rich reports of current practice and offering recommendations based on evidence collected from real settings (TOUBOULIC; WALKER, 2015a). According to Pagell and Schevchenko (2014), qualitative methods such as case studies can be focused on studies related to sustainability in the supply chain that might be missed or dismissed in quantitative methods. Thus the case study was chosen because it is considered a good method for understanding the connection between sustainability and SCM. The following section presents the research design.

### **3.2 Research Design**

A research design is a logical sequence that connects the empirical data to a study's initial research question and, ultimately, to its conclusions. In other words, the research design is a logical plan for getting from the initial set of questions to be answered to some set of conclusions about these questions. The main purpose of the research design is to help scholars to avoid the situation in which the evidence does not address the initial research question. Five components of research design are especially important for case studies: (a) a study's questions; (b) its propositions, if any; (c) its unit(s) of analysis; (d) the logic linking the data to the propositions; and, (e) the criteria for interpreting the findings (YIN, 2014).

Thomas (2011) proposes a typology of case studies presented in Figure 5. The typology incorporates concerning subject and object, research purpose, research approach, and research process. Moreover, the typology is useful to articulate subject, object, theory, and method. The author highlights that the typology perhaps implies sequencing to the decisions being made during the research process. However, "much of the decision making will occur simultaneously, particularly to the subject, object, and approach" (THOMAS, 2011, p.518).





**Figure 5 - A typology of case study**  
Source: Thomas (2011).

Based on Thomas (2011) and Yin (2014), this research was developed according to the steps presented in Figure 6. We conducted two literature reviews on the contribution of a roundtable for supply chain sustainability and the adoption of sustainability initiatives in the Brazilian beef supply chain. The literature reviews enabled us to extract valuable information to verify that there is a contribution of a roundtable for sustainability and also those sustainability initiatives exist in the Brazilian beef supply chains. We added this information to the theoretical framework section.

We organized the empirical part of the research into two steps, called first phase and second phase. We understand that these phases are complementary and interdependent. The first phase aims to investigate the context and to explore the problem. The findings of this step were useful in gaining an early understanding of the topics that needed to be investigated in the second phase of the research.

Second phase aims to analyze and explain how the phenomenon and the context were observed throughout the research. This collection included observation of the roundtable meetings, interviews with stakeholders, and document analysis. Data triangulation was conducted since we collected data from multiple sources. Data analysis encompassed a detailed description of the selected case, in-depth analysis of the phenomenon and discussion of the findings, answering the research question and evidencing the theoretical and practical contributions of the research.

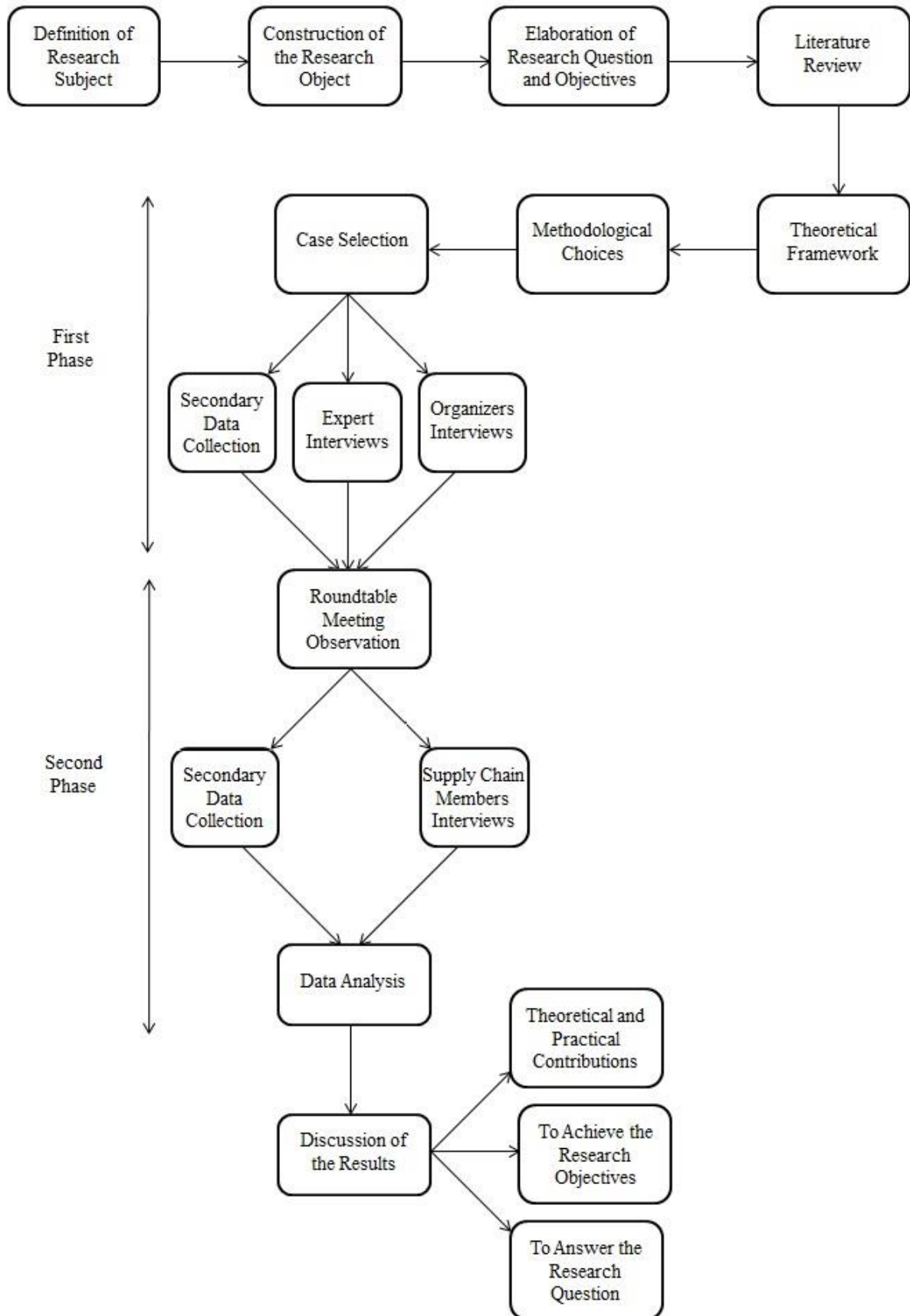


Figure 6 - Research Design

As shown in Figure 6, the research steps are organized in a linear way. However, following Thomas (2011), we highlight that the decision making related to this study occurred simultaneously. We discuss case selection in the next topic.

### **3.3 Case Selection**

According to Yin (2014), the case or unit of analysis is commonly a person, organization, behavioral condition, event, or another social phenomenon. The single case study highlights the decisive case used to test a formulated theory; the rare or extreme case used when it is not possible to establish standards; and, the revealing case used when it is possible to observe and analyze a phenomenon previously inaccessible to research. The unit of analysis of this study should be a case that is simultaneously rare, revealing and will be used to contribute to the theory.

The case selection links to the research questions, the research purpose and also to the research object (YIN, 2014). Considering the research question of this study – how does the stakeholder partnership roundtable influence the dissemination of sustainability in a supply chain? – the case analyzed must rigorously encompass a specific stakeholder partnership, a roundtable. The roundtable must necessarily discuss sustainability issues in the industry, supply chains, and organizations.

Thus, the case selection followed three criteria: (a) multi-stakeholder partnership in roundtable configuration, following the roundtable characteristics; (b) partnership created to necessarily discuss sustainability issues; and, (c) participation of stakeholders from the beef supply chain. Secondary data (on websites, general media publications, information produced by the roundtable, previous studies and social networks) were previously collected to investigate information about the roundtable to evaluate the multi-stakeholder partnership as the case of this research.

Due to the stimulation for sustainability initiatives in the Brazilian beef industry, supply chain, and organizational operations, we selected the Brazilian Roundtable on Sustainable Livestock (BRSL). The roundtable links to the Grupo de Trabalho da Pecuária Sustentável (GTPS – Sustainable Livestock Working Group in a free translation). Responding to the pressures, organizations decided to discuss sustainability issues in the Brazilian beef value chain in a workshop in 2007. BRSL was formally constituted in 2009, in São Paulo, Brazil. We understand that GTPS is the necessary structure that makes the Roundtable possible. Figure 7 shows the GTPS logo.



**Figure 7 – GTPS Logo**  
Source: GTPS (2019).

According to its official website, the GTPS mission is to promote the development of sustainable livestock through supply chain integration, continuous improvement, and dissemination of information. Therefore, the main purpose of GTPS is to discuss and to formulate the common principles, standards, and practices adopted by the sector to build sustainable, fair, environmentally correct and economically viable livestock. To achieve its main purpose, GTPS organizes a continuous Roundtable to discuss sustainability issues in the Brazilian beef supply chain (GTPS, 2019).

Brazilian Roundtable on Sustainable Livestock is working to build consensus in the entire beef value chain/industry, based on sound agricultural and livestock management practices while guaranteeing continuous improvement and compliance with social and environmental stewardship legislation (FOWLER; BIEKART, 2017). BRSL follows the principles: (a) continuous improvement for sustainability; (b) transparency and ethics; (c) good agricultural and livestock management practices; and, (d) legal compliance. Particularly, the principle of legal compliance determines that BRSL members contribute to the attendance of the Brazilian legislation and other international agreements (GTPS, 2019).

The GTPS participants are representatives of the Brazilian beef supply chain stakeholders. Considering these stakeholders, we highlight producers, slaughterhouses, producers unions, suppliers, retailers, financial institutions, civil society organizations, government institutions, research centers and universities. There are different possibilities for participation: full members, collaborator members and observers. Full members are able to participate actively in the discussion. Collaborator members and observers participate in the debate just as listeners. We highlight that the thesis author attended the roundtable meetings as collaborator member. Data collection procedures are presented in the following section.

### 3.4 Data Collection

Case studies are rich empirical descriptions of a particular phenomenon, typically based on a variety of data sources (YIN, 2004; EISENHARDT; GRAEBNER, 2007). Thus, according to Eisenhardt and Graebner (2007), case studies can accommodate a variety of data sources, including interviews, documental data, survey data, ethnographies, and observations. Considering this research, we decided to use different techniques for collecting primary and secondary data. Scripted observations, Skype semi-structured interviews, and search for documents and other secondary data were data collection techniques that we combined to analyze the dissemination of sustainability in the Brazilian beef supply chain through the multi-stakeholder partnership roundtable. Table 3 presents the specific objectives, data collection techniques and the source of collection, highlighting the alignment of the research specific objectives with data collection techniques.

Specific Purposes	Data Collection Techniques	Source
To understand the context of the Brazilian beef supply chain sustainability	Documents and Interviews	<ul style="list-style-type: none"> <li>- Reports</li> <li>- Internet</li> <li>- Experts from industry and academia</li> <li>- Participants of Brazilian Roundtable on Sustainable Livestock</li> </ul>
To identify the stakeholders of the Brazilian beef supply chains, aiming to build the organizational field	Interviews and Documents	<ul style="list-style-type: none"> <li>- Literature on stakeholder identification</li> <li>- Experts from industry and academia</li> <li>- Participants of Brazilian Roundtable on Sustainable Livestock</li> <li>- Managers of the Brazilian Roundtable on Sustainable Livestock</li> </ul>
To analyze the stakeholder interactions during the Roundtable meetings	Observations, Documents and Interviews	<ul style="list-style-type: none"> <li>- Roundtable meetings</li> <li>- Participants of Brazilian Roundtable on Sustainable Livestock</li> <li>- Internet</li> <li>- Reports</li> <li>- Meeting minutes</li> </ul>
To analyze the influences of the Roundtable interactions and discussions on the adoption of sustainability at the supply chain level	Interviews and Documents	<ul style="list-style-type: none"> <li>- Roundtable participants that are part of a supply chain</li> <li>- Reports</li> </ul>

**Table 3 - Alignment between specific objectives and data collection techniques**

As a qualitative data collection technique, observation is the action or process of closely seeing and monitoring different phenomena. According to Walshe, Ewing, and Griffiths (2011), observation is useful for understanding people's roles, actions and behavior and how these can alter in response to situations and over time. Various conceptions of the observer's role can be found in the literature. Particularly, in non-participant observation, the

researcher does not directly interfere in the observed field (FLICK, 2014). In this study, non-participant observations were performed according to rules established by the Roundtable. We emphasize that these observations were non-participants since the researcher did not participate in the discussion. Thus, the thesis author assumed the same role as the collaborator member at the Roundtable. During the observations, field notes were made for data analysis especially related to the way the discussion was conducted, how decisions were made, and the content discussed. We present this description in the next topics.

Compared to other qualitative data collection techniques, observation has advantages when the focus of research is on understanding actions, roles and behavior. For instance, an interview allows someone to say what she/he does. In turn, an observation allows the research to see directly what someone does. These techniques can be combined to better understand a specific phenomenon. Whilst interviews can be used to ascertain the interpretation of actors in the field, observation can be critical to elucidating people's behavior and provides information not obtained by other methods (WALSHE; EWING; GRIFFITHS; 2011).

Interviews consist of asking questions to a person or people, seeking to find out how this person or these people perceive different things (SILVERMAN, 2013). By using interviews, the researcher can reach areas of reality that would otherwise remain inaccessible – such as people's subjective perceptions, experiences and attitudes. The interview is also useful to overcome distances in space and in time. For example, past events or faraway experiences can be studied by interviewing people who took part in them (PERÄKYLÄ, 2008). Moreover, interviews can be performed with a research protocol or a previous script. This protocol contains questions related to the studied phenomena and aims to guide the conduct of the interview. In this study, we conducted semi-structured interviews. Semi-structured interviews have the orientation of a script; however, other questions can be inserted. Following Noor (2008), we understand that semi-structured interviews offer sufficient flexibility to approach different respondents. We recorded and later transcribed and translated the interviews. We present this information in the next topics

Documents contain text (words) and images that have been recorded without a researcher's intervention. They take a variety of forms, including advertisements; agendas, attendance registers, and minutes of meetings manuals; background papers; books and brochures; diaries and journals; event programs; letters and memoranda; articles from newspapers; organizational or institutional reports; survey data; scrapbooks; photo albums; and, various public records (BOWEN, 2009). Therefore, documents represent an important source of data. Documentary evidence is relevant to provide guidelines in assisting the

researcher with his inquiry during interview and observation and also to validate information gathered from these data collection techniques (NOOR, 2008). In the following topics, we describe the data collection for the two steps of the research.

#### *3.4.1 First Phase*

In this research step, data were collected from semi-structured interviews with experts, using a semi-structured research protocol. We attached the research protocol in Appendix A. The research protocol included questions related to the Brazilian beef supply chain sustainability, to the current challenges of the Brazilian beef supply chain, and the Brazilian Roundtable on Sustainable Livestock participants, dynamics and contributions. We presented the research framework for improvements and suggestions. Additionally, we questioned the interviewees about access to the Roundtable meetings. We emphasize that it was through an interviewee's nomination that the thesis author contacted the GTPS executive coordinator for an authorization to attend Roundtable meetings.

Since this step is exploratory, we focused on interviewing experts from the beef industry and academia. We surveyed potential respondents according to the literature review on sustainability in the beef supply chains, and also through the snowball technique. Researchers use the snowball to identify potential participants based on the information provided by participants themselves (NOY, 2008). The interviews were conducted from May to November 2018. In this period of time, we sent around 40 invitations by e-mail and we received a positive return from approximately 35% of the invitations. Therefore, we conducted 14 interviews. Table 4 presents the relationship of the interviewees with the Brazilian beef industry and supply chains, as well as their affiliations. Aiming to preserve their identities, we classified the interviewees with letters of the alphabet according to the order of the interviews.

<b>Interviewee</b>	<b>Relationship with the Beef Industry/Supply chains</b>	<b>Affiliations</b>
A	Researcher	Government agency
B	Researcher	University
C	Manager	Non-governmental organization
D	Manager	Government agency
E	Researcher	University
F	Sustainability Manager	Industry
G	Executive Coordinator	Working Group on Sustainable Livestock
H	Researcher	University
I	Researcher	Research Center
J	Part of the Conservation Team	Non-governmental organization
K	Researcher	University
L	Producer	Cattle rancher
M	Researcher	University
N	Communication manager	Working Group on Sustainable Livestock

**Table 4 - Interviewees' affiliations (first step of the research)**

Interviews were conducted by telephone and by Skype for the convenience of the respondents. Four interviews occurred through telephone, and ten interviews occurred through Skype. The interviews lasted approximately 55 minutes. They were conducted in Portuguese, recorded with the respondent permission, transcribed and, then, translated into English. Posteriorly to the translation, the interviews were analyzed by the author of the thesis and the person responsible for the interviews' translation to avoid differences in the interviewees' statements. Additionally, we collected secondary data from documents, reports, websites and online publications. The list of key documents collected during the two research steps is attached in Appendix D.

### *3.4.2 Second Phase*

In this research step, data were collected from observations with a research protocol, semi-structured interviews with supply chain members, using a semi-structured research protocol. The exploratory step of the research allowed the first contact with the GTPS executive coordinator. The executive coordinator explained that the Federal University of Rio Grande do Sul is a collaborator member. Since the author of the thesis is a Ph.D. candidate at the university, she was allowed to attend Roundtable meetings as a collaborator member. The author should to observe and listen to the discussions and should not actively participate.



During October 2018 and January 2019, we observed six meetings. Considering these meetings, one was observed through videoconferencing and five were observed personally. We used a research protocol to conduct the observations. The research protocol involved the content that was discussed at the Roundtable meetings, how the Roundtable meeting was conducted, who was responsible for the meeting organization, and the stakeholders who participated most actively in the discussion. We attached the observation protocol in Appendix B. In addition to the six interviews, the minutes of the Ordinary General Assembly were available by the executive coordinator for further analysis. The assembly occurred in April 2019. Notes made during the observations were organized in text format to facilitate the analysis of stakeholder interactions at the Roundtable meetings. Table 5 lists the observed meetings, the topics discussed at the meetings and the period of observation.

Observed Meetings	Topic(s) of the Discussion	Period of Observation
Communication Work Committee	Planning initiatives of the Work Committee	33min
Content and Advocacy Work Committee	Deforestation	3h40min
Content and Advocacy Work Committee	Payments for Environmental Services	3h55min
Communication Work Committee	Trends in Communication and Cases Presentation	4h08min
Extraordinary General Assembly	GTPS Management Issues, 2019 Budget Plan Approval, Working Committees, and Planning of 2019	3h23min
Communication Work Committee	Presentation of the Research “Conscious Consumption” by Instituto Akatu	2h14min

**Table 5 – Observed Meetings**

We also conduct semi-structured interviews with supply chain members, using a semi-structured research protocol. We attached the research protocol in Appendix C. The research protocol included questions related to sustainability in the organization (internal environment), supply chain sustainability (external environment) and respondents’ perceptions of the Roundtable and its contributions to sustainability in the Brazilian beef supply chain. Based on the meetings observed, we sent around 5 invitations by e-mail and we received a positive return from only one slaughterhouse company. Then, we contacted the producers union and two cattle ranchers that are supply chain members – they sell to the slaughterhouse. We contacted two slaughterhouse customers; however, we had no return from the companies.

Therefore, we interviewed two cattle ranchers, the director of the producer union, and the sustainability manager of the slaughterhouse, considered a key informant. Interviews were conducted by telephone, from November to December 2018, and lasted approximately 40

minutes. To preserve their identities, we classified the interviewees with letters of the alphabet according to the order of the interviews. The organizations names will also be preserved. We use the same procedure as the first step of this research. The interviews were conducted in Portuguese, recorded with the respondent permission, transcribed and, then, translated into English. Posteriorly to the translation, the interviews were analyzed by the author of the thesis and the person responsible for the interviews' translation to avoid differences in the interviewees' statements. Table 6 presents the relationship of the interviewees with the Brazilian beef industry and supply chains.

<b>Interviewee</b>	<b>Relationship with the Beef Industry/Supply chains</b>
O	Union
P	Producer
Q	Producer
R	Slaughterhouse

**Table 6 – Interviewees' affiliations (second step of the research)**

Moreover, we collected secondary data from documents, reports, websites and online publications. As already mentioned, the list of key documents collected during the two research steps is attached in Appendix D. The next topic presents the procedures to ensure research reliability.

### **3.5 Research Reliability**

Collecting data from different techniques allows the researcher to identify different angles from which to understand the phenomenon (GIBBERT; RUIGROK; WICKI, 2008). By examining information collected through different methods, the researcher can corroborate findings across data sets and thus reduce the impact of potential biases that can exist using a single data collection technique (BOWEN, 2009). Gibbert, Ruigrok, and Wicki (2008) affirm that, by using different data collection strategies and different data sources, researchers have sought to triangulate. Following this idea, Silverman (2013) claims that collecting data drawn from different contexts requires triangulation when the research examines where the different data intersect.

In this context, some qualitative researchers – including Yin (2014) – believe that triangulation improves the reliability of a single method (SILVERMAN, 2013). Noor (2008) affirms that the corroboration of multiple data collection techniques for case studies research

enhance the validity and reliability of findings. In this study, we use data triangulation to identify the consistency of data and, thus, validate the data collected.

In addition to triangulation, we emphasize three points to increase the validity and reliability of the study. First, using research protocols for interviews and observations is a way to increase the reliability of the case study. Second, we analyzed the translated interviews with the translator to avoid differences in the statements of the interviewees. The transcribed and translated interviews were also analyzed with an external researcher. The external researcher studies the food industry and sustainability. Thus, we discuss the collected data and their alignment with the research question and the research purposes.

Third, we followed Seuring and Müller (2008) recommendations. According to the authors, one way to ensure validity is the presentation of the study at conferences. We presented parts of this research in four international conferences, two doctoral seminars, and two national conferences, allowing comments and recommendations from other professors and researchers. Attending to conferences allows the validation of the research being conducted. We would like to highlight that there is no conflict of interest between the researchers and the research subjects or project funding. Thus, once collected, the data should be properly analyzed. The next topic presents the data analysis procedures.

### **3.6 Data Analysis**

Based on the results obtained in data triangulation, we performed the data analysis. There are many methods of analysis from which the researcher can choose (PERÄKYLÄ, 2008). Qualitative content analysis has been used by various researchers (MAYRING, 2000). Thus we decided to analyze data based on content analysis according to Bardin (2011). Content analysis comprises a set of communication analysis techniques, using systematic procedures and objectives to describe the content of the messages. The analysis is based on performing a dismemberment of the text into units from the different sense nuclei and then regrouping these units into categories (BARDIN, 2011).

Categories are classes that gather elements by their common characteristics. Additionally, categories may be modified, included and/or excluded according to the results, to accomplish the rules of homogeneity, completeness, exclusivity, and suitability (BARDIN, 2011). Categories can be derived deductively or inductively. In a deductive approach, they are assessed before the material is analyzed, based on existing theory. In an inductive approach, categories are derived from the material under examination itself, employing an iterative

process of category building, testing and revising by constantly comparing categories and data (MAYRING, 2000). In this thesis, categories follow the deductive and inductive approaches.

According to Bardin (2011), content analysis should be performed based on three phases: (a) pre-analysis of the material collected in the interviews, observations and document collection; (b) analysis and exploitation of the material; and, (c) treatment of the results for elaboration of analysis and narrative construction. The segmentation into separate process steps is a crucial characteristic of qualitative content analysis allowing for traceability and inter-subjective verifiability (MAYRING, 2000).

In this study, we based the content analysis in Bardin (2011), as presented in Table 7. We emphasize that data analysis did not necessarily follow a structured order. Data were prepared (pre-analysis) as interviews, observations and document collection were performed. The collection of new data, from different rounds of observation and interviews, required a new reading of data collected in the previous round (analysis and exploitation of the material). The analysis of the data collected in the first phase will be fundamental for data collection and analysis in the second phase. Thus, we understand data analysis as a process that advanced according to the progress of data collection.

<b>Content Analysis Phase</b>	<b>Procedures of the Research</b>
Pre-analysis	The material was prepared for analysis. The interviews were transcribed and translated, the observations were translated into observation notes and the relevant documents were selected.
Analysis and exploitation of the material	As observations, interviews and the collection of documents were being conducted, observation notes, transcripts and documents were read. The identification of the most significant statements enabled us to gradually divide these statements into units of discourse in successive grouping rounds. This procedure allowed the identification of the categories of analysis.
Treatment of the results	The categories were presented in a narrative. In this narrative, the discussion was developed to relate the thesis argument and the inferences made from the results. Based on this discussion, we aim to achieve the research objectives and to answer the research question.

**Table 7 - Content Analysis**

A challenge of the case study is to organize the data interpretation into a narrative. Good narratives typically approach the complexities and contradictions of real-life (FLYVBJERG, 2006). Mayring (2000) recommends three qualitative techniques that ensure structured, theory-driven and rule-governed narrative comprehension and interpretation: summary, explication, and structuring. We followed this recommendation for the construction of the narrative aiming to highlight the theoretical and managerial contributions of this study.

In this context, we build the organizational field based on the isomorphic relations and interactions of the stakeholders toward the Brazilian beef supply chain sustainability. We identified three categories aiming to analyze the influence of the Roundtable discussions in a Brazilian beef supply chain. The three categories are sustainability initiatives defined before Roundtable meetings; the meaning of sustainability; and, GIPS discussion and implementation. These categories were identified from patterns identified in the collected data. The analysis provided insights for the understanding of the contributions of the Roundtable for Brazilian beef supply chain sustainability.

Additionally, we also identify other categories related to the specific objectives. To understand the context of the Brazilian beef supply chain sustainability, we described the circumstances for introducing sustainability in the supply chain and also identified sustainability challenges in the Brazilian beef supply chains in three different categories – deforestation; GHG emissions; and, social issues. These categories emerged from data patterns. Aiming to identify the stakeholders of the Brazilian beef supply chain sustainability, we used Mitchell, Agle, and Wood (1997) identification typology: dormant, discretionary, demanding stakeholders; dominant, dependent, dangerous stakeholders; definitive stakeholders; and, nonstakeholders. These categories emerged from the literature. Finally, we analyzed the stakeholder interactions during the Roundtable meetings based on the conduction of the discussion, the content discussed, and how decisions were made. We present the results of this research in the following sections.

## 4 THE BEEF INDUSTRY IN BRAZIL: A PANORAMA

Brazil was home to the world's largest tracts of remaining tropical forest, and one of every five pounds of commercialized cattle meat came from Brazil. What happened in Brazil mattered (LEE; RAMMOHAN, 2017, p.3).

In this section, we present an overview of the current panorama of the Brazilian beef industry and supply chains. To support our analysis, we use secondary data and interview excerpts. This overview allows us to understand the context in which the Sustainable Livestock Working Group (GTPS) – and consequently the Brazilian Roundtable on Sustainable Livestock (BRSL) – is inserted. Furthermore, it contributes to the comprehension of the emergence of the GTPS, as well as the main pressures, values and challenges that beef industry and supply chains in Brazil face regarding sustainability.

We organized this section into three main topics. Firstly, we highlight the current situation of beef production in Brazil. Secondly, we describe the reports that significantly impacted the Brazilian beef supply chains sustainability. We summarized the key points of the reports and the main consequences of these publications. These consequences are also related to the starting point of the GTPS. Thirdly, we discuss the emergence of the GTPS, as well as its purposes, structure, and members.

### 4.1 A Current Overview of the Brazilian Beef Industry

Brazil is one of the biggest beef exporting countries in the world. According to the Brazilian Beef Exporters Association (ABIEC)<sup>1</sup> report, there was a growth in the volume of beef produced in 2018, compared with 2017, with 10.96 tons of carcass weight equivalent (CWE). Brazil reached a total of 1.64 million tons shipped in 2018, a volume 11% higher than 2017 exports. This sum is considered a record volume of exported beef and it accounted for approximately 20% of beef production in the country in 2018.

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<sup>1</sup> Founded in 1979 to defend the specific interests of the Brazilian meat exporters, ABIEC has three main purposes: (1) to defend the interests of the Brazilian beef export sector domestically and internationally; (2) to reduce trade barriers and promote Brazilian products abroad; and, (3) to work to ensure representation of the sector in national and international forums to influence decision-making and regulatory and legislative processes affecting the international beef trade. It is the key organization advocating for slaughterhouses on labor, regulations, taxes, and the environment. ABIEC also provided support on animal health, sustainability, marketing, and market and exports analysis. The association represents 92% of the exporting beef companies in Brazil.

The beef industry income grew by 7.9% compared to the previous period (2017), achieving an amount of US\$ 6.57 billion. This is the largest income attained by an exporting country. The main destinations for Brazilian beef exported in 2018 were China, Hong Kong, European Union, Egypt, Chile, Iran, USA, Saudi Arabia, and the United Arab Emirates (ABIEC, 2019). Brazil is not a significant importer of cattle, but is a major importer of beef cattle genetics. The United States is a key supplier of cattle semen to Brazil (USDA, 2019).

The ABIEC report states that the Brazilian product quality is acknowledged by the international and the internal beef market. Although exportations are important, approximately 80% of Brazilian beef production was destined for the domestic market in 2018. Given data from 2018, the beef consumption in the domestic market is calculated in 42.12 kg per capita per year (ABIEC, 2019). The largest beef consumption in the country is in the Southern and Southeastern regions of Brazil, even though the largest beef production is in the North and Midwest regions.

Brazil has the largest commercial herd in the world, with 214.69 million head of cattle. The states with the largest number of cattle herd are Mato Grosso (13.91%), Goiás (10.64%), Mato Grosso do Sul (10.19%), Minas Gerais (10.14%), and Pará (9,32%). These states represent more than 50% of the total number of cattle herds in Brazil. The highest growth rates in the total of cattle herd during 2008 and 2018 are in the Brazilian northern states. Mato Grosso increased by 16.26%, Rondônia grew by 26.02% and Pará had an increase of 30.33% – the largest growth percentage in the country for the same period (ABIEC, 2019). While in the last 10 years the number of cattle herd increased in the North of Brazil, it stabilized in the South and South-east (GTPS, 2017). Even though there was a growth in the cattle herd in the last 10 years (2008-2018), Minas Gerais had a decrease of 3.57% of the total number (ABIEC, 2019).

According to ABIEC (2019), the number of cattle herd slaughtered grew 6.9% in 2018, reaching 44.23 million heads. The productivity of the beef supply chains is considered to be increasing. While productivity is increasing, the pasture area used for the livestock activities is decreasing mainly related to livestock intensification, genetics and good practices (GTPS, 2017). There is also an increase in cattle raised on feedlots. The feedlot cattle represented 12.6% in the total slaughtered in 2018 (ABIEC, 2018).

In 2018, the Gross Domestic Product (GDP) of Brazil achieved R\$ 6.83 trillion. The beef cattle GDP, in this context, grew to an 8.7% share of the overall Brazilian GDP. The total revenue from beef business reached R\$ 597.22 billion in 2018. This sum includes inputs used in cattle raising, revenues from cattle, investments in genetics and the totals traded by meat

producers and retailers. Compared to the sum attained in 2017 (R\$ 551.41 billion), this value represents an increase of 8.3%. This growth is partially due to the slaughterhouses incomes, driven especially by advances in the beef exportations and also by the domestic market. The total income of beef producers reached R\$ 144.9 billion – which represents a 16.2% increase over 2017.

In 2019, beef production in Brazil is estimated to reach 10.2 million tons, which represents an increase of 3%. This growth Assumed to be driven mainly by exports to China and Hong Kong and the higher domestic demand. Moreover, cattle herd expansion and livestock productivity are estimated to increase. There are three challenges that could impact the beef industry in 2019: (1) the competition from the U.S beef exports to China, if both countries reach an agreement; (2) the Brazilian Ministry of Agriculture, Livestock, and Supply (MAPA) intentions to implement self-monitoring inspection procedures for the inspection of meat in Brazil, as currently described in the media. This self-monitoring could have adverse consequences for exports to several countries, including the United States; and, (3) the possibility of moving the embassy of Brazil in Israel from Tel Aviv to Jerusalem, which could affect the export of Brazilian animal protein to Middle-Eastern markets. Although this political issue will affect more significantly the poultry exportation, the impact on the beef industry could also be critical, since Muslim markets import nearly 40 percent of all Brazilian beef (USDA, 2019).

Given these considerations, we understand that Brazil has a leading role in the global beef market. However, responsibilities are assigned to this role. As a protagonist, the spotlight turns to how beef is produced and where beef is being produced. In this context, the Brazilian industry began to face criticism related to meat quality, food security, food nutrition, animal welfare, as well as environmental issues and social responsibility throughout the supply chains. According to a folder produced by GTPS (2017), sustainability in beef supply chains means addressing multiple challenges, such as water supply and management, land use and greenhouse gases emissions. However, there are also social issues, as mentioned by the respondents. According to Interviewee E, “the environmental problems we have are social problems as well. Environmental problems are always social problems. They are social, in the sense that we have a situation of poverty and social exclusion in Brazil. And that comes with environmental problems”. Due to different pressures from multiple stakeholders, the Brazilian beef supply chain sustainability has been strongly questioned. In the following topic, we describe these pressures, and also their impact on sustainability of the Brazilian beef supply chains.



## 4.2 Sustainability in the Brazilian Beef Supply Chains: initial pressures and impacts

Based on the points presented in the previous topic, we verify the economic importance of beef supply chains for Brazil. This importance, however, have also increase the attention to the complexities of these supply chains. Beef supply chains are not only complex because of livestock businesses and activities, but also because of the quantity and the diversity of stakeholders involved in the supply chains. It is often common for stakeholders to have different objectives, purposes, and interests. Including sustainability in discussions of the Brazilian beef supply chain can, thus, increase even more this complexity. Environmental and social impacts need to be considered, evaluated, and monitored, along with the economic impacts. Sustainable livestock should be sought, including aspects of how beef is produced and where it is produced.

The inclusion of sustainability in discussions of the Brazilian beef industry and supply chains followed the discussions for an environmentally viable, socially equitable and sustainable development. Consequently, it is grounded on the recognition of sustainability as a meaningful concept and a legitimate value of the society. This inclusion emerges mainly from stakeholder pressure – for example, non-governmental organizations (NGOs), the Brazilian government, international market, and consumers. In this topic, we address the key events that have made sustainability a legitimate criterion in the Brazilian beef supply chain: the publication of reports and the Weak Flesh operation. As presented in the analysis of the secondary data, such as documents and the interviews conducted in the research, these events were extremely relevant.

The Food and Agriculture Organization of the United Nations (FAO) leads international efforts to defeat hunger since 1945. FAO aims to achieve access to high-quality food for all people. In 2006, the organization published the ‘Livestock’s Long Shadow: environmental issues and options’ report, by Steinfeld and colleagues (see the report cover in Figure 8). The report aimed to analyze the full impact of the livestock sector on environmental problems, and, based on that, propose technical and policy approaches that could be used to mitigate such issues. The report focuses on the animal production, presenting data on the beef, chicken, pork, sheep, goats, and milk industries. Furthermore, it considers global and local perspectives when analyzing environmental issues and impacts on the world and its regions (STEINFELD et al., 2006).

livestock's long shadow  
environmental issues and options



**Figure 8 - Livestock's Long Shadow Report Cover**

Source: STEINFELD et al. (2006, p.1)

According to the report, the livestock sector is a key player in the agricultural economy for different countries, a major provider of livelihoods for the poor and a major determinant of human diet and health. Thus, there is economic importance, since livestock presented a growth rate of 2.2% per year from 1995 to 2005. In 2005, the contribution of livestock to the total world gross domestic product was 1.4%, while for the domestic market the sector contribution was 40%. The social importance of livestock is also recognized, especially regarding livelihoods creation. In 2005, the number of people engaged full time or partially on the livestock production was 1.299 million or 20% of world's population. Particularly, the number of poor people engaged full time or partially on livestock activities was 987 million people (STEINFELD et al., 2006).

However, the livestock sector is one of the largest sources of greenhouse gases emissions globally, impacting the water, land and biodiversity resources of the world. For example, the Livestock's Long Shadow report states that livestock sector is one of the main causes of world's water pollution and biodiversity decrease, and thus strongly contributes to climate change. Additionally, the expansion of livestock production is a key factor for deforestation, particularly in Latin America, where the greatest amount of deforestation occurs in the Amazon Forest region. Therefore, the report identifies the livestock as a major contributor to global and local environmental problems (STEINFELD et al., 2006).

In this context, the shadow of livestock would be precisely the environmental trails left by the sector. The report presents data concerning land use and geographic changes in livestock, land degradation, climate change, air pollution, water depletion, water pollution,

losses in biodiversity and the impact of livestock on biodiversity. Considering these analyzes, the report also explores the challenges and potential policy strategies for reducing the environmental impact of livestock. For example, there is a growing trend towards intensification and industrialization of livestock. These trends are providing improved efficiency by reducing the land area required for livestock production. However, the report highlights that the extensive grazing still occupies and degrades vast areas of land, which enhances impacts on deforestation, greenhouse gas emissions, and biodiversity loss (STEINFELD et al., 2006).

Based on data analysis, the report concluded that improving the efficiency of resources consumption reduce the environmental impacts of the livestock. The report identified three key suggestions for addressing the environmental issues: (a) the payment of fees and prices related to environmental costs, (b) the payment for environmental services, and (c) policy development. First, most frequently natural resources are free or underpriced, encouraging producers to engage in environmentally damaging activities. One priority, thus, is to define prices and fees that include not only the economic, but also the environmental costs. Second, producers and landowners can be paid for specific environmental services such as regulation of water flows, soil conservation, conservation of natural landscape, and carbon sequestration. Thus, the payment for environmental services is an important practice, especially in relation to reducing extensive grazing. Third, policy development is required for the suggested changes to occur. According to the report, there is an urgent need to develop institutional and policy frameworks at regional, national and international levels. Consequently, this development will demand a strong political commitment, and increased knowledge of the environmental risks and benefits in the livestock sector (STEINFELD et al., 2006).

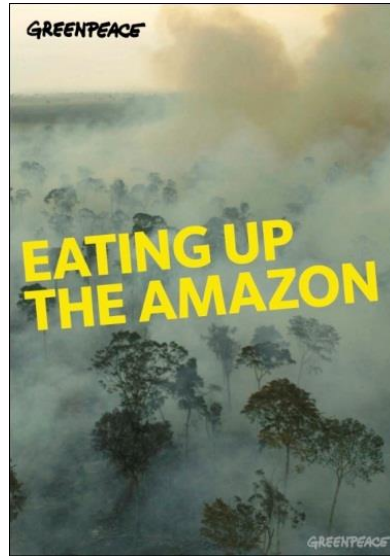
[However] It is obvious that the responsibility for the necessary action to address the environmental damage by the livestock sector goes far beyond the sector; it also goes beyond agriculture. While the sector and agriculture as a whole have to live up to the challenge of finding suitable technical solutions for more environmentally sustainable resource use in animal agriculture, the decisions concerning their use clearly transcend agriculture; multisector and multi-objective decision-making is required (STEINFELD et al., 2006, p. 6).

The report asserts that efforts to reduce the environmental impacts of livestock require the establishment of appropriate policies and joint decision-making among the various stakeholders of the livestock. Actions should enable stakeholder engagement in sustainable resource use. Thus stakeholder engagement is critical to reducing overexploitation and

pollution of natural resources. Decisions and policies must contribute to the stakeholder engagement in economically sustainable resource use. According to the report, the environmental role of livestock needs to be considered in the context of its many different functions, its diverse stakeholders, in many diverse natural and economic environments (STEINFELD et al., 2006).

Livestock's Long Shadow is one of the first reports to analyze environmental issues in the livestock sector at local, national and global levels. The importance of this report lies in placing a spotlight in the shadow of livestock by highlighting the environmental damage of its activities. The problems are mainly related to land use, water pollution, climate change and loss of biodiversity. Furthermore, these problems emerge as a starting point for the discussion of livestock sustainability – including the sector social issues. The report's suggestions also represent an important aspect of the debate on sustainability in the livestock sector. Suggestions on payment of natural resources, payment for environmental services and policy-making are topics still discussed in 2019, even dating 13 years from the report publication. Therefore, the report publication strongly impacted the agenda of the livestock sector.

Since the last decade, Greenpeace has been conducting campaigns aiming to alert the society about the impacts of livestock on the Amazon Forest, especially the expansion of beef production in the region (GREENPEACE, 2018). More specifically, the NGO has been reporting irregularities in the beef supply chains and highlighted the lack of knowledge of the beef traceability by companies, whose suppliers were involved in illegal deforestation of Amazonia and slave labor (GREENPEACE, 2006; 2009; 2015). In 2006, the NGO published 'Eating Up the Amazon' (see the report cover in Figure 9). Although focusing on the deforestation of the Amazon biome for soybeans plantation, the report presents the relationship of the soybeans and the animal feed in Europe. According to the report (GREENPEACE, 2006), companies of the beef industry would be indirectly responsible for deforestation, since 80% of the soya production in the world is fed to livestock – considering the production during 2004-2005.



**Figure 9 - Eating Up the Amazon Report Cover**  
Source: Greenpeace (2006, p.1)

The report indicates that Brazil produced over 50 million tons of soybeans across nearly 23 million hectares during the harvest of 2004-2005 (GREENPEACE, 2006). In the harvest of 2016-2017, the soybean plantation occupied an area of 33.89 million hectares, reaching a production of 113.92 million tons (EMBRAPA, 2019). Currently, Brazil is the second largest soybean producer in the world. According to the Companhia Nacional de Abastecimento (CONAB, 2019), soybean production in Brazil is estimated at 116.996 million tons in a planted area of 35.100 million hectares. Productivity is, then, 3.333 kilos per hectare. Mato Grosso is responsible for approximately 30% of the national production, being considered the largest soybean producing region in the country in a planted area of 9.519 million hectares.

The link between the soybean production and the beef industry is in the fact that soya is a key protein in virtually all animal feed and an ingredient in innumerable processed foods. Soya is an economic and high-protein ingredient, required by intensive production of beef and dairy products in Europe. Even though the volume of soya produced in the Amazon is relatively small when compared with the global production, “its identity is lost by the time it is fed to animals supplying the European food industry” (GREENPEACE, 2006, p. 41). Therefore, the report explores the environmental and social impacts – especially slavery and deforestation – of soya industry in Brazil and leading food processors, supermarkets and global fast food chains in Europe. Based on the Eating Up report, Figure 10 shows the *Boss*

*Amazonicus*, a cattle whose cuts represent Legal Amazon<sup>2</sup> and the other countries occupied by the Amazon Forest.



**Figure 10 - Boss Amazonicus**  
Source: Instituto Peabiru (2019).

In 2004, deforestation has been responsible for approximately 75% of greenhouse gas emissions in Brazil. Although deforestation emissions include Amazon rainforests, cerrado, Atlantic forests and also Caatinga, the majority (59%) of these emissions was coming from the clearing and burning of the Amazon rainforest. “The devastation to biodiversity is irreversible [...] The destruction of the Amazon rainforest makes a significant contribution to global warming” (GREENPEACE, 2006, p. 9). During 2003 and 2004, Mato Grosso led the statistics for deforestation and fires in Brazil. Two-thirds of the deforestation in the state was considered illegal. Statistics have been continuously updated and, in November 2018, the Brazilian government released that the area of deforestation in the Legal Amazon was 7,900 km<sup>2</sup> between August 2017 and July 2018. This number corresponds to a 72% reduction compared to the area registered in 2004, when the Plan of Action for Prevention and Control

<sup>2</sup> The concept of Legal Amazon was established in 1953. The territorial limits emerge from the need to plan the economic development of the region. Therefore, it was not summarized to the forest ecosystem, which occupies 49% of the national territory. The Legal Amazon is an area that corresponds to 59% of the Brazilian territory and encompasses Acre, Amapá, Amazonas, Mato Grosso, Pará, Rondônia, Roraima and Tocantins, and part of Maranhão, totaling 5.0 million km<sup>2</sup> (IPEA, 2008).

of Deforestation in the Legal Amazon<sup>3</sup> (PPCDAm - acronym in Portuguese) was initiated by the government (MINISTRY OF ENVIRONMENT, 2019a).

Regarding slavery, in November 2003, the Brazilian government published the first official 'Dirty List' of organizations successfully prosecuted for holding slave workers. According to the Eating Up the Amazon, slave labor is used to clear forest for agriculture. The report highlights that farms located in the states of Mato Grosso and Pará are responsible for more than half of all the slaves reported in Brazil between 2003 and 2004 (GREENPEACE, 2006). The 'Dirty List' has been regularly updated and, in April 2019, there were 166 organizations prosecuted for submitting workers to conditions analogous to slavery between 2017 and 2019 (MINISTRY OF ECONOMY, 2019). In the last publication, the majority of the cases are related to the agriculture and livestock, construction, textile and mining industries.

In this context, the main point of the report for the beef industry was the fact that the companies were not aware of the origin and traceability of their suppliers and, consequently, the suppliers of their suppliers. Some companies reported a commitment to corporate social responsibility policies; however, according to the Eating Up the Amazon, these policies were not being applied to the supply chain. Such policies, for example, include not sourcing beef from rainforest areas, which is a result of campaigning by environmental groups and concerned individuals. The report states that most companies in Europe have stated in different ways that they were not able to trace the origin of the food.

If we can track soya beans more than 7,000km from farms in the Amazon to [...] products in Europe, there is no excuse for the whole of the food industry not to do the same and to demand the exclusion of Amazon soya from their supply chain. However, not one of the major food processors, fast food chains or supermarkets contacted by Greenpeace was able to provide evidence that it was not using soya from the Amazon rainforest (Greenpeace, 2006, p. 8).

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<sup>3</sup> Created in 2004, the Plan of Action for Prevention and Control of Deforestation in the Legal Amazon (PPCDAm) aims to continuously and consistently reduce deforestation and create the conditions to establish a model of sustainable development in the Legal Amazon. The first challenge was to integrate the fight against deforestation in the policies of the Brazilian State, based on the principle that the fight against the causes of deforestation could no longer be conducted in isolation by the environmental organizations. The PPCDAm was structured to deal with deforestation in a comprehensive, integrated and intensive way. The actions of the Plan are articulated in four themes: land and territorial planning, environmental monitoring and control, promotion of sustainable productive activities, and economic and normative instruments (MINISTRY OF ENVIRONMENT, 2019b).

The report highlights the role of stakeholders by stating that external pressures, based on verifiable evidence, are critical for companies to re-examine and to change their practices towards sustainability. According to the Eating Up the Amazon, Brazilian and European governments, banks and the food industry must re-examine their agriculture policies and support more responsible ways, both environmentally and socially, of meeting food and farming needs without damaging rainforests or the climate. The report concludes that Greenpeace campaigns have pressured the Brazilian government to act on a number of fronts, as closing illegal logging operations, ending the illegal mahogany trade, marking the legal boundaries of indigenous lands, and creating new protected areas (GREENPEACE, 2006).

In 2009, Greenpeace published ‘Slaughtering the Amazon’ (see the report cover in Figure 11). The report focuses particularly on the beef industry and supply chains globally, addressing the link between Amazon deforestation and livestock. “There is a clear correlation between increasing deforestation and cattle expansion” (GREENPEACE, 2009, p. 23). Stakeholders of the beef supply chains were mapped from the operation of the largest beef exporters (slaughterhouses) in Brazil: Bertin, Independência, JBS, Marfrig and Minerva (mainly focus on Bertin, JBS and Marfrig). Additionally, the report also links the slave labor, Amazon deforestation, emission of greenhouse gases, and the global beef supply chains.



**Figure 11 - Slaughtering the Amazon Report Cover**  
Source: Greenpeace (2009, p.1)

According to the Slaughtering the Amazon report, Greenpeace has been investigating illegal deforestation in the Amazon region for cattle ranches since 2006. The NGO has documented connections between different stakeholders of the beef supply chains – including



the Brazilian government, cattle ranches, slaughterhouses, food processors, leather manufacturers, the cosmetics industry and retail companies. Many of these firms are considered Blue Chip companies<sup>4</sup>. The problem lies in the fact that Blue Chip companies, behind reputable global brands, appear to believe that Amazon sources are excluded from their products. The consumption of cattle products by Blue Chip companies would be, therefore, contributing to the Amazon deforestation and global climate change. Furthermore, the report claimed that the Brazilian government was an important shareholder of the cattle sector in the Amazon. Specifically, the Brazilian government policy was, in 2009, funding the cattle sector in the Brazilian Amazon (GREENPEACE, 2009).

Under these circumstances, Greenpeace investigations have identified ranches within the Amazon rainforest supplying beef to slaughterhouses in the Amazon region. The report reveals that significant suppliers of cattle come from ranches active in recent and illegal deforestation, and it also reveals trade with ranches using modern-day slavery. Additionally, one slaughterhouse receives supplies of cattle from an illegal ranch occupying Indian Lands (GREENPEACE, 2009).

Greenpeace has engaged in a three-year investigation of the role the cattle industry plays in driving Amazon deforestation. [...] Supplied by ranchers breaking land tenure, labor and environmental laws, global beef and leather processors in turn supply global brands in food, fashion and footwear. [...] In our investigation, Greenpeace has focused primarily on deforestation. Greenpeace evidence shows top beef exporters are regularly supplied with cattle from ranches that have cleared well above the legal deforestation limit. Ranches continue to deforest at the frontiers – areas with remaining forests (GREENPEACE, 2009, p. 37).

During 1998 and 2008, the beef industry had an export-oriented growth, especially related to fresh, frozen, prepared or processed beef, and leather. Aiming to expand the participation of the country in the global market for agricultural commodities – including beef – the Brazilian government had been investing in all levels of the supply chains, from farm-level production to the international market. The exports of beef from Brazil, for example, increased almost six-fold in volume between these years, and the country accounted for 50% of the global increase in beef exports in the same period (GREENPEACE, 2009).

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<sup>4</sup> Blue Chip stocks are common stocks of nationally known companies that have a proven record of profitability, increases in stock value, and reputations for being leaders in their respective industries. Blue Chip companies typically sell their stocks at a premium compared to other firms in their industry and usually pay moderate dividend yields. Blue chip companies have quality management for products, and services. The term blue chip comes from poker, where the blue chip is the highest-valued chip (FOLSOM; BOULWARE, 2014).

In 2008, Brazil had the largest commercial cattle herd and it was the largest beef exporter in the world. Approximately, one in every three tons of beef traded internationally was from Brazil (GREENPEACE, 2009). In this context, according to the report (GREENPEACE, 2009, p.24), “five companies (Bertin, Independência, JBS, Marfrig and Minerva) controlled over 50% of Brazil’s beef export market in 2007, and just under 40% of Brazilian slaughter capacity. These groups are global players in the food and leather industries”. Independência, however, filed for bankruptcy protection in February 2009 as part of its efforts to restructure its debt and remain in business. In 2013, JBS group completed the acquisition of Independência (JBS, 2013).

The Slaughtering the Amazon report claims that the cattle herd’s expansion and the slaughtering capacity is concentrated in the Amazon region. Considering this scenario, “the cattle sector in the Brazilian Amazon is the largest driver of deforestation in the world, responsible for one in every eight hectares destroyed globally” (GREENPEACE, 2009, p.03). Deforestation, however, is not necessarily related to the achievement of the growth of production – for example, clearing forest for grazing can be significantly cheaper than restoring degraded land. Data collected by Greenpeace revealed that 90% of the Amazon deforestation was illegal between 2006 and 2007. Therefore, dominant stakeholders in the beef processing industry are buying cattle that increasingly come from ranches engaged in illegal deforestation (GREENPEACE, 2009).

Even though Brazil has developed an effective system to monitor deforestation through analysis of satellite data<sup>5</sup>, the prosecution of illegal deforestation was restrained by the lack of governance, which includes corruption, disorganization, limited capacity and the lack of coordination between the government departments (GREENPEACE, 2009). In addition, “the measures for tackling illegal behavior do not serve as adequate disincentives. For instance, a ranch caught illegally deforesting land is only banned from trading cattle grazed on the land where the illegal deforestation has been detected” (GREENPEACE, 2009, p.34).

Importantly, the Amazon region is a major beef production center; but it is not a consumption center. The products, thus, are moved from the Amazon region to other Brazilian

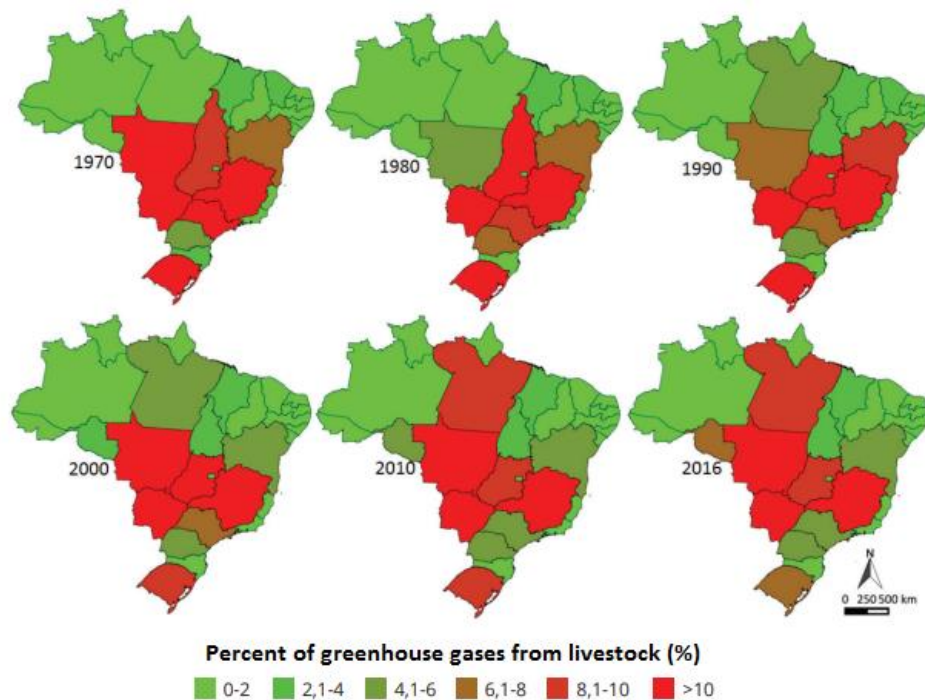
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<sup>5</sup> The PRODES project conducts the satellites monitoring of superficial deforestation in the Legal Amazon and has been producing annual deforestation rates in the region since 1988. These rates are used by the Brazilian government for the evaluation and establishment of public policies related to the control of the deforestation and actions focused on REDD+. In addition to the government use, PRODES data supports successful initiatives in the private sector, such as the Conduct Adjustment Term (Termo de Ajuste de Conduta – TAC) of the beef supply chains (INPE, 2019).

regions – thousands of kilometers away – in order to be sold. Often, additional processing takes place in the importing countries before the final product reaches the market and final consumers (GREENPEACE, 2009).

Due to the lack of effective governance, the policies to promote agricultural growth conflict with the policies to cut greenhouse gas (GHG) emissions because of the goals to reduce the deforestation rates. The report affirms that Brazil was the fourth largest producer of GHG emissions in the world in 2007. Particularly, the majority of emissions occur from the clearance and burning of the Amazon rainforest. Thus, considering the deforestation and also the methane (CH<sub>4</sub>) released by cattle into the atmosphere during the digestion (enteric fermentation) (SEEG, 2018), the cattle sector is considered the highest carbon industry in the country (GREENPEACE, 2009).

In 2016, agriculture accounted for approximately 22% of the greenhouse gas (GHG) emissions in Brazil. Livestock is the main source of the GHG emissions in the agriculture sector, accounting for 68.5% of its total emissions. Initially concentrated in the South, emissions have been moving to the Midwest and to the North of Brazil, moving thus towards the Amazon (SEEG, 2018). Figure 12 shows this evolution of the percentages of GHG emissions from livestock, by state, in Brazil.



**Figure 12 - Evolution of the percentages of GHG emissions from livestock, by state, in Brazil**  
Source: SEEG (2018).

The report affirms that zero deforestation is a fundamental part of a global strategy that should be developed to tackle climate change and preserve biodiversity. Given the complexity of the situation, the report also claims that Brazil should not take the responsibility for fixing the problems related to deforestation and climate change. Different actors, such as world governments, multilateral funding agencies (e.g., World Bank) and global corporations, have an important role to play aiming to eliminate deforestation (GREENPEACE, 2009).

One example of a multi-actors partnership is the Amazon Fund. According to the Brazilian government, the ability to reduce deforestation depends on the provision of international funding from rich countries (GREENPEACE, 2009). The Amazon Fund is a REDD+<sup>6</sup> mechanism created to raise donations for non-reimbursable investments in efforts to prevent, monitor and eliminate deforestation, as well as to promote the preservation and sustainable use of the forest in the Brazilian Amazon. The Fund is managed by the Brazilian Development Bank (BNDES), which is responsible for investing funds, monitoring the projects supported, rendering accounts and communicating results obtained. The Fund slogan is: “Brazil protects it. The world supports it. Everybody wins” (AMAZON FUND, 2019).

Finally, the report argues about the relation of the beef supply chains and slave labor. “In the process of investigating illegal deforestation, Greenpeace has found that four of the top five beef exporters – Bertin, Independência, JBS and Marfrig – have acquired cattle from ranchers linked to forced labor” (GREENPEACE, 2009, p. 34). According to the report, the beef industry is expanding into the Amazon region mainly because of the availability of cheap land and labor. Considering the information published on the ‘Dirty List’ in February 2009, approximately two-thirds of the cases of slave labor were in the Amazon region and associated with cattle ranching. Pará and Mato Grosso were the states with the highest numbers of slave labor cases – coincidentally the states with the largest number of cattle herd in the country. Pará accounted for one out of every three people liberated from conditions of slavery in the Amazon region. In addition, the report highlights that more than half of the regions within the primary cattle supply area of Bertin had cattle-ranching related slavery cases (GREENPEACE, 2009).

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<sup>6</sup> REDD+ is an incentive developed by the United Nations Framework Convention on Climate Change (UNFCCC) to financially reward developing countries for their GHG reduction results from deforestation and forest degradation – considering the role of conservation of forest carbon, sustainable forest management, and increasing forest carbon (MINISTRY OF ENVIRONMENT, 2016).

The report concludes that ending deforestation and associated GHG emissions and slave labor is fundamental for sustainable development and for the prevention of a worldwide collapse. Zero deforestation must be achieved in key areas, such as the Amazon Forest, the Congo Basin and the paradise forests of Southeast Asia. A global deal to protect the climate, moreover, must be agreed to provide long term funding for the protection of the rainforests (GREENPEACE, 2009).

Although the impact of the ‘Eating Up the Amazon’ report is considerable, it is undeniable that the publication of the ‘Slaughtering the Amazon’ report had a more significant impact at the beef industry, supply chains, and organizations levels. The report focused on the operation of the focal firms (the slaughterhouses), and the link with key stakeholders (specifically the Brazilian government and large multinational companies). The main point was to realize how products traded in Europe and other countries were contributing to the Amazon deforestation for cattle production in Brazil. To this end, Greenpeace has mapped the members of the Brazilian beef supply chain (for main products and by-products) and provided evidence of missing traceability in the entire supply chain.

Given these considerations, the diverse members of the Brazilian beef supply chain responded to the report in different ways. In general, companies had negative reactions to the report, claiming that it contained inaccurate data. However, two weeks after its publication, major slaughterhouses lost significant share value – according to Lee and Rammohan (2017), Minerva shares lost 11.3 percent, Marfrig lost 10.2 percent, and JBS lost 7.5 percent. The government from the state of Pará also responded by having its federal prosecutor (Ministério Público Federal – MPF) suing ranchers related to illegal deforestation in Amazon lands. The MPF also threatened to sue retailers aiming to persuade them to discontinue the contracts and boycott the slaughterhouses associated with deforestation (LEE; RAMMOHAN, 2017).

In turn, the slaughterhouses Bertin, JBS, Marfrig, and Minerva signed an agreement with the state government of Pará, known as the Terms of Conduct Adjustment<sup>7</sup> (MPF-TAC). The MPF-TAC states that companies must stop purchasing from direct suppliers (first tier ranches) and indirect suppliers (those who sold cattle to farms, which sold to slaughterhouses)

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<sup>7</sup> The Term of Conduct Adjustment (Termo de Ajuste de Conduta – TAC) is an agreement that the Federal Public Ministry (MPF) defines with the violator of a specific collective right. This instrument has the purpose of preventing the illegality, repairing the damage to society and avoiding legal action. Thus, the MPF-TAC is an extrajudicial instrument whereby the parties agree to comply with certain conditions in order to resolve the problem they are causing or to compensate for damages already caused. If the firm does not comply with the commitment, MPF may initiate public civil actions for the fulfillment of the obligations assumed in the agreement. TAC is provided by the Law n. 7,347/85 and the National Council of the Public Ministry (CNMP) Recommendation n. 16/10 (CNMP, 2019).

that cleared more forest than legally permitted by the Brazilian Forest Code (LEE; RAMMOHAN, 2017). We emphasize that, according to the Brazilian Forest Code, all rural properties located in the Legal Amazon should maintain 80% of the native vegetation area (since the property is situated in the forest area), as a Legal Reserve, allowing the application of the rules on Permanent Preservation Areas (BRASIL, 2012). Permanent Preservation Areas (PPAs) are untouchable natural areas without economic exploitation (ABIEC, 2019).

Particularly, slaughterhouses are required to discontinue the beef acquisition from cattle ranches who are included in the following conditions: (1) belonging to cattle ranchers who are being prosecuted for slave labor, environmental crimes or agrarian conflicts; (2) resulting from invasion of the indigenous lands; (3) that have harmed indigenous interests, *quilombolas* and traditional populations of the agrarian reform; and, (4) that have deforested areas posteriorly to the signature of the term (SENADO, 2019). In addition, the agreement also required supplying cattle ranchers to enroll in a public environmental registry called Rural Environmental Registry<sup>8</sup> (Cadastro Ambiental Rural – CAR), which identified the boundaries of their ranches and enabled the monitoring of changes in forest cover.

The slaughterhouses had to sign individually and to comply with all the conditions imposed by MPF in periods that vary from six months to 30 years. By signing the term, the environmental damage lawsuit should be immediately removed and the organization can, consequently, continue its activities (SENADO, 2019). On the other hand, the state government of Pará assumed responsibility for the implementation of ecological-economic zoning, the land regularization in the state areas, the agility in environmental licensing, and the support in the restoration of preservation areas and legal reserve. Bertin and Minerva signed the MPF-TAC with the state of Pará in July 2009 (GAZETA DO POVO, 2009). Similar agreements were later replicated in other states, such as Mato Grosso, Acre, and Rondônia.

Furthermore, the slaughterhouses signed a more restrict agreement with Greenpeace, committing to buy only from direct suppliers and indirect suppliers that have the purpose of eliminating the deforestation. These companies agreed initially to require their directly

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<sup>8</sup> The Rural Environmental Registry (Cadastro Ambiental Rural – CAR) is an instrument used in the process of environmental regularization of rural properties. It consists of a set of geo-referenced property information, with division of Areas of Permanent Protection, Legal Reserve, remnants of native vegetation and other information. The CAR purpose is to draw a digital map from which the values of the areas undergoing environmental diagnosis are calculated. Therefore, CAR is an important tool to assist in the planning of the rural property and the recovery of degraded areas (MINISTRY OF ENVIRONMENT, 2019c).

supplying ranches to register with CAR, and also implement supply chain monitoring systems and be subject to third-party audits coordinated with the referred NGO. The Slaughtering the Amazon report motivated the origin of the Public Livestock Commitment (in Portuguese, Compromisso Público da Pecuária), signed by the largest slaughterhouses in Brazil (GREENPEACE, 2018). According to Interviewee I, “Greenpeace led the audits, that is, hired a company, hired an audit company, and then it went there and audited and all, and Greenpeace somehow monitored this audit process. The audits, yes, they were very positive”.

Since 2014, JBS, Marfrig, and Minerva have been publishing the results of independent audits to follow the evolution and the implementation level of mapping and identification of their direct cattle suppliers. However, mapping indirect suppliers is still a challenge to the beef industry (GREENPEACE, 2015). Even though the agreement was not effective as the Soy Moratorium – which emerged as a response to the Eating Up the Amazon report – to eliminate deforestation in the Amazon, the Public Livestock Commitment represented a key step towards reducing deforestation (GREENPEACE, 2018). In addition, Interviewee I affirms that the Commitment was “extremely successful, and, in this particular case, in creating a policy, an entire instrument. Now, if it is successful at its purpose, which was to reduce deforestation through that instrument, then we can question”.

Companies that use Brazilian leather in their products, such as Adidas and Nike, agreed to develop a zero deforestation plan as a response to the publication of the report. Additionally, due to consumer pressures, the companies committed to buying products free from any links to Amazon deforestation. The Brazilian Association of Supermarkets, which included Walmart and Carrefour, began requiring beef to be zero deforestation (LEE; RAMMOHAN, 2017). The MPB-TAC of the state government of Pará recommended the supermarkets and industries to interrupt the beef acquisition from illegal deforestation areas should maintain contracts suspended (SENADO, 2019).

Deforestation rates dropped 72% from 2004 to 2018 (MINISTRY OF ENVIRONMENT, 2019a). This reduction is attributed to a combination of factors, including cattle agreements, public and private policies, and consumer pressures. However, progress is still considered limited. One point that justifies further progress is that the Greenpeace and prosecution agreements, as well as many corporate policies, have been strongly applied to beef-exporting slaughterhouses. Slaughterhouses operating in the Brazilian domestic market did not have to adopt the same environmental commitments – although they are very strongly recommended to do so.

We emphasize that the Brazilian domestic market represents 80% of beef production in the country (ABIEC, 2019). Therefore, considering beef production in Brazil, these slaughterhouses must also be legally committed to reducing deforestation, reducing GHG emissions and eliminating slave labor. Other points that justify further progress in the Brazilian beef supply chain sustainability include property speculation, lack of clear land titles, large infrastructure projects, legal uncertainty, inefficient governance, and the complex dynamics of the supply chains.

The responsibility for a more sustainable market extends beyond slaughterhouses to other supply chain members. For example, retailers have an important role dealing directly with the final consumer. Thus continuing the campaign on the impacts caused by the expansion of beef production, Greenpeace published in 2015 the report ‘Carne ao Molho Madeira’ in Portuguese – or ‘Beef with Wood Sauce’ in a free translation (see the report cover in Figure 13). The report focused on investigating the beef purchasing policies at major supermarkets in the country. Based on this publication, Greenpeace assessed “the degree of involvement of the seven largest supermarket chains in Brazil with a commitment to only sell beef free from deforestation, slave labor and violence against indigenous peoples” (GREENPEACE, 2015, p. 4).



**Figure 13 - Carne ao Molho Madeira Report Cover**  
(How supermarkets are helping to devastate the Amazon with meat on their shelves)  
Source: Greenpeace (2015, p.1)

Greenpeace recognizes that there are several factors related to beef production and consumption, such as health, ecological, social, moral, and animal welfare issues. However, the scope of this study is limited to deforestation in the Amazon forest, which is a key issue



for the NGO. The report states that the largest buyers of beef products are not requiring their suppliers to produce deforestation-free meat. Supermarkets supply the majority of the beef consumed in the domestic market in Brazil (already mentioned as relevant in beef production), making this sector the largest domestic beef trader. As members of different beef supply chains, supermarkets should, thus, contribute to the reduction of beef production impact. Consumers also have the right to accurate information to avoid any product linked to deforestation, GHG emissions, and slave labor. Large retailers therefore need to be accounted for the offer of products that do not contribute to environmental damages and social injustices (GREENPEACE, 2015).

Aiming to assess beef purchasing policies, Greenpeace selected the largest supermarket chains in Brazil and the largest chains that were operating in the Legal Amazon. They are the Grupo Pão de Açúcar, Carrefour, Walmart, Cencosud Group/G Barbosa, Yamada (Para), Pereira Group/Comper (Mato Grosso), and DB (Amazonas, Rondônia, and Roraima). These seven companies together accounted for more than two-thirds of total national retail sales and were rated by Greenpeace according to three main aspects: (1) to have a policy for the beef purchase, focusing on whether the company has beef purchase policy that encompasses socio-environmental criteria; (2) to analyze the criteria of these policies, emphasizing the measures taken to guarantee that the beef was produced free of deforestation, slave labor, and violation of the rights of indigenous peoples in the Amazon; and, (3) to verify the transparency regarding the beef purchase process and the product information with its consumers and suppliers. The issue of traceability is also directly related to such aspects (GREENPEACE, 2015).

According to the report, there were questions with different weights and scores for each of these key areas (policies, criteria, and transparency). The maximum score to be achieved with the entire questionnaire was 30 points (100%). Among the selected companies, Walmart, Grupo Pão de Açúcar, Carrefour and Cencosud were the only ones to return the questionnaires. These companies were considered the four largest supermarket chains in Brazil, representing over 50% of the market. The report shows none of the supermarkets reached the highest score in the ranking (green level), which corresponds to companies that achieved a percentage of 70 to 100% in all key areas. Walmart was in the first position with 62%. In the second position, Carrefour reached 23%, followed by Grupo Pão de Açúcar in the third position, achieving only 15%. Cencosud was in the last position, reaching 3% (GREENPEACE, 2015).

Considering consistent initiatives to prevent deforestation-related products, Walmart was the only supermarket chain with a meat supply policy, which was still in the final stages of testing. Carrefour and Grupo Pão de Açúcar, however, had no similar policies. Although they have adopted processes that favor suppliers with social and environmental practices, such rules apply only to part of their purchases. Regarding specifically to the use of slave labor in beef production, Walmart, Carrefour, and Grupo Pão de Açúcar consult the ‘Dirty List’ of the Brazilian government to discontinue suppliers that are related to slave labor. This analysis was not performed by Cencosud. The report affirms that the ‘Dirty List’ is the only instrument that companies currently have to remove this crime from their supply chains. Supermarkets have the power to require their suppliers to eliminate slave labor by canceling trade relationships and by proactively avoiding contracting with suppliers that are not completely transparent about slave labor. Finally, none of the supermarkets provided information on the origin of a significant part of beef at the point of sale. The report showed the largest supermarkets in Brazil are unable to assure their customers that the beef they sold respects the environment and human rights (GREENPEACE, 2015).

Additionally, the report analyzed traceability in Brazil. The report states that there is no public and required traceability system that could provide transparent and official information about all the cattle origin and transportation – from birth, through breeding farms, and to slaughterhouses. The report named the Animal Transit Guides (GTA) and the Brazilian Cattle Identification and Certification System (Sistema Brasileiro de Identificação e Certificação de Bovinos e Bubalinos – SISBOV<sup>9</sup>) as systems to be improved for cattle traceability. GTA is crucial in tracking cattle herd from farms to beef processors since it is an official document issued by a system for the transit of animals. This system, however, is not open to the public. SISBOV is the only cattle traceability system currently used in Brazil. The purpose of SISBOV is health security and this system was designed to create an individual identification for each cattle herd. Thus, SISBOV could also be used as an instrument for monitoring cattle coming from deforested areas. This mechanism is only required for products exported to European countries and it is not obligatory for the domestic market (GREENPEACE, 2015).

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<sup>9</sup> The Brazilian System of Individual Identification of Cattle and Buffalo (SISBOV) is the official system of cattle and buffalo individual identification. The adhesion to the system is voluntary by the cattle ranchers, except when defined their adhesion as an obligation in the normative act or required by controls or official sanitary programs (MINISTRY OF AGRICULTURE, LIVESTOCK, AND SUPPLY, 2017a).

Based on the data collected, Greenpeace identified roles of the supermarket to improve the Brazilian beef supply chain sustainability. The NGO also highlighted the role of the Brazilian government and consumers, by recommending actions that should be taken by these stakeholders. We agree with the report and we understand that all stakeholders have a responsibility to eliminate deforestation and slave labor. Table 8 shows the stakeholders and their respective role in contributing to sustainability.

Stakeholder	Stakeholder Role
Supermarket	(e) Make a public commitment to buy and to sell only deforestation-free meat; (f) Purchase beef only from slaughterhouses that comply with the principles and commitments aiming to reduce environmental damages; (g) Support and provide instruments for slaughterhouses that have not yet committed to zero deforestation; (h) Publicly submit an annual action plan to meet all commitments listed in its beef purchase policy; (i) Disseminate the results of an annual independent audit, proving the efficiency of the system developed by the supermarket to check its suppliers.
Brazilian Government	<ul style="list-style-type: none"> <li>• Adopt a zero deforestation policy;</li> <li>• Complete the “Rural Environmental Registry” (CAR), recording the total of areas that rural properties occupy by 2016;</li> <li>• Develop a public and compulsory traceability system, promoting transparency and access to the CAR and the Animal Transit Guide (GTA);</li> <li>• Immediately regularize all public and private land, including the unification of multiple land registers into a publicly accessible data system;</li> <li>• Effectively implement all protected areas and indigenous lands;</li> <li>• Restrain all actions of the National Congress aimed at reducing the rights of indigenous and other traditional communities;</li> <li>• Ensure transparency of the ‘Dirty List’ of slave labor.</li> </ul>
Costumers	<ul style="list-style-type: none"> <li>• Only buy meat from supermarkets that can guarantee that the product is free of deforestation;</li> <li>• Ask the origin of the beef and verify if it is supplied by slaughterhouses that are not associated with deforestation of the Amazon;</li> <li>• Reduce beef consumption.</li> </ul>

**Table 8 - Stakeholders Role for Beef Supply Chain Sustainability**

Source: Greenpeace (2015, p.7)

According to the report, supermarkets must require their beef suppliers to commit to zero deforestation and parameters equivalent to those of the Public Livestock Commitment. Therefore, supermarkets would encourage other slaughterhouses to adopt social and environmental commitments. At the same time, these companies would be able to guarantee their consumers that the beef they sell is not linked to deforestation in the Amazon (GREENPEACE, 2015). Following consumer pressure, as a result of the report publication, Grupo Pão de Açúcar, Walmart and Carrefour committed to taking measures to ensure the beef traceability (GREENPEACE, 2018).

In this context, we understand that the Beef with Wood Sauce report is relevant because it recognizes the role of other stakeholders – which are not the focal company – for beef supply chain sustainability. This report highlights the importance of supermarkets in supply chains in Brazil since most of the beef consumed in the country is bought in supermarkets and, at the same time, these stakeholders do business directly with slaughterhouses. They can, thus, influence consumers and their suppliers for the adoption of sustainability initiatives. From the report, Greenpeace communicates straightly with supermarkets and beef consumers, and then these stakeholders can pressure the large, medium, and small slaughterhouses toward responsible practices. Considering their influence, supermarkets need to assume their role and to contribute to the sustainability of the Brazilian beef supply chains.

In addition to deforestation in the Amazon, corruption and adulterated food were other irregularities reported in the Brazilian beef supply chain. In 2017, the Brazilian Federal Police started to investigate allegations that food companies were adulterating the meat sold in the domestic and international markets. This operation was called ‘Carne Fraca’ or Weak Flesh. More than 30 companies were accused of selling improper meat for consumption. Furthermore, the Weak Flesh operation reported that federal agents were certifying the quality of the meats by payment (suborn). Thus, according to the operation, companies and federal agents from the Ministry of Agriculture, Livestock, and Supply benefited from the scheme involving the sale of the meat inappropriate for consumption (MINISTRY OF AGRICULTURE, LIVESTOCK, AND SUPPLY, 2017b).

The Weak Flesh operation was divided into three phases. In the first phase, the Federal Police investigated more than 30 slaughterhouses, including JBS. The operation reported that employees of these companies offered payments to federal agents from MAPA for false quality certificates. In the second phase, the Federal Police focused on the federal agents, since investigated agents were recorded discussing the destruction of relevant evidence to the operation. Finally, in the third phase, the focus was on a large slaughterhouse (Brasil Foods – BRF), because it was verified that the laboratories of this company were adulterating the results of tests for meat quality. The irregularities were reported to have been committed between 2012 and 2015. Moreover, the executives were aware of these irregularities, according to a former employee. Regarding the Weak Flesh operation, the investigated companies stated that they were collaborating with the authorities to clarify the facts (SALOMÃO, 2018).

The operation had impacts on the Brazilian meat market for different reasons. Firstly, we emphasize the role of the media. The media played an important role in disseminating and communicating information about Weak Flesh to the general population. However, although it has increased the dissemination of the operation, false information has also been disseminated. The addition of cardboard to the meat is an example of the false information published. It was reported in the media that companies would be adding cardboard to meat to increase their weight. The cardboard only referred to the packaging of the products. The false information created suspicions about the quality of Brazilian meat and also about the focus of the investigations. Secondly, sales and exports declined as the suspicions about the quality of Brazilian meat increased. According to media reports, JBS reported that the income in 2017 decreased approximately 5% compared to 2016, and BRF reported a loss of R\$ 1.1 billion in 2017 (TREVIZAN, 2018; SALOMÃO, 2018).

Thirdly, we understand that the operation has shown the corruption is also a challenge for the Brazilian beef industry and supply chains. JBS is also involved in another operation of the Federal Police of Brazil: the Lava Jato or Car Wash, in a free translation. The operation is considered the largest corruption and money-laundering investigation in Brazil (MPF, 2019). According to a media report, the operation was launched in March 2014. It had initially focused on agents who used small businesses, such as petrol stations and car washes, to launder the profits of crime (WATTS, 2017). Investigations were deepened and the focus shifted to Petrobras, the most significant Brazilian company that operates in the oil, natural gas, and energy sector. It was revealed that companies and politicians were suborning public agents related to Petrobras and BR Distribuidora. The web of corruption has been traced far beyond the borders of the country. This corruption linked to non-compliance with the law and favoring companies in contracts with Petrobras and subsidiaries.

In this scenario, the media report affirms that the focus shifted from Petrobras to Odebrecht, the holding company that operates in the engineering, construction, chemical, and petrochemical industries. In 2017, the Federal Police opened new investigations against businessmen and politicians involved in corruption, misuse of public resources and irregularities in the execution of different constructions. In addition, the Federal Police expanded the investigation network to include JBS, following the report of the results of the Weak Flesh operation (WATTS, 2017). Thus Car Wash operation has ties with the Weak Flesh operation. JBS is part of the J&F group, whose owners have been accused of using public resources for the investment of the group companies – including, for example, the acquisition of Independência. BNDES funds enabled the J&F group to expand their businesses (UOL,

2017). JBS became one of the spotlights of the investigation and their owners are still under investigation.

Based on the corruption scandals involving the beef industry in Brazil, as well as the impacts on the Amazon forest and the human rights, Greenpeace stated that a lack of credibility in beef supply chains was evident. Consequently, the effectiveness of Public Livestock Commitment was damaged. Interviewee I says that “Greenpeace has recently given up on this [Commitment], (...) [the NGO] has circulated an email, a public note, saying they are not anymore, they are no longer part of it. Because they believe that other strategies are necessary... So, basically, I think it is a little bit of a result that the business did not work well”. Interviewee F states that “ABIEC had a great interface with Greenpeace until 2016 and 2017 when Greenpeace decided to leave the group they had with the slaughterhouses. So, this was a parallel-group that was from Greenpeace with the slaughterhouses [the Public Livestock Commitment]”.

In 2017, the NGO suspended its participation in the implementation of the Commitment signed in 2009. The NGO also claimed that the creation of public and private policies would be needed for the credibility of the Brazilian beef supply chains (GREENPEACE, 2018). Additionally to the agreements and policies, other actions should be developed aiming to respond to the challenges faced by the Brazilian beef supply chains.

On the one hand, companies are responsible for ensuring the good origin of their products, and governments must take care of the conditions necessary to prevent the destruction of forests and the violation of human rights. On the other hand, each of us [as citizens] can do our part not only by pushing companies and governments to fulfill their responsibilities but also by reducing meat consumption... (GREENPEACE, 2018).

Challenges related to deforestation, slave labor, greenhouse gas emissions, lack of traceability, and corruption seem to be recurring according to the published reports. However, as a result of the dissemination of such reports, policies, and commitments, sustainability has gained attention in the Brazilian livestock debates. Following the discussions of society as a whole, sustainability has become a significant concept in the beef industry. Thus, sustainability has been recognized and shared as an important and legitimate value for the stakeholders of the Brazilian beef supply chains. As a legitimated value, it must guide the strategies and actions of the organizations. Sustainability, therefore, had to become a frequent topic on the agenda of the diverse stakeholders of the Brazilian beef supply chains.

According to a report from GTPS (2017, p. 1), “promoting sustainable livestock in Brazil is based on ensuring that we [as stakeholders of Brazilian beef supply chains] continue to meet the demand for beef while boldly and proactively tackling the key environmental issues that have traditionally been associated with the industry”. Continuing to meet demand means continuing beef production and, in addition, improving productivity by increasing the number of cattle herds per hectare. Thus livestock intensification is to produce quality meat while reducing land use. The livestock sustainability in Brazil has the deforestation reduction and the pastureland restoration as basis.

Aiming to improve the sustainability of the Brazilian livestock, livestock intensification, genetic improvement, and good livestock practices are the key elements (GTPS, 2017). Interviewee P states that “sustainability is improving what you have inherited by making it better for my children to do their best, correctly, so that they can be more productive without degradation”. The interviewee adds “[sustainability] is a technological package that you do the right way, you will produce with more quality and protect even more... I cannot harm the environment if I depend on it to survive”.

Discussions of sustainability in livestock are strongly linked to increasing productivity and reducing land use. Understanding livestock sustainability as a synonym for increased productivity and protection of degraded areas is still reflected in current discussions. According to the ABIEC report (ABIEC, 2019), from 1990 to 2018 productivity increased by 176%. In this period, the productivity went from 24.45 kilos per cattle herd per year to 67.5 kilos per cattle herd per year. Beef production also grew by 139%, however, the area under pasture decreased by approximately 15%. Moreover, 250.6 million hectares of native land were left uncut due to technological advances over the last 28 years. In other words, the ABIEC report states that Brazil reduced the area occupied by cattle herds in the last few years while raising beef production. Figure 14 and Figure 15 (continued from the first one) graphically show how Brazil has been producing quality beef sustainably.

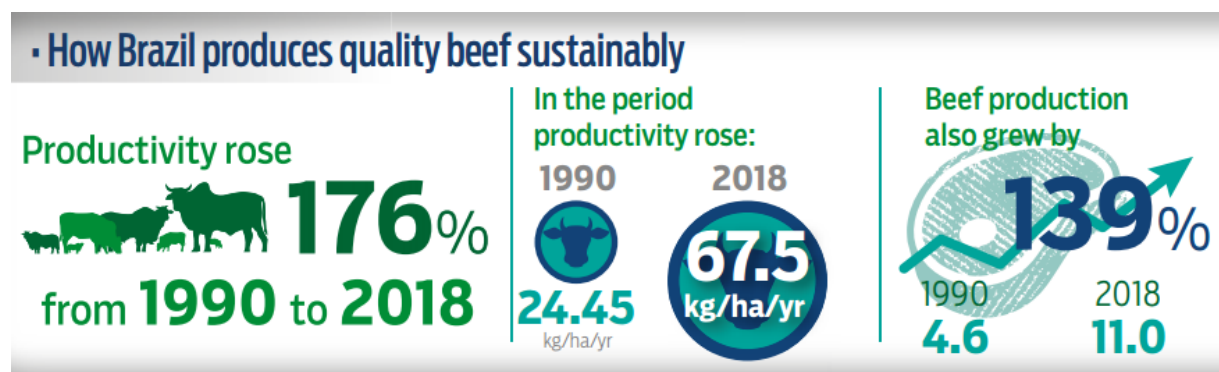
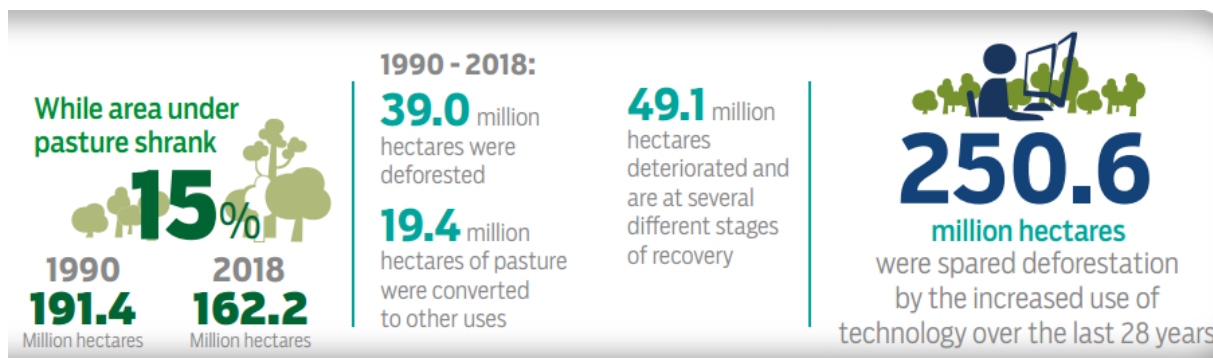


Figure 14 - How Brazil produces quality beef sustainably (1)

Source: ABIEC (2019, p.42).



**Figure 15 - How Brazil produces quality beef sustainably (2)**

Source: ABIEC (2019, p.43).

Furthermore, the ABIEC report shows the distribution of areas in Brazil, according to the official sources of monitoring on the use of land and production statistics (ABIEC, 2019). Figure 16 presents the different types of land occupation in the country, with data from previous years. We highlight the areas of permanent preservation, legal reserve, crop-livestock integrated farming system, reforestation, and pasture. As previously commented, Permanent Preservation Areas (PPAs) are untouchable natural areas with strict limits on exploitation. According to the report, PPAs represent 6.47% of land use in the country (ABIEC, 2019).

In compliance with the Brazilian Forest Code, the rural property that is covered with natural vegetation can be exploited for sustainable forest management. This exploration is regulated by limits set for the biome in which it is located: (1) 80% of property in the Legal Amazon; (2) 35% on properties located in the Savanna formations in the Legal Amazon; (3) 20% on properties located in forest area; and, (4) 20% on properties located in the Campos Gerais area. These limits determine the Legal Reserve. The report informs that Legal Reserve represent 6.41% of the land used in Brazil. In turn, the crop-livestock integrated farming system areas are only 1.39% of the land used in the country. Reforestation areas represent even less, around 0.8%. Together, these areas account for 15.07% of the land used in the Brazilian territory. However, 150.5 million hectares are exclusively pasture areas, which represents a total of 17.67% of the land used in the country (ABIEC, 2019).



<b>Types of occupancy</b>	<b>Million ha</b>	<b>Share</b>
Native vegetation	360.9	42.38%
Permanent preservation area	55.1	6.47%
Native vegetation fit for agriculture outside the Amazon biome	82.0	9.63%
Legal reservation area	54.6	6.41%
Recovering area (since 2003)	20.9	2.45%
Exclusive pasture land	150.5	17.67%
Integrated use pasture land	11.8	1.39%
Perennial, semi-perennial and annual agriculture	70.8	8.31%
Reforestation	7.1	0.83%
Urban centers, water bodies, roads, mangrove and other uses	38.0	4.46%
<b>Total area in the country</b>	<b>851.577</b>	<b>100.00%</b>

**Figure 16 - Distribution of Areas in Brazil**

Source: ABIEC (2019, p. 42).

Given this contextualization, we aimed to understand the pressures that contributed to the first discussions of sustainability in livestock. We also aimed to verify the impacts that emerged from these pressures. The first pressures were mainly from FAO and Greenpeace, based on the publication of reports. Greenpeace is, therefore, an important stakeholder of the Brazilian beef supply chains. Even though following sustainability debates in society, introducing sustainability into the livestock agenda is essentially reactive. The idea of reactivity is linked to changing the minimum required to address any problem. Thus, the introduction of sustainability into the discussions was a first step – or a minimal change required – to respond to the initial pressures. Sustainability was then legitimized by Brazilian beef stakeholders from the pressures exerted.

Considering that the first discussions on livestock sustainability are a response to the reports, we identified the content of the debates and why these contents are discussed by Brazilian beef stakeholders. The main contents discussed are strongly linked to the problems identified in the reports – deforestation, greenhouse gas emissions, and violation of human rights. Consequently, the first commitments agreed are equally linked to these issues. We emphasize that the interviewees recognized these contents as the main sustainability challenges to be faced by the beef supply chains in Brazil. These challenges are addressed in the next topic. The next topic includes a description of the emergence, the structure, and the members of the Sustainable Livestock Working Group (Grupo de Trabalho da Pecuária Sustentável – GTPS).

### 4.3 Grupo de Trabalho da Pecuária Sustentável (GTPS): the emergence and current discussions

It is in this context – described in the previous topic – that the first discussions regarding sustainability in Brazilian livestock emerged. These discussions thus contribute to the understanding of the creation of the Grupo de Trabalho da Pecuária Sustentável (GTPS – Working Group on Sustainable Livestock). According to its official website, the creation of GTPS is a response to the Livestock’s Long Shadow report published by FAO in 2006. This response came from a workshop organized by the key actors of the Brazilian beef industry in 2007. The workshop aimed to discuss the environmental and social impacts of livestock activities. There was a common understanding that such impacts do not represent a problem of a specific member but rather of all members of the Brazilian beef supply chains. The organization of the workshop was inspired in a roundtable format, especially for integrating different stakeholders and giving voice to such stakeholders in the same discussion. Therefore, these debates encouraged the GTPS formalization as a working group. In 2009, the organization GTPS was formally constituted in São Paulo city.

Besides the Livestock’s Long Shadow report, the interviewees also add Greenpeace reports, the Terms of Conduct Adjustment (TACs) and the Public Livestock Commitment as motivating factors for the initial debates on sustainable livestock in Brazil and the further creation of GTPS. Interviewee L states that “the very emergence of the GTPS was based on, was in the reaction, due to the publication of materials about Greenpeace, deforestation of the Amazon [Forest]”.

Two things happened; it was the action of Greenpeace in 2009, where the beef agreement [the Public Livestock Commitment] was created, so the three big slaughterhouses were finally forced to sign with Greenpeace. And then, also leading to a lot of pressure on the [beef] sector to operate in a sustainable way, are the TACs, which is the Term of Conduct Adjustment that the states of the [Legal] Amazon have stipulated (INTERVIEWEE C).

But in fact this has accelerated it [the creation of GTPS], because then people saw that they had to resolve the issue. Until then, I was in that discussion ... And this whole TAC thing, the Greenpeace report, every day had news in the newspaper, right ... It ended up speeding up the formalization of the group, and the discussions there (INTERVIEWEE D).

The creation and subsequent formalization of the GTPS are considered a reaction to the first reports and pressures exerted regarding the social and environmental impacts of

livestock in Brazil. The GTPS emerges thus as an initiative of the various stakeholders in the Brazilian beef supply chains to respond to challenges related to livestock sustainability, evidenced mainly by the publication of the first reports, conduct adjustment terms and public commitments. Respondents have different perspectives on this reactivity. Interviewee G says that “I understand that the [GTPS] creation was reactive to the conditions, to the scenario of the sector at that time, in 2007”. Interviewee F states that “I think it was proactive in the sense that it was a non-existent initiative (...) [the GTPS creation] is a reaction to the topic at an important moment, but it was proactive in the sense that it was a more democratic and dialogued alternative than an alternative of command and control”.

Additionally, the interviewee F declares “it [GTPS] started and inspired a lot of roundtables around the world, so I think this is a result of that proactivity”. According to the official website, GTPS is a pioneering initiative in sustainable livestock and a precursor to the creation of roundtables in different countries – such as the United States, Canada, Paraguay, Argentina, and Australia. Interviewee N affirms that “in other countries they are still organizing a governance model, articulating the sector to be able to organize a roundtable similar to this one”. GTPS is a member of the Global Roundtable on Sustainable Beef (GRSB). In 2010, GTPS attended the first Global Conference on Sustainable Beef, starting an important relationship with global institutions and initiatives with the same purpose.

I think GTPS is reactive. Thinking that way, proactive and reactive, because proactive is when you, before you have a critical situation, you decide, you take an action so that it does not reach the limit. Reactive is when you have a critical situation and you react to it. So GTPS is, I think 10 years old of the formalization? So it is a situation that has been critical for many years. Of course, it was not too late to create GTPS. I think it was at the time that it should have been created, but I think it was really reactive. The current situation of the Brazilian livestock is totally reactive. And also the requirements, right, from abroad, for beef exports. So, every time, slaughterhouses have to fit better in [the sustainability], or they won't be able to sell... So, there are deals, pressuring the producers. So, it is all reactive to those demands, too (INTERVIEWEE J).

The GTPS is a non-economic civil association named the Sustainable Livestock Civil Association or the Sustainable Livestock Working Group (Associação Civil da Pecuária Sustentável or Grupo de Trabalho da Pecuária Sustentável – GTPS). For nomenclature purposes, GTPS should be known as the Brazilian Roundtable on Sustainable Livestock (BRSL). The official website of the association states that GTPS is composed of stakeholders from the Brazilian beef supply chains, in a roundtable format. Although GTPS seems to be the

necessary structure that allows the BRSL to happen, the respondents comment that GTPS and BRSL represent the same organization. According to the interviews, GTPS is organized in a roundtable format, created to discuss and to formulate principles and common practices for the development of sustainable beef production in Brazil. Interviewee G states “GTPS is the Brazilian Roundtable on Sustainable Livestock”. The interviewees use GTPS and BRSL as synonyms to address the association and, in this thesis, we also use GTPS for the same meaning as BRSL.

After the formalization, the GTPS purpose, guidelines, and work plan were defined. The group also defined the main topics that should be discussed in the roundtable, which later formed the first work committees. GTPS mission is to promote the sustainable development of Brazilian livestock through the articulation of the supply chains, continuous improvement, and dissemination of information. In other words, GTPS aims to contribute to sustainability in the Brazilian livestock, considering social, environmental and economic aspects, through the cooperation of the different stakeholders of the beef industry (GTPS, 2016). Four pillars support this contribution: continuous improvement for sustainability; transparency and ethics; good agricultural and livestock management practices; and, legal compliance.

Therefore, the role of GTPS in the beef industry is directly related to the 17th goal of the United Nations Sustainable Development Goals. This goal aims to promote the achievement of all the other goals through partnerships and engagement of different players in the value chain (GTPS, 2017). In this context, according to the GTPS bylaw, the beef value chain is the complete processing chain for livestock products and supporting institutions and organizations, including financial institutions, research centers, governmental institutions, and unions and associations (GTPS, 2016).

So, one of the other strategies that were being discussed was GTPS, right, the working group, which was born in the roundtable format. There were other commodity roundtables, had the RTRS, which is the Round Table For Sustainable Soy, from soybean; had the sugar initiative, the palm oil initiative, and all these roundtable models. They basically work in the same way, you get different stakeholders there, people come together, define criteria of what is a sustainable product, and in the end, it becomes a certification, right. That is what happened to the others. So that was one of the discussions. GTPS had been discussing this since 2008, right. In 2009, it was formalized as an entity, as a group, right, with its own CNPJ and everything (INTERVIEWEE D).

Since 2009, GTPS governance has been strengthened. According to its bylaw, GTPS governance includes the assembly, the board of directors, the supervisory board, and the

executive committee. Interviewee N states that “I think everything is very fair in this sense, the governance model was designed to have representativeness. So here the productive sector [producers] has no more strength than NGOs and vice versa”.

The assembly is responsible for: (1) electing the members of the board of directors and the supervisory board; (2) preparing, approving and reviewing the internal rules; (3) ratifying the bylaw, when proposed by the board of directors; (4) discussing and deliberating the proposals of the board of directors; (5) approving GTPS annual accounts and budgets; (6) approving membership contributions, when proposed by the board of directors; (7) resolving conflicts that were not solved by the board of directors; (8) deciding on the GTPS dissolution; (9) deliberating on appeals, especially on the exclusion and non-admission of members. The assembly is held ordinarily once a year. It can also be held extraordinarily when requested by the board of directors, the supervisory board, or part of the full members (the half plus one) (GTPS, 2016).

The board of directors is composed of six to eighteen full members from each of six categories (producers, companies, supplies and services, retail and restaurants, financial institutions and civil society). These members are elected by the Assembly for a three-year term. Considering the elected members, the board of directors elects a president, a vice president, and a treasurer. These three members must belong to different GTPS membership categories (GTPS, 2016). Since 2018, the group presidency has been a representative of the producers, while the vice presidency has been a representative of the retail and restaurants, and the treasurer has been a representative of the supplies and services. They form the executive committee. The executive committee works in alignment with the GTPS executive coordination, which is supported by the secretariat. The secretariat focuses on administrative, financial and communication issues (GTPS, 2016; 2019).

In addition, there are work committees. The work committees are defined annually to implement activities related to the GTPS strategic objectives – technical assistance, legal compliance, supply chain integration, public policies, traceability, market, information, and communication. Three work committees were created in 2018, focusing on Continuous Improvement Engagement, Content and Advocacy, and Communication (GTPS, 2018). The Continuous Improvement Engagement work committee focuses on issues related to engagement and implementation of the Sustainable Livestock Indicators Guide (GIPS). The Content and Advocacy work committee aims to create and to organize content regarding the beef supply chains to generate a single discourse from the beef industry. The Communication work committee, finally, is intended to disseminate solutions identified through scientific

knowledge and to improve communications and integration with media (GTPS, 2017). Figure 17 shows the GTPS governance.



**Figure 17 - GTPS Governance**

Source: GTPS (2019).

GTPS participants are representatives of the stakeholders of the Brazilian beef supply chains. These stakeholders include cattle ranchers, slaughterhouses, supplies and services, retail, financial institutions, non-governmental organizations, etc. Especially unions and associations represent cattle ranchers from all the states of the country. The largest slaughterhouses in Brazil are participants of the roundtable, representing 92% of the volume of beef exportation. Representatives of the supplies and services sector own 70% of the domestic market. Additionally, the representatives of retail companies serve more than 2 million people daily in Brazil. There are also representatives of the financial institutions. In 2016, the financial institutions that are members of the GTPS offered more than R\$ 170 billion in rural credit to the livestock sector. Finally, GTPS has representation from non-governmental organizations, research centers and other organizations related to social and environmental responsibility (GTPS, 2018).

According to the GTPS bylaw, there are two possibilities for participation as a member – full member and collaborating member. The full member is allowed to speaking at any time during the BRSL discussions, can participate in different GTPS committees, can apply to the councils and is entitled to vote, when necessary. This type of participation is divided into six categories: (1) producers: cattle ranchers, their representative entities and associations; (2) companies: slaughterhouses, food processors and other related companies, their representative entities and associations; (3) supplies and services: suppliers in general, service providers,

their representative entities and associations; (4) retail and restaurants: retailers, wholesalers, restaurants, their representative entities and associations; (5) financial institutions: banks and representative entities and associations; and, (6) the civil society: civil society organizations, non-governmental organizations, unions of workers and others. Full members must pay fees according to their category and their annual income. In turn, there are the collaborating members. Collaborating members are public or private universities, research centers, governmental institutions, and a person, which do not fit any full member category. There are no fees for this type of participation (GTPS, 2016). Table 9 shows the GTPS members in 2019.

Stakeholders	Members
Producers	Agro SB Associação Brasileira de Angus Associação Nacional da Pecuária Intensiva (ASSOCON) Confederação da Agricultura e Pecuária do Brasil (CNA) Fazenda 3R Fazenda Bugre Fazenda Nossa Senhora das Graças Federação da Agricultura do Estado de MG (FAEMG) Federação da Agricultura do Estado de MS (FAMASUL) Grupo Morena Grupo Roncador Novilho Precoce - MS Pecuária Sustentável da Amazônia - PECSA Sociedade Rural Brasileira (SRB)
Companies	Associação Brasileira das Indústrias Exportadoras de Carnes (ABIEC) Centro de Indústrias de Curtumes do Brasil (CICB) JBS Marfrig MARS Petcare Minerva Foods
Supplies and Services	AgroTools Associação Brasileira das Indústrias de Suplementos Minerais (ASBRAM) Athenagro Consultoria BOVIPLAN Corteva Agriscience Elanco IBD Certificações IDH – The sustainable trade initiative Niceplanet Geotecnologia Nutricorp Pecuária Sustentável Serviço Brasileiro de Certificações (SBC) Tortuga
Retail and Restaurants	Arcos Dourados Grupo Carrefour Brasil McDonald's Norvida
Financial Institutions	Banco do Brasil Rabobank Santander

Civil Society	Amigos da Terra Earth Innovation Institute Earthworm Foundation (TFT) Global Roundtable for Sustainable Beef (GRSB) Instituto de Manejo e Certificação Florestal e Agrícola (Imaflora) Instituto de Pesquisa Ambiental da Amazônia (IPAM) National Wildlife Federation (NWF) Solidaridad The Nature Conservancy (TNC) WWF-Brasil
Collaborators	Agroplus Associação Brasileira do Agronegócio (ABAG) Centro de Conhecimento em Agronegócios (PENSA/FIA) Centro de Estudos Avançados em Economia Aplicada (CEPEA/USP) Centre de Coopération Internationale en Recherche Agronomique pour le Développement (Cirad) Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA) Faculdade de Ciências Aplicadas (FCA/UNICAMP) Fundação Instituto de Administração (FIA) Instituto de Zootecnia (Governo do Estado de São Paulo) Ministério do Meio Ambiente New Zealand Consulate General Programa Municípios Verdes (Governo do Estado do Pará) Reino dos Países Baixos Secretaria de Estado de Desenvolvimento Econômico (Sedec/Governo de Mato Grosso) Terraviva Eventos Universidade Federal de Mato Grosso do Sul (UFMS) Universidade Federal de Viçosa (UFV) Universidade Federal do Rio Grande do Sul (UFRGS) University of Wisconsin-Madison (Wisconsin) Aluisio de Alencastro Claudenice Barros Francisco Villa Luciênio Silva Luís Claudio Groppa

**Table 9 - GTPS Members**

Source: GTPS (2019).

Additionally, there is the possibility of participation as an observer. Observers can participate in BRSL discussions as listeners. They are allowed to speak during the debate under the authorization of the meeting chair. However, they are not allowed to participate in the GTPS council and they are not entitled to vote. There are no fees for this type of participation. The deadline for participating as an observer is one year. Posteriorly, observers must register as members or discontinue their participation in the Group (GTPS, 2016). Table 10 shows the GTPS observers in 2019.

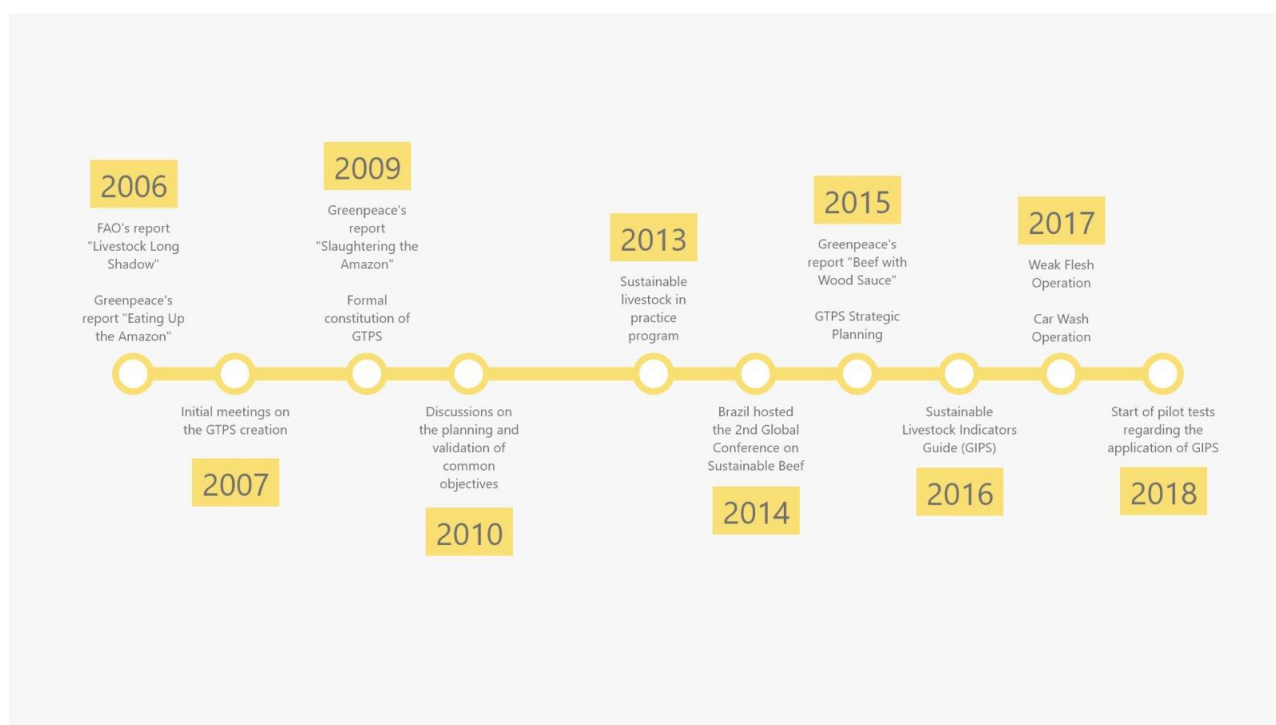


Stakeholders	Observers
Producers	Agropecuária Vila Rica Bibiana Carneiro Fazenda Morada do Sol Rodrigo Barros de Azevedo
Supplies and Services	Agroicone Beckhauser Nutripura

**Table 10 - GTPS Observers**

Source: GTPS (2019).

GTPS is an initiative of the stakeholders of the beef industry. These stakeholders realized that sustainability issues in livestock would not be resolved individually by one organization. Different perspectives must be included ‘at the table’ to solve diverse problems. We highlight important points along the GTPS trajectory, as shown on its website. In 2013, GTPS started the sustainable livestock in practice program, with the support of a European development fund. This program sought to develop support tools for sustainable livestock and to disseminate good practices in the Brazilian livestock industry. In 2014, Brazil hosted the 2nd Global Conference on Sustainable Beef. In 2015, the board of directors and the executive coordinator attended the largest conference on climate change of the world, discussing the role of beef supply chains in reducing the impacts on the environment. In 2016, GTPS developed important support tools for continuous improvement for livestock. Figure 18 shows GTPS timeline.



**Figure 18 - GTPS Timeline**

Thus, GTPS participants have been discussing issues related to sustainability in the Brazilian livestock, including the meaning of sustainable livestock concept. Interviewee J states that GTPS is “the most credible institution that discusses sustainable livestock in the country”. According to GTPS official website, sustainability is an evolving process. In this context, to be sustainable is to manage simultaneously the human, natural and financial resources available. Livestock is sustainable when it is environmentally balanced, socially fair and economically viable. The aim is to improve productivity, generate benefits for the environment and society, and increase the business profitability. Sustainable livestock should not be limited to respect for the land and natural resources. In addition, livestock must contribute to the development of the local economy and business management and profitability.

Although there is not a unique concept on sustainable livestock, there is consensus resulting from the Roundtable discussions. Firstly, sustainable livestock in practice is based on productivity and profitability. Interviewee I states that “product quality is an extremely important issue for the entire supply chain dynamics, and it seems to me that it is ignored by all these sustainability people. And I think it is a mistake”. Secondly, Brazilian livestock must contribute to mitigating challenges of social and economic development, deforestation, food security, climate change, and biodiversity loss. Thirdly, the path to sustainable livestock is only possible when solutions are built and shared between the stakeholders. Interviewee K affirms that “thinking about sustainability, but no information exchange, the cattle rancher does not really know what the consumer demands and how [the consumer] goes, how he [the cattle rancher] will be compensated [financially], that he can do in a way more economical, it is ... I believe it is hard to work”.

According to the respondents, the main product of the Roundtable discussions is the Sustainable Livestock Indicators Guide (in Portuguese, Guia de Indicadores da Pecuária Sustentável – GIPS). The Guide is the closest consensus of what is the concept of sustainable livestock. Interviewee N asks “what is sustainable livestock? And I think it is with GIPS that we were able to technically define what characterizes sustainable production”. Following the same perspective, interviewee G claims GIPS is the operationalization of sustainable livestock. In addition, she adds “especially GIPS, which is the major product, is what defines what is sustainable livestock and that helps... both the cattle rancher and the other stakeholders to apply [the indicators] daily in their operation”.

GIPS purpose is “to provide guidance on what is sustainable livestock and to encourage all stakeholders in the beef supply chains to improve their practices for

sustainability through the construction of a self-assessment tool for continuous improvement” (GTPS, 2016, p. 4). This guide includes an approach with different stages of performance, and GTPS expects to apply it to all stakeholders in the Brazilian beef supply chains. GIPS consists of five principles, and each principle has different measurement criteria. Interviewee D affirms “so it is not a fixed line, ‘oh here is sustainable, here is not sustainable’, we want everyone to be moving there on this scale, right”. Interviewee J explains that “nowadays we have no data on beef in the country. Of course, we have more supply chains, but there is no transparency, we do not know what the practices of cattle ranchers are, unless you go there in the field and see. And this is a very nice proposal that GIPS, to collect this data”. Table 11 describes the GIPS principles.

Sustainable livestock indicators are divided into five areas of activity, of challenges, the management, the issue of relationship with communities, relationship with workers, the environment and the relationship between the stakeholders of the supply chain, especially with regard to traceability, transfer of information from one to another stakeholder, and that this is one of the main challenges, not only of livestock in Brazil but of various segments of agribusiness (INTERVIEWEE G).

<b>Principle</b>	<b>Meaning</b>
Management and Support to the Industry	The stakeholders in the beef value chain measure their impacts through management tools, ensure compliance with the law, and foster the industry for continuous improvement and sustainability of livestock.
Communities	Stakeholders in the beef value chain respect the rights, culture, traditions, and environment of local communities influenced by their operations and promote their economic and social development.
Workers	The rights of workers, freedom of association, remuneration, safety, health, well-being, technical training, and professional development are guaranteed by all stakeholders in the beef value chain.
Environment	The beef value chain promotes the conservation and efficient use of natural resources, identifying, preventing and mitigating the impacts caused by their use and activities.
Value Chain	The production, processing and marketing of products originating from the beef value chain are conducted under technical, social, economic and environmental conditions.

**Table 11 - GIPS principles**

Source: GTPS (2016).

GIPS elaboration process involved different representatives of the beef supply chain stakeholders. Two representatives from each stakeholder group were defined as part of a special work committee. This work committee was responsible for preparing the indicators for later approval by the other GTPS members. In addition to the approval of Roundtable members, GTPS submitted GIPS to a public consultation through its official website. This public consultation aimed to evaluate the understanding of the indicators, to receive feedback

about the criteria and indicators, and to verify the necessity for a revision of the document. Discussions of each criterion and indicator of the Guide, and the debates related to feedbacks and comments were conducted over 3 years, until the publication of the final document. Interviewee C says that “it [GIPS] was submitted to public consultation. It was an entire process, right, it took a long time, and it was finally approved”.

Other respondents also comment on the GIPS elaboration process. Interviewee D states that “within the group, we developed, with all the stakeholders, what we called the livestock indicators guide, right. Everyone has reached a consensus on what are the important criteria to consider, and how you can measure whether improvement is happening or not”. Interviewee F claims “I believe that the main product, the main delivery that GTPS has elaborated to date is precisely the indicator guide that is, where it was an extensive work of three years, very consensual among all members...”. Interviewee N affirms “GIPS is a main product for the organization [GTPS] because it is a document that took a long time to be written with many hands, and people have to agree. The slaughterhouses agree with the producer, agree with the NGOs, so I think GIPS is the proof that [GTPS] works well”.

The elaboration process of GIPS was very interesting. Two years went by having two representatives from each of these sectors, sitting in the room and trying to discuss what their levels of demand were, right? (...) No consensus was reached. And then you had to (...) wait for people to argue better, until you get back. And after two years of work, GIPS was published (INTERVIEWEE C).

The discussions, however, are not concluded. The first applications of the sustainable livestock indicators occur in different organizations and cattle ranches in Brazil, supported by NGOs and the GTPS executive coordination. This support based on training on sustainable livestock and how GIPS should be used. The initial round of applications represents the GIPS pilot project. At the end of this first round of applications, the GTPS members intend to discuss the initial results and make the necessary adjustments to start the implementation of GIPS for the Brazilian beef supply chain. Respondents also comment on the continuity of the debates. Interviewee L affirms that “GIPS, which is the guide to livestock indicators. It is a material that took a long time to elaborate, it is still under discussion... (...) An extremely complete product, right (...) There are few [GTPS] products, right, because it takes a long time to discuss”. This interviewee adds that GIPS “is still much discussed within the group because it is an extremely complex product, right, and complete”.

The challenge that the group is facing right now is to implement it, right, we had the challenge of drawing it, this challenge we managed to deliver and succeed, I have the GIPS to sell, so the challenge faced today is its application both in the members. Because it is a tool that can be used, being a product of a multi-stakeholder roundtable, it has indicators for all members in the supply chain, right, so you have, there is indicators for industry evaluation... There are indicators for cattle ranchers' evaluation, you have indicators for NGO evaluation... This is a different thing from what has been done so far (INTERVIEWEE F).

Today what we expect is that it is applied to the cattle rancher, right. And this is very important because the cattle rancher, when you say to him 'ah, livestock production, sustainable livestock production, sustainable livestock beef production', he can't make it tangible. When you have such a guide, and have all those items, there are 57 items it has for the cattle rancher and he starts to understand what is sustainable livestock. So I think it is a very interesting thing, and I think it will help to spread a little more the question of sustainable livestock. (...) What we are trying to see, applies as much as possible, right, ask for a task force from producer associations, etc., to have feedback, feedback, and power, reevaluate the GIPS (...) And it is something that is a reference, the roundtable itself, the global roundtable, they actually do not have a product as sophisticated as GIPS (INTERVIEWEE C).

GIPS elaboration and publication, debates on sustainable livestock, and the integration of the diverse stakeholders of the Brazilian beef supply chains are GTPS contributions. However, many problems have not been resolved. For example, problems identified in the reports published by NGOs are still challenging the Brazilian beef supply chains. Particularly, deforestation, GHG emissions, and social issues are challenges to be faced. These challenges need to be continually discussed by all the stakeholders. Additionally, respondents identified challenges regarding the supply chain structure and management. These challenges relate to the lack of integration and lack of communication in the supply chains. These questions will be addressed in a posterior section.

Interviewee G states "we understand that we still lack a lot of knowledge and still lack a lot of common understanding regarding some very sensitive issues for the chain". In this context, deforestation – of the Amazon Forest especially – is a sensitive issue for the Brazilian beef supply chains. Diverse stakeholders have different understandings on this issue. NGOs and the government strongly defend zero deforestation. NGOs also argue that cattle ranchers must to commit with no deforestation, and slaughterhouses must to commit to only buy beef that comes from zero deforestation. Interviewee D affirms "the biggest reason for conflict with producers on these issues is exactly zero deforestation, which they understand as a property confiscation". Interviewee E asks "what zero deforestation is this? We have to think. Since it is to think about the environment we have think about the theme". In addition, the

respondent clarifies “forest degradation is equivalent to deforestation in terms of ecological loss. So you have zero deforestation, but the individual keeps burning, the fire will advance the forest and that will have the same effect”.

In turn, cattle ranchers and slaughterhouses defend the qualification and measurement of deforestation. Deforestation needs to be qualified in order to understand whether the deforestation is in public or private areas and whether it is illegal or legal deforestation, according to the Brazilian Forest Code. Interviewee G comments that “Forest Code, every time we still need to explain what it means, how it works... Not only here within the country, it is... But mainly outside, right, that the concept of legal deforestation is something that only exists in Brazil, so we need to explain to the world”. Interviewee C explains “there is a big conflict, this year was... until the beginning of the year, something happened, which was stressful, is that a group of producers wanted to change the GTPS mission, which there is zero deforestation, free of the deforestation”. Moreover, this respondent argues “so we decided to redefine the term, right, so today the definition (...) of the GTPS mission has changed, the word ‘free of deforestation’ has been removed and we actually add the most sustainable way, within the three economic, social and environmental pillars”.

Directly related to deforestation, GHG emissions also represent a sensitive issue for the Brazilian beef supply chains. As already mentioned, livestock impacts on greenhouse gas emissions as forests are cleared for pasture, and cattle produces methane emissions throughout its breeding. Interviewee E clarifies “enteric fermentation of cattle is the main emission factor in Brazil today. It is not deforestation”. Interviewee K states “if we had a different mode of transportation, we could have one, have a lower impact [beef] production chain, especially regarding to greenhouse gas emissions”. In order to reduce GHG emissions, respondents point to the need for government partnerships and proactive initiatives. Examples include Carne Carbono Neutro<sup>10</sup> (Carbon Neutral Brazilian Beef) and other carbon footprint projects.

Finally, social issues are sensitive to beef supply chains in Brazil. Work conditions, compliance with Brazilian labor legislation and relationship with communities are the main aspects regarding to these social issues. Interviewee K states that “labor issues... workers having more decent working conditions, if you compare what it was like in the past, in a slaughterhouse, the role of a collaborator and what it is today, right. There is, we realize a

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<sup>10</sup> The Carbon Neutral Brazilian Beef aims to certify the beef produced in systems of integration of livestock-forest or crop-livestock-forest, through the use of specific protocols that enable the certification process. The main objective is to ensure that the animals that originated the product had their emissions compensated during the production process (EMBRAPA, 2017).

very significant difference”. Interviewee F comment “all those labor laws, which have to be very strict in compliance, precisely to avoid this legal part right, so labor lawsuits, have all these regulations that slaughterhouses have to meet”. Moreover, this respondent adds “this social issue more focused on slave labor, community engagement, all these things, some associates already have projects” (INTERVIEWEE F). Table 12 shows the challenges, the main related aspects and also quotes from the interviews.

Challenges	Main Aspects	Interviews Quotes
Deforestation	<ul style="list-style-type: none"> <li>- Deforestation Qualification</li> <li>- Deforestation Measurement</li> <li>- Zero deforestation</li> </ul>	<p>“First, to qualify this deforestation. Today, much of this deforestation occurs in public areas. It is not a deforestation of rural producers, right, it is a deforestation that has other reasons related to illegal logging, land grabbing, right. So I need to qualify this deforestation. What happens, what is legal, what is illegal, what is inside private land, what is inside public land, so that you can actually implement effective measures to control it. Yeah... So to work sustainability including other criteria besides deforestation, right, which also includes the economic viability of the activity, management of producers, right, work part, job security; there are a lot of others aspects to consider (INTERVIEWEE D).</p> <p>“When possible, we try to work on the issue of zero deforestation, so that deforestation does not occur, right, it is a challenge. Because in the Cerrado, you can still clear 35% of the area, right. So, how are you going to convince... I think one of the big conflicts in the GTPS discussion these days and that is the producer feels very threatened and very threatened and thus with his rights threatened. 35% of their area is still cleared. And in fact, most NGOs work for zero deforestation. That is, there is already enough open area for food production, for beef production, so let’s try to intensify and not open more area” (INTERVIEWEE C).</p>
Greenhouse Gases Emissions	<ul style="list-style-type: none"> <li>- Government partnerships</li> <li>- Proactive initiatives</li> </ul>	<p>“Thus, Embrapa is making a very big effort, right, in order to develop increasingly sustainable technologies, right. Land-saving technologies, low manpower, that allow you to intensify the production processes, with monetized gains by producers, but also with gains for society as a whole, right. Carbon neutral beef is a classic example of a technology that saves land, saves input... Livestock and forest integration systems, too, right. Another example of resource-intensive, resource-saving technology that emits less CO<sub>2</sub>. So, speaking of Embrapa, our obligation is to increasingly direct all research actions to develop these systems that, say, decarbonized systems” (INTERVIEWEE A).</p> <p>“The improvement in the productive and reproductive management of herds, which has a very positive environmental aspect. If we are going to think that 20 years ago, around 20-25 years ago, it was common for us to have cattle being slaughtered, with 4/5 years, today it is very common for us to have cattle being slaughtered less than 24 months ago. So that is at least 2 years, 2 and 1/2 years of less methane emission. So we can say that breeding, breeding management, both productive and reproductive, has halved methane emissions over 20 years ago” (INTERVIEWEE K).</p>

Social Issues	<ul style="list-style-type: none"> <li>- Work conditions</li> <li>- Compliance with Brazilian labor legislation</li> <li>- Relationship with communities</li> </ul>	<p>“Because of these two pressures, I would say from both Greenpeace and TACs, companies were somehow driven to make a more sophisticated monitoring system, so they monitor the entire purchase, essentially eliminating slave labor, which is on the list of Ibama, conservation area and, mainly, deforestation, right. So I see that this question is actually working relatively well for the three biggest slaughterhouses. Our challenge now is to take this to smaller slaughterhouses, right. That is, out of the big three (INTERVIEWEE C).</p> <p>“The challenges in the social part would be qualification of this workforce, valorization of the workforce, so that they, they can handle with these tools, these new tools that become increasingly pressing in the demands of the market, of the most important markets. Demanding, right. And the cultural, socio-cultural issue, also related to the production chain, which is something that should be valued. Because, unlike some other agricultural productions, such as sugarcane, soybeans, corn, which this is not so clearly perceived, the production chain of beef cattle production, it is also a lifestyle for many, and it is a lifestyle that should be valued”(INTERVIEWEE K).</p>
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**Table 12 - Brazilian Beef Supply Chains Challenges**

In this section, we aim to understand the context of the emergence of the Brazilian Roundtable on Sustainable Livestock (BRSL or GTPS). Thus, we presented an overview of the Brazilian beef supply chain sustainability. We started the section by highlighting the economic importance of livestock for Brazil. Currently, Brazil has a leading role in the global beef market because of beef production and exportation. However, the Brazilian industry began to face criticism regarding environmental and social impacts.

In this scenario, we identified the reports that significantly impacted the Brazilian beef supply chain sustainability. NGOs, especially Greenpeace, published the reports. The documents reported that livestock is, directly and indirectly, responsible for deforestation in the Legal Amazon, as well as for greenhouse gas emissions, problems with slave labor, and violation of human rights. NGOs pressured the Brazilian government to require slaughterhouses and producers to adopt practices to eliminate deforestation and reduce environmental and social impacts. Therefore, the first discussions on livestock sustainability are a reactive response to the reports.

This is, therefore, the context of GTPS emergence. The GTPS creation in 2007 and subsequent formalization of the group in 2009 are a reaction to the first pressures on the livestock in Brazil. GTPS emerges thus as an initiative of the diverse stakeholders in the Brazilian beef supply chains to respond to the challenges related to livestock sustainability, evidenced mainly by the publication of the first reports, conduct adjustment terms and public commitments. Considering GTPS ten years of formalization, GIPS elaboration and



publication, debates on sustainable livestock, and the integration of the diverse stakeholders of the Brazilian beef supply chains are the main contributions of the group. However, deforestation, GHG emissions, and social issues are still challenging to be faced by the beef industry, supply chains, and organizations. These challenges need to be continually discussed by all the stakeholders.

## **5 STAKEHOLDER INTERACTIONS: THE DYNAMICS OF THE BRAZILIAN ROUNDTABLE ON SUSTAINABLE LIVESTOCK**

Some positions will never be aligned, we have this fact. But, those points that will never be aligned, or discussed... There has to be this stage. So let's discuss what we can really work on, that we can evolve, that we can handle" (ENTREVISTADO O).

This section presents the findings and discussions related to the stakeholders of the Brazilian beef supply chain and members of the Grupo de Trabalho da Pecuária Sustentável (GTPS). The section therefore aims to achieve two specific objectives of this thesis: to identify the stakeholders of the Brazilian beef supply chains, and to analyze the stakeholder interactions during the Brazilian Roundtable on Sustainable Livestock meetings. Based on the identification of stakeholders, we are able to analyze the GTPS members' interactions. In this context, analyzing stakeholder interactions during GTPS meetings contributes to understand the influences of the roundtable discussions at the supply chain level.

We organized this section into two topics. Firstly, we identify the stakeholders of the Brazilian beef supply chain sustainability following the Mitchell, Agle, and Wood (1997) model. Moreover, we present the perception of GTPS members on the stakeholders participating in the Group. Secondly, we analyze the interactions of these stakeholders at the Roundtable discussions. In this topic, we also explore stakeholder perceptions of the contribution of these interactions enabled by GTPS.

### **5.1 Mapping the Stakeholders of the Brazilian Beef Supply Chains**

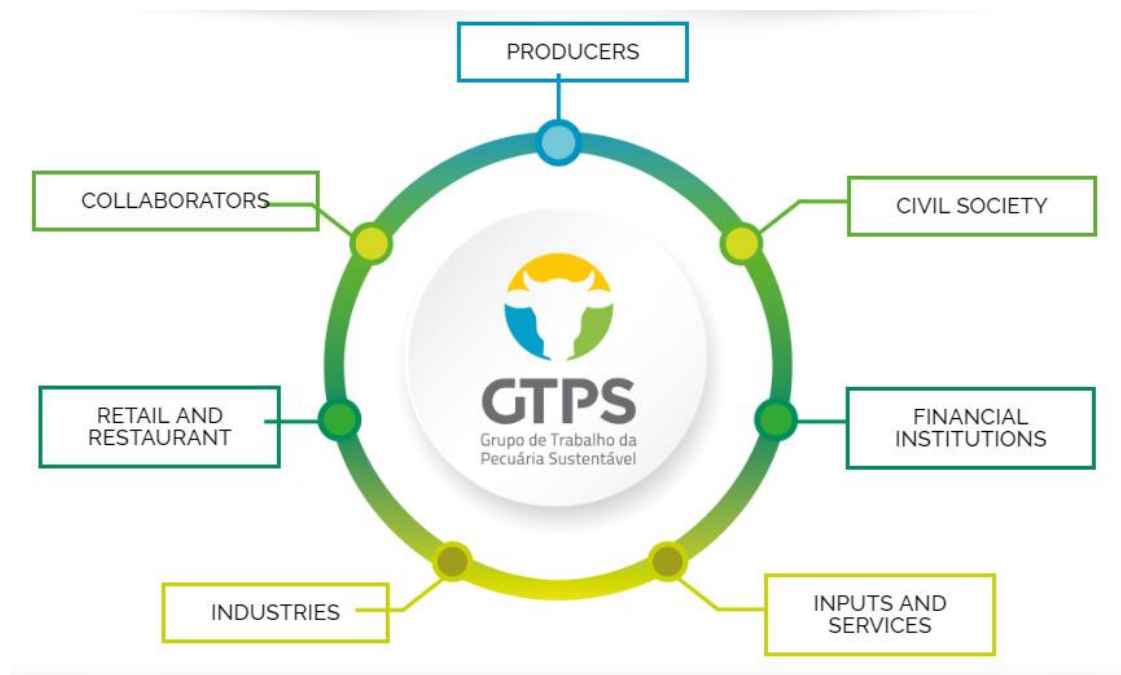
We start the topic highlighting the concept of stakeholder. As already mentioned, Freeman (1984, p.46) defines a stakeholder as "any group or individual who can affect or is affected by the achievement of the organization objectives". In this definition, the expression 'can affect or can be affected' emphasizes that external individuals or groups can consider themselves stakeholders of a supply chain, without being considered stakeholders by the focal company or other members of this supply chain (FRIEDMAN; MILES, 2006). According to Mitchell, Agle, and Wood (1997), this definition implies that there is no necessity of reciprocal impact to be a stakeholder. The authors add that any group or individual fits in Freeman's definition, except for those that cannot affect the firm and are not affected by its activities and operations (MITCHELL; AGLE; WOOD, 1997).

Considering that stakeholder concept is general and allows for diverse interpretations, we need to identify supply chain stakeholders and verify priority stakeholders for the companies that manage and coordinate the supply chains. In this thesis, we identified the stakeholders of the Brazilian beef supply chain and mapped the participants in the supply chain considered stakeholders by the GTPS members. As mentioned in the theoretical chapter, we mobilized the concept of organizational field to theoretically interpret the supply chain according to Sayed, Hendry and Bell (2017). Based on this interpretation, we can analyze different relations, influences and dynamics of the organizations that formed the organizational field, suffering the same pressures and sharing resources, values, symbols, myths, references (SAYED; HENDRY; BELL, 2017). Therefore, mapping who are the organizations in the same organizational field is important. For this mapping, we verified the literature, and also used data from the interviews and the documents as support.

We use the identification typology of Mitchell, Agle, and Wood (1997). These authors proposed three stakeholders attributes – power, legitimacy, and urgency – to define the importance of stakeholders for the focal company and supply chain. They affirm that the attributes are dynamic and can change for any particular organization and inter-organizational relationship. The attributes analysis “allows justifies the identification of entities that should be considered stakeholders of the firm, and it also constitutes the set from which managers select those entities they perceive as salient” (MITCHELL; AGLE; WOOD, 1997, p. 873).

Different classes of stakeholders might be identified based upon the possession of one, two, or all three of these attributes. Latent stakeholders are those possessing only one of the three attributes (dormant, discretionary, and demanding stakeholders); expectant stakeholders are those possessing two attributes (dominant, dependent, and dangerous stakeholders); and, definitive stakeholders are those possessing all three attributes. In addition, nonstakeholders or potential stakeholders are those not possession none of the attributes (MITCHELL; AGLE; WOOD, 1997).

Following this brief explanation of the stakeholder identification typology, we move forward in mapping stakeholders in the Brazilian beef supply chain. According to the GTPS official website, representatives of all members of the beef value chain, including producers, slaughterhouses, industry associations, retailers, suppliers, financial institutions, civil society organizations, research centers, and universities, integrate the Roundtable. These members are divided into seven groups, as mentioned in the previous chapter – producers, inputs and services, retail and restaurants, industries (slaughterhouses), financial institutions, civil society, and collaborators. Figure 19 illustrates seven GTPS membership groups.



**Figure 19 - GTPS Stakeholders Groups**

Source: GTPS (2019).

Considering the GTPS groups, two groups connect different stakeholders. Collaborators include universities, research centers and government agencies. The civil society group includes non-governmental organizations, trade associations and unions, and the Global Roundtable for Sustainable Livestock. Regarding the representation of the diverse Brazilian beef stakeholders, interviewee G explains:

This is the current GTPS membership, ok. There are the producers, the entities and associations, or even individual producers... The suppliers and service companies, the financial institutions, which are part of the group, the slaughterhouses and by-products industries, and by... the NGOs, the retailers and restaurants, and there are the universities, research institutions, government agencies, thus, some collaborators, right, and other entities that are collaborators of GTPS and that are not part of the group governance, but they contribute in different moments with what we do in the group. This is the current representativeness of these companies, these institutions, so everyone in the group is representative of the sector. Then, almost 100% of what is exported from Brazilian beef is represented here... Here in GTPS, almost 70% of what is slaughtered, you know, animals, from the states are represented in terms of production. It has significant representation (INTERVIEWEE G).

We decided to use the GTPS membership groups as a starting point to identify the stakeholders of the Brazilian beef supply chains and to understand the priority given to certain stakeholder groups. Thus, we started the analysis from the main groups of GTPS. We

classified the GTPS main groups as definitive stakeholders. They are the producers, slaughterhouses, suppliers and services necessary for beef production, financial institutions, retail companies, restaurants, non-governmental organizations, trade associations, and unions. These stakeholders possess the three following attributes: power, legitimacy, and urgency. However, we understand that the degree of power exercised by stakeholders is variable. A focal company, for example, may have a higher degree of power and influence in the supply chain than other members. Although the degree of power exercised by the actors may vary, these participants are perceived as powerfully legitimate and their claims are urgent for the Brazilian beef supply chain sustainability.

Managers seek to attend to the definitive stakeholder demands. Stakeholder salience thus is high when power, legitimacy, and urgency are perceived by managers (MITCHELL; AGLE; WOOD, 1997). Therefore, the perception of these actors as definitive stakeholders justifies the priority given to these groups in the GTPS classification. These stakeholders are represented at the Roundtable. Moreover, supply chain members expect their participation in the Roundtable discussion. The definitive stakeholders participate as GTPS full members. They have the opportunity to give voice to their demands on the Roundtable, to discuss sustainability challenges of the beef industry and to jointly make decisions regarding the challenges and the problems.

Participants of the Roundtable perceived producers as relevant stakeholders for the supply chain sustainability, since they are responsible for maintain the expected production level for the livestock sector in Brazil. In addition, this level of production should reach the demand for food in the world. Producers are fundamental in the livestock activity for raising, rearing or fattening cattle. Their role in sustainable beef production is to reduce environmental and social impacts through the use of new technologies that allow higher productivity in smaller pasture areas. Aiming to play their role, producers have been using different strategies, such as integrated crop-livestock-forest systems or integrated crop-livestock systems. These strategies are linked to “issues inside the ranch gate”. In other words, these strategies apply to the beef production process within the property.

GTPS and its members take into consideration the demands of producers, especially because these demands are perceived as a parameter of what can be implemented ‘in practice’ from the Roundtable discussions. Interviewee C exemplifies a situation related to zero deforestation. The respondent explains that different stakeholders pressure the producers for zero deforestation. However, producers claim that they should comply with the Brazilian

Forest Code, which allows the legal deforestation. The legal deforestation means that part of the property may be deforested according to its location and size.

The meeting when Organization X [we chose to suppress the organization name cited by the interviewee] put a lot of pressure on us to change, right, to change the GTPS mission definition. They [producers] even tried to eliminate the word zero [from zero deforestation] to just deforestation. Anyway, civil society let it go, right? But, why? Very clearly, they said “our producer associates, they feel that they are going to have a very big economic loss, because on the day they are going to sell their property. Their property loses value because it can still be deforested in 20% or 10% and with zero deforestation it cannot be deforested”. So, all of this is almost property speculation, that is, they will lose value, right. So that is, you see that their view is different from NGOs, it is often different from retail, slaughterhouses, banks (INTERVIEWEE C).

Suppliers and services is a stakeholder group that includes different companies, such as animal nutrition, animal health, technology, certifying, and consulting firms. These companies provide the supplies and services needed for beef production. For this reason, their operations directly influence the Brazilian beef supply chains. The role of suppliers and services is to support sustainable beef production in cattle breeding, slaughtering, marketing, and other activities. Beef supply chain businesses require this support. Thus, the presence of these companies in the Roundtable is perceived as relevant. The participation of companies in GTPS allows the alignment of their demands and the claims of producers, slaughterhouses, and other stakeholders of the Brazilian beef supply chains.

Slaughterhouses are generally the focal companies of the Brazilian beef supply chains. The focal company and stakeholders must continually interact to achieve supply chain goals. Since the focal company manages the supply chain, the merits of the supply chain performance lie to this company. The focal company is not legally responsible for the sustainability issues of its suppliers and distributors; however, this company probably will be held responsible for the problems resulting from the misconduct of the stakeholders. In this context, literature on supply chain management commonly indicates the focal company as the main actor for supply chain sustainability. The focal company is then pressured to reduce the environmental and social impacts of supply chain activities. For example, the reports published by NGOs hold slaughterhouses and retail companies responsible for the Amazon Forest deforestation. Additionally, the slaughterhouses signed the Terms of Conduct Adjustment in compliance with the government as an initiative of adjusting their operations to avoid increasing impacts on nature and communities.

Therefore, slaughterhouses are perceived as key players in the Brazilian beef supply chain sustainability. Their demands are potentially met because of their high level of power and their influence on supply chains. Power and influence also make slaughterhouse claims recognized and perceived by stakeholders as a factor in continuing operations of beef supply chains. Thus, its role for sustainable beef production is to comply with current legislation, and to engage stakeholders in their own supply chains to adopt sustainability practices. Its role thus relates to the inclusion of sustainability criteria legitimized by stakeholders. The importance of your participation in Roundtable is in understanding other perspectives and claims on sustainability in the beef supply chain. Thus, it is possible to seek solutions to problems that would not be solved individually by the focal company.

In this scenario, slaughterhouses are key actors in the Brazilian beef supply chain sustainability. Slaughterhouse demands are potentially reached because of their high level of power and their influence on the supply chain. Power and influence also contribute to their claims to be recognized and perceived by stakeholders as a continuity factor in beef supply chains. The role of slaughterhouses for sustainable beef production is to comply with current legislation and to engage stakeholders to adopt sustainability practices. Its role thus relates to the inclusion of sustainability criteria legitimized by stakeholders. The importance of their participation in Roundtable is in discussing and understanding other perspectives and claims on beef supply chain sustainability. Therefore, they can find solutions to problems that would not be solved individually by the focal company.

The three biggest slaughterhouses in Brazil participate as full members at the Roundtable. Representing slaughterhouses that operate in the international market, the Brazilian Beef Exporters Association (ABIEC) is also a full member. Interviewee C affirms “today there is Minerva, Marfrig, ABIEC, JBS... (...) So, but they are in GTPS exactly, I don’t know if it is to highlight in their sustainability report or not, but it’s actually to dialogue with the whole [supply] chain and to follow all the discussion of sustainable livestock, right”. Regarding the participation of the ABIEC in GTPS, interviewee F states that “I think it is very important for the industry to participate as well, so we try to actively participate, we engage both the associates and the group that we communicate with, as much as the others, for them to know, for them to be interested”. Interviewee B adds “ABIEC also has an important role in it [the Roundtable], because it has, it started with autonomous actions a long time ago to promote the beef industry”.

However, other slaughterhouses do not integrate the Roundtable discussions. These companies did not sign commitments to adjust their operations since the current legislation

incorporates only the biggest slaughterhouses in TACs. Moreover, they did not agree to stop buying cattle from suppliers who are involved in deforestation or slave labor. Sustainability practices should not involve only the suppliers who have a direct relationship with the biggest slaughterhouse. Supply chain sustainability addresses the entire supply chain.

This slaughterhouse says no, it does not buy from properties with deforestation and other, but it has many ways to circumvent this legislation. And moreover, there is competition with the non-agreement slaughterhouses, right. They have no restrictions, these other slaughterhouses so. They have to declare to the MPF and the TACs eventually, but not this, related to this voluntary commitment. Not to buy from producers with deforestation. And there is the issue, much emphasized by many that the commitment is not to buy from properties involved in deforestation in the last part of the supply chain, before the slaughterhouse [only the supplier that relates directly to the slaughterhouse] (INTERVIEWEE I).

Retail companies and restaurants are a stakeholder group that includes companies that have a relationship with the final consumer. The relationship with the final consumer seeks to identify their demands, interests, and desires, and then to use marketing efforts to meet those demands. These companies also seek to identify pressures exerted by consumers, following changes in consumer behavior. Consumer pressure for sustainability is one of the main reasons for organizations to invest in sustainability practices. Final consumers do not participate in Roundtable as members. In this context, retail companies and restaurants are the closest relationships with the end consumer. This issue will be addressed posteriorly – when we classified the final consumers as stakeholders in the Brazilian beef supply chain.

Therefore, retail companies and restaurants represent the connection of the beef supply chains with their final consumers. Their role is to disseminate consumer demands, interests, and pressures for sustainability to the other stakeholders of the Brazilian beef supply chains. In other words, the role of retail companies and restaurants for supply chain sustainability is to identify consumer demands, desires and needs regarding beef sustainability. They must disseminate information related to the final consumer and consider the consumer demands in the supply chain business. Retail companies and restaurants are thus key players for beef supply chain sustainability. Although they are key players in beef supply chain sustainability, only one supermarket group, two organizations associated to the same fast food company, and one beef import company, are full members of the Roundtable. The domestic market consumes about 80% of Brazilian beef production. More participants from the wholesale, retail and restaurant companies would be expected in GTPS.



Financial institutions offer financial and monetary resources for the Brazilian beef supply chain business. These organizations also provide these resources for sustainable livestock. Financial and monetary resources relate to the economic dimension of sustainability. According to the Tripple Bottom Line, sustainability consists of economic, social, and environmental dimensions (ELKINGTON, 1997). The economic dimension of sustainability affirms that a company must be profitable to be sustainable. Thus, the profitability of the Brazilian beef supply chains depends on the financial resources and also government incentives to maintain the productivity.

Stakeholders perceive these companies as fundamental for beef supply chains in Brazil since the resources offered by banks seek to guarantee beef production in the country. Its role in supply chain sustainability is to provide financial and monetary resources for the operations of the Brazilian beef industry. Thus, other stakeholders have an interest in the participation of banking organizations at the Roundtable discussions. Financial institutions also have an interest in participating in GTPS. They can verify the content discussed and evaluate the economic and financial viability of each proposal discussed. However, only three major banks are part of GTPS as full members. Diverse financial institutions must participate in the discussions.

Non-governmental organizations (NGOs) are stakeholders of the Brazilian beef supply chains. Their demands are recognized from the pressures they exert and also from the close relationship with other beef supply chain stakeholders. However, their relationship with specific stakeholders can be controversial. Frequently, the objectives and interests of the NGOs are contradictory to the objectives and interests of the focal company and other firms. For example, NGOs seek to highlight the importance and urgency of zero deforestation, while producers seek to qualify deforestation. These situations can lead to conflicts between stakeholders. Additionally, these situations can also encourage the idea of stakeholder rivalry, in which organizations struggle to achieve their purposes. Interviewee I comments on the relationship of NGOs and other supply chain stakeholders:

Banks and retail. They are so reactive, right, they are so reactive. What do they want? Do they want to control deforestation? They do not care about deforestation. (...) What they want is not to lose a customer. What they want, they want to avoid boycott. Nowadays, things work by boycotting “oh, I am going to boycott because of this, because of that...” (...) So when the NGOs can, and they are good, create a narrative that clearly shows these banks and retailers that to avoid boycott they will have to follow the strategy that the NGOs want. So we got into a problem, and that is the problem we are in (INTERVIEWEE I).

There is a difference in the perspective – or narrative, as stated by Interviewee I – between NGOs and other stakeholders, especially toward sustainability and sustainable livestock. This is why NGOs play an important role in the Brazilian beef supply chain sustainability. The previous chapter describes points that justify this importance. NGOs have pressured the government, consumers and other supply chain companies to reduce the environmental and social impacts of livestock, based on information and studies published in reports. NGOs pressures contributed to the GTPS creation and formalization. In addition, NGOs reports highlighted the challenges of sustainable livestock in Brazil, involving deforestation, greenhouse gas emissions and social issues. Therefore, different perspectives of the same situation allow problems to be identified and their solutions to be sought at the Roundtable discussions.

In the civil society group, diverse NGOs participate in GTPS as full members. However, Greenpeace – the NGO responsible for continually pressuring the Brazilian beef supply chains – does not participate in the Roundtable discussions. This issue will be addressed posteriorly on this topic. NGOs that are GTPS members play a key role in supporting the implementation of sustainability practices, as well as conducting studies related to sustainability and mediating the relationship between different members of the supply chain. Particularly, NGOs play a relevant role in supporting the application of GIPS. These organizations mediate the relationship between producers and GTPS in the first pilot projects to apply these indicators. In this scenario, stakeholders perceive NGOs as potential partners and also as potential opponents. These organizations can report changes to be made; pressure beef supply chain stakeholders to change; or to contribute collaboratively to make changes for sustainability. In the case of Roundtable, full members NGOs are perceived as partners. These organizations actively participate in the discussions and seek to contribute to making changes toward sustainable livestock.

I think the NGO, it can even do, maybe help in this way (...) in [the Brazilian Roundtable for] Sustainable Livestock. And [it can] be a discussion element of what is being done and [it can] help to make it clear to the [supply] chain members what are the market demands, and how the changes, how current processes, and how these changes of the processes can impact mainly on the environment. Because, I think, most sector-related NGOs that at least have interests in the beef sector are concerned with environmental issues. So, I could add your expertise related to an environment preserved by good environmental management practices, and add that expertise and share with the members, with the actors that are part of the [supply] chain. (...) Because the monitoring they already do, right. The monitoring of complaints NGOs already do, and this is very positive in most cases (INTERVIEWEE K).

Included in the civil society group, trade associations and unions enable more indirect representation since they are stakeholders representing others. According to the GTPS bylaws, the full member pays an annual fee for its participation. Financial issues influence stakeholder participation in Roundtable. The role of trade associations and unions in beef supply chain sustainability is to disseminate decisions made at the Roundtable meetings to other supply chain members. These members do not need to participate as GTPS full members to have access to the decisions and how the decisions were made. Therefore, trade associations and unions enable more access to the content discussed at the Roundtable meetings. However, these organizations also have their interests and goals, which may not be aligned with the purposes of their members. Based on the perspective, trade associations and unions and their representatives may be different stakeholders in the Brazilian beef supply chains.

Continuing the discussion of stakeholder identification, we proceed to the analysis of the Collaborators group. Differently from the main GTPS groups, collaborators are classified as dependent stakeholders. They are actors of the Brazilian beef supply chain, and their claims are legitimate and urgent. However, they do not have the power attribute. Power in this relationship is not reciprocal. Its exercise is governed either through the advocacy of other stakeholders or through the guidance of internal management values. Stakeholders are classified as dependent because they depend on the power exercised by another organization or stakeholder so their demands can be prioritized (MITCHELL; AGLE; WOOD, 1997).

As previously mentioned, diverse stakeholders constitute the collaborators group, including government agencies, universities and research centers. We highlight government agencies. Analyzing the perception about government agencies, we identified that these organizations are perceived as partners. Partnerships occur in the development of new research, projects and technologies that can increase livestock productivity, and mainly reduce the environmental impacts of the activity. This seems to explain the fact that government agencies are not a specific GTPS group. Considered as a collaborator, the government contributes at specific times to the Roundtable. The government establishes partnerships with other stakeholders aiming to achieve their claims. The Empresa Brasileira de Pesquisa Agropecuária<sup>11</sup> (EMBRAPA) establishes partnerships with producers in the implementation of best practices in beef production.

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<sup>11</sup> Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA) is a technological innovation enterprise focused on generating knowledge and technology for Brazilian agriculture and livestock. Since its foundation in 1973, EMBRAPA faces the challenge to develop a genuinely Brazilian model of tropical agriculture and livestock to overcome the barriers that limited the production of food, fiber, and fuel in the country (EMBRAPA, 2019).

The government role, however, goes beyond encouraging the development of new research and technologies. The government has an important role in elaborating laws and supervising industry activities. For example, the government instituted the Forest Code as part of public policies for environmental protection. Governmental agencies supervise the law compliance, establishing fees and punishments when necessary. In the context of the beef industry in Brazil, the government has a key role in TACs supervision. Moreover, NGOs and government pressures also contributed to the GTPS emergence. The government could be a definitive stakeholder, based on its diverse roles – collaborating for new technologies, development of new studies, supervisor, etc. The power of legislation is absolute, thus the government would not be dependent on another organization or stakeholder to exercise it. Considering the government as a partner, we classified as dependent stakeholders (following the collaborators' group).

In addition to the stakeholders' identification, we emphasize four points for consideration. Firstly, Greenpeace is not a GTPS full member or observer. Although NGOs are represented at the Roundtable, Greenpeace is an important stakeholder of the Brazilian beef supply chains. The NGO is one of the organizations responsible for the initial pressures for sustainability in beef supply chains. The reports published by Greenpeace highlighted the environmental and social impacts of livestock activity particularly in the Amazon region. Thus, the pressures exerted by the NGO contributed to the GTPS emergence. We understand that the participation of this organization at the roundtable could contribute to the improvements for sustainable livestock. In this context, respondents explain their perception of Greenpeace.

They [Greenpeace] never wanted to participate, right, because they say it is not part of... it is not their strategy. What they wanted to do in beef was the same thing they did in soy, right. They go there, flap everyone, make people sign what they wanted that was the zero deforestation, and then watch whether they are doing or not. So, they do it in soy, and they do it with slaughterhouses. But they do not sit at the table to negotiate the definition of what is sustainable livestock, because it is not in their nature. Even invited, they never wanted to attend (INTERVIEWEE D).

Greenpeace is not part [of the Roundtable]. However, Greenpeace is... already, we already did the exercise of questioning them, right. We had a great relationship with Greenpeace until 2016, 2017 which was when Greenpeace decided to leave the group they had with the slaughterhouses. So, this was a group that happened in the parallel right, that was from Greenpeace with the slaughterhouses. That is why Greenpeace never joined GTPS. Why? Because they said that the... that their strategic decision is not to sit in a roundtable and to discuss problems and solutions. Greenpeace's

strategy is to expose problems and the solution is the responsibility of those who are exposed. It goes something like this... (INTERVIEWEE F).

According to the interviewees, the strategy of Greenpeace is to communicate with other supply chain stakeholders, such as the government, retail companies and final consumers. Thus, Greenpeace disseminate information for these stakeholders so that they pressure the companies. The reports published by the NGO (*Eating Up the Amazon*, *Slaughtering the Amazon*, and *Beef With Wood Sauce*) charged the government, large retail companies, and final consumers with information to pressure slaughterhouses and producers to avoid deforestation, greenhouse gases emissions, and slave labor. Interviewee F states “their goal is to impact the consumer and make the consumer pressure a company, a [supply] chain, a product, for changes to occur, but not necessarily to sit at the table to talk with that company, with that [supply] chain, with that government agency to debate and to promote the change itself”. The interviewee adds that “this is Greenpeace’s agenda. It is exhibition of industry, or jail, or organ. But promoting dialogue and actively contributing is not necessarily Greenpeace’s activity right”.

Given these considerations, we understand that Greenpeace is a dominant stakeholder of the Brazilian beef supply chains. Dominant stakeholders possess the attributes of power and legitimacy. Mitchell, Agle, and Wood (1997) affirm that the expectations of any stakeholders perceived by managers to have power and legitimacy will ‘matter’. Their claims are important, but there are not considered urgent. Urgency is based on criticality of the claim and time sensitivity, the deadline of managers in attending the stakeholder claim (MITCHELL; AGLE; WOOD, 1997). The same challenges facing Brazilian beef supply chains have been under discussion since 2006, when the Greenpeace report ‘*Eating Up the Amazon*’ describe the environmental and social impacts of livestock activity on Amazon forest. These themes are critical; however, when compared to the topics discussed at Roundtable, we identify that these themes have a long deadline of other stakeholders in attending the ONG claims.

Secondly, consumers are not GTPS full member or observer. GTPS is formed by the stakeholders identified in this thesis to build the organizational field. However, this organization gives voice to issues regarding the Brazilian beef supply chain sustainability and the coordination of these issues, also becoming an important stakeholder. Thus, even though individuals participate in the Roundtable discussions, they represent other stakeholders rather than the interests of the consumer regarding the beef industry.

We thus present the concept of supply chain management. Global Supply Chain Forum defines SCM as an integration of key business processes, from final consumers to first suppliers that deliver products, services and information, which generate value to customers and to other stakeholders (LAMBERT; COOPER; PAGH, 1998). In turn, sustainable supply chain management is “the management of capital flows, materials and information, as well as cooperation among companies along the supply chain, aiming at three dimensions, economic, environmental and social, which are requirements of customers and stakeholders” (SEURING; MÜLLER, 2008, p.1700). The concepts emphasize the necessity for the supply chain to meet consumer demands and create value for customers. Therefore, this stakeholder must be represented in GTPS. Beef consumers should attend the Roundtable meeting to voice their claims.

Based on the Mitchell, Agle, and Wood’s (1997) model, we classified the consumers as discretionary stakeholders. Discretionary stakeholders do not possess the power to influence the firms and their claims are not urgent. In other words, they possess the attribute of legitimacy. There is no pressure on managers to engage in an active relationship with a discretionary stakeholder, even though managers and companies can decide to give priority to these stakeholders (MITCHELL; AGLE; WOOD, 1997). Although consumer pressure is one of the factors contributing to sustainability, consumers still need other actors to exercise their power in the supply chains. Moreover, their claims are not considered critical or time-sensitive, especially when compared to claims of other stakeholders in the supply chains. Being a discretionary stakeholder, we understand why consumers do not participate in GTPS. One way to increase consumer representativeness is to establish a different type of association, such as the collaborators group.

Thirdly, we verify that the media is not a GTPS member. Media seems to be a relevant stakeholder since it influences the activities of beef organizations, supply chains, and industry. The Weak Flesh and Car Wash operations of the Federal Police of Brazil highlighted the media influence. In these operations, the media was responsible for disseminating information to consumers and other stakeholders. Additionally, one of the GTPS work committees is related to communication. The Communication work committee aims to improve communications and integration with media (GTPS, 2017). Thus, we understand that the media should be represented in the GTPS to present its perspective at the Roundtable and to contribute to the content dissemination.

However, the media is classified as nonstakeholder. The nonstakeholder does not possess the attributes of power, urgency, and legitimacy. Mitchell, Agle, and Wood (1997)

affirm that the non-stakeholder is also a potential stakeholder since their model is dynamic and variable according to the analyzed context. Thus, the media is not perceived as a stakeholder of the Brazilian beef supply chains. Members of the Brazilian beef supply chains seem to understand the media as a channel for communication in general. Non-stakeholder classification helps us to understand why the media does not participate in the Roundtable. The media is a stakeholder who has its interests, claims, and purposes. Being a Roundtable member enables the media to contribute to the discussions of sustainable livestock, especially regarding the communication of the sustainability practices in the beef industry.

Fourthly, GTPS is also a stakeholder in the Brazilian beef supply chains. Thus, we include GTPS as a stakeholder in our analysis. However, its classification in Mitchell, Agle, and Wood's (1997) typology may vary according to the priority given to the Roundtable and sustainability. Depending on this priority, this stakeholder can be classified in different ways. GTPS is a definitive stakeholder for a specific supply chain, while, for others, it is a dominant or dependent stakeholder. For example, GTPS is a dependent stakeholder of the supply chain that we analyze in the next chapter. Roundtable possesses the attributes of power and legitimacy, but its claims are not perceived as urgent – and are not included in the supply chain businesses. However, its role is fundamental in coordinating issues related to sustainability in the Brazilian beef industry. We discuss these issues in the posterior chapter.

Table 13 summarizes the stakeholder identification and classification of the Brazilian beef supply chain, based on the stakeholder identification typology of Mitchell, Agle, and Wood (1997). There may be other stakeholders in this supply chain. However, our analysis used as a starting point the GTPS groups, and the key stakeholders identified in the interviews and documents.

Stakeholder Category	Stakeholders of the Brazilian Beef Supply Chains
Definitive Stakeholder	Producers Slaughterhouses Suppliers and services Financial institutions Retail companies and restaurants Non-governmental organizations Trade associations and unions
Dependent Stakeholders	Collaborators – universities, research centers Government agencies GTPS
Dominant Stakeholder	Greenpeace – non-governmental organization
Discretionary stakeholders	Consumer
Nonstakeholder	Media

**Table 13 - Identification of the Brazilian Beef Supply Chains Stakeholders**

In addition to identifying stakeholders, we present the perceptions of the respondents regarding the importance and role of GTPS members. Interviewee G affirms “there are groups that stand out more or less, depending on the action, which is ... on the agenda at that time, or depending on the market scenario of a certain period”. The respondent adds “depending on how the market is doing, right, there will be more or fewer groups available, but we have no action for a group to stand out, because nothing can be done, by the GTPS governance itself, here without everyone’s participation”. However, the other respondents identified key stakeholders in GTPS discussions for sustainable livestock. In general, respondents consider the NGOs, government as a collaborator, and retailers to be key stakeholders at the Roundtable. Respondents also commented on stakeholders’ representation in GTPS.

It’s hard to say because everyone keeps their interest in the game, right. So, the NGOs are there because they want to force this zero deforestation agenda at any cost, right. The producers are there because they are just getting kicked. They think that if they are not together there will come some more restriction on them. It is ... the slaughterhouses and retailers are there because they have a lot of commitments to keep, right. So, It’s still a little dysfunctional, right. The banks are there, because also, they want to protect themselves, right, have a way of saying that they are, so... supporting, that they want to lend money to the livestock, but without being accused of financing deforestation. So everyone [of the stakeholders] has an interest to be there. But the idea is that somehow everyone does a little of their part too (INTERVIEWEE D).

If we are going to talk about the supply industry, vaccines, and other chemicals, then we are going back to the [supply] chain. I think they are well represented there because they are big organizations and they do have an interest in participating there, even because they are part of the changes and [they] also promote the changes. This [participation] improves in every aspect. In the marketing aspect, for the company, of course. And of course, for the actions which have no specific relation with marketing, as we know it, such as promoting a brand, anyway. And I see as a very strong member in there [GTPS], even by personal representation, some NGOs that were already there... And I also see these companies, (...) these big ones with a lot of representation, besides the three biggest slaughterhouses. These are the ones who have the most strength in the sense of participation. You see, that force seemed very clear to me in the participations I was in, in the conversations I made. I don’t mean the strength in the sense that they ‘are ordering’, but in the sense that they participate faithfully. They participate often, right. Everything is systematic, they attend all meetings; they are in all deliberations; they participate effectively in the actions. I think they have it. This is the strongest part of the group (INTERVIEWEE B).

When asked about the most important stakeholder in GTPS, Interviewee J stated “oh, for sure, the NGOs, right. I think we are involved... We are involved with this promotion of good practices in general... (...) That’s exactly what you try to engage retail in good practices,



right, trying to do they sign the deals, to charge the producers later. So, sure, I think the ones that do this today are the NGOs”. Interviewee B affirms “[NGOs] have a lot of interest and participate more effectively. They go to all meetings, they are on the inside; they propose actions. Even because of the very nature of NGOs, they act”. Interviewee C said that it is “the civil society, obviously, because, in fact, most of these institutions have funding and actually have projects in the field so that sustainable livestock really occurs”.

Interviewee F affirms “I think for sure, a stakeholder that has a very active role, you can see that it participates in everything, it’s the NGOs, it’s the guys who get the international funding, so... Today you see that they have many projects, [NGOs] have a lot of money running around to develop the [supply] chain”. Interviewee L, however, has a different view of the NGOs’ relevance for GTPS.

Look, the major supporter... Maybe, maybe the... I was thinking about NGOs, but NGOs aren’t encouraging, they are provocative. So, I think it would fall into another category. Encourage, I imagine it is retail. Encouraging is the retail (...) In the sense of charging, right, of... When you talk about encouraging, I imagine that, for example, retail presents the following situation: “Look, I have a customer who wants to pay more for a higher quality product”, so this is more likely for industry and producers to do something different. So this, for me, is encouraging. Now, in the case of NGOs I see a provocation, because in many cases, it is like, it already happened, right, there were several reports that spoke badly about our industry and that ended up causing us, right, a certain change, reaction. Anyway, but it wasn’t something that was done, it wasn’t a provocation, so, let’s say, friendly. It is a provocation to show that we are doing something wrong, and often without information. Yeah, I don’t see it as an incentive, I see it as a provocation, which is beneficial, actually, but it’s not an incentive, right, it’s not a foster, let’s say in this way (INTERVIEWEE L).

In this context, respondents also mentioned retail as an important stakeholder for sustainable livestock. Interviewee F affirms “retail is a very important [supply] chain member because it’s the guy who interacts with the consumer. So it’s the guy who knows who the consumer is, what their profile is, what their buying decisions are”. Interviewee L explains that “retail has money to share information. It has information. It has several mechanisms to capture the consumers’ demands, right. And to process data, turn it into knowledge, and share the [supply] chain’s information flow to the other members, even supporting the other links”. This respondent adds “if we are going to do an analysis of what has been happening in agriculture, especially in Europe, it is... retail. It would probably be retail, the main promoters of sustainability. In my opinion, I think retail could be the promoter of sustainability”.

I also think retail itself, because nowadays, retail has made some commitments abroad, due to the demand, right. Walmart, Carrefour, Pão de Açúcar, they have assumed commitment with their parent companies, right... (...) Buy products basically of... that are guaranteed to be a sustainable beef. An example of this is McDonalds. McDonalds has now adopted as, as they say, as a basis for their suppliers to follow GIPS standards, right. So this is not a certification guide, an audit label, or anything. But they are nowadays using GIPS as a guide, right, as a guide for its suppliers to comply, right (INTERVIEWEE L).

Lastly, the respondents indicated the government as an important stakeholder for encouraging sustainable livestock. When asked about the main stakeholder for sustainable livestock, interviewee A affirms that “Embrapa. Today the focus is on the development of sustainable development goals, right. Today, practically the agenda is research on sustainable technological solutions, right”. The respondent also states that “there are also many government actions, but much related. MAPA [the Brazilian Ministry of Agriculture, Livestock, and Supply] has lines, right, that goes in this direction of sustainable development, but there is also of actions from the [Brazilian] states, right, state programs, right, and organization”.

In turn, interviewee I comments on the specificities of the beef supply chains in Brazil. According to the interviewee I, “the moment we start to understand that livestock are very different and that the process of cultural and technological change is slow, it’s... And of course, who is the agent of that? It is Embrapa and it is the Ematers<sup>12</sup>... And they are great, they are, they have their problems, yeah, but they have had a lot of results”. Interviewee K understands that the government has a relevant role toward supply chain sustainability, “an active role, then, is perhaps to finance some projects, or to fund part of those projects. (...) Funding through some BNDS, new management practices, or the issue... There is also a larger role for government that would be in research, rural extension”.

Respondents also commented on the representativeness of GTPS groups. They thus identified cattle ranchers and retail as the groups that could expand their representation in the GTPS. Interviewee B says “in my opinion, at this Roundtable, nowadays, cattle ranchers are not well represented there yet. Not because who represents them, represents badly. But by the own characteristic of a certain atomization, let’s say, of this professional, of this entrepreneur of the countryside”. This respondent adds “some [cattle ranchers] have been there [GTPS]

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<sup>12</sup> The Technical Assistance and Rural Extension Company (Empresa de Assistência Técnica e Extensão Rural – EMATER) is a Brazilian public company with its assets, legal, administrative and financial autonomy. The mission of EMATER is to promote sustainable rural development in the Brazilian states.

personally; others are represented by the local associations, anyway. But their voices are not coming as important as they should be. So I still see this weak link, I still see it today. (...) Still the weak link is with the cattle rancher”. Interviewee I comment “the stakeholder that would need to appear is a stakeholder who really represents the producer and who can take what the producer needs”. The interviewee also affirms that “there is no stakeholder who represents the real producer, who has the power to [represent]”.

On the other hand, interviewee L believes that “what could have the biggest representativeness is also the retail. I think retail could also be more present, because it is the main, stakeholder that communicates our industry with the final consumer, right. So, I think there are missing representatives from the retail sector, right”. Interviewee F understands that being on the GTPS board of directors contributes to the participation of the producer and retail and restaurant groups at the Roundtable.

I think it is very important that the other members, they also assume their leading role and in... at the Roundtable. I think with Caio as president, who is a producer, who assumed [the GTPS presidency] now, this will, this will represent a big step. I think it will be very important for GTPS to have a producer and a retailer in the role of the executive committee, which were [supply] chain members that were a little distant, right... (...) And in GTPS you saw here that they were a bit distant, right. Even though they were associated, they were not actively participating, so with the joining of McDonald’s as vice president I think that might change and then the retail, the retail and restaurant category will be more actively engaged. I think it will be very useful for the group (...) I think... with the producer, the case was a little different, because they always participated, they were always there. However, (...) they couldn’t defend their agenda so well, right, from their point of view. We often saw that the NGO’s agenda was priority, so, it’s... with Caio [as GTPS president] I think that it can change and... [they] have made very good counterpoints, very well argued, very well consolidated. I think it will be very interesting (INTERVIEWEE F).

Given these considerations, we emphasize managers must know about organizations in their environment that hold power and have the intent to impose their claims to the focal firm (MITCHELL; AGLE; WOOD, 1997). In this topic, we identified the stakeholders of the Brazilian beef supply chains. Based on the typology of Mitchell, Agle, and Wood (1997), we classified these stakeholders. This classification allows us to understand the priority given to stakeholders considering the concepts of power, legitimacy, and urgency. We thus understand which actors are recognized as supply chain stakeholders, explaining stakeholder participation in GTPS.

According to the theoretical framework of this thesis, we mobilized the organizational field concept to theoretically interpret the supply chain. Following DiMaggio and Powell's (1983) concept, we understand the organizational field as a set of organizations that share common meanings systems and interact more frequently with each other, when compared with actors from outside the field. The organizational field concept is a theoretical basis for understanding organizations' interactions and relationships. In this context, Sayed, Hendry, and Bell (2017) affirm that the supply chain can be understood as an organizational field. Interpreting the supply chain as an organizational field allows the identification of relationships and influences of organizations that suffer the same pressures and share resources, values, symbols, and references. Thus, we assume that all stakeholders of the supply chain share values and are under the same pressure.

Organizations that share the same pressures and values – and are part of the same organizational field – are part of the same supply chain and are GTPS members. These organizations are part of the producers, slaughterhouses, supplies and services, retail and restaurants, financial institutions, or civil society groups. Therefore, identifying stakeholders of the Brazilian beef supply chain sustainability is necessary to identify which organizations are in the same organizational field. In turn, this identification will enable the analysis of the organizations' interactions, relationships, and influences at the Roundtable meetings. We present this analysis in the next topic.

## **5.2 Stakeholders of the Brazilian Beef Supply Chains: interacting toward sustainability at the Roundtable**

In this topic, we aim to understand stakeholder interactions at the Roundtable meetings. For this understanding, we analyzed the field notes made during the meeting observations. Additionally, we used the interviews and documents, such as the GTPS bylaws, to support our analysis. We started our analysis by presenting the interviewees' perceptions of the contributions of the stakeholder interactions at the Roundtable meetings. These perceptions allow us to comprehend the importance attached to GTPS. Posteriorly, the stakeholder interactions analysis is based on three categories: the conduction of the discussion, the content discussed, and how decisions were made.

Respondents agree that GTPS allows more stakeholders' interactions since the group enables the meeting of different stakeholders in the Brazilian beef supply chains. Interviewee D affirms that GTPS offer “this possibility of direct connection between the actors, talking to

each other what are their problems, difficulties, challenges, right, what one wants from the other. (...) you have no other platform discussing sustainable livestock in Brazil today that is so representative, right”. Interviewee K states that GTPS can be a “facilitator to increase cooperation between supply chain members (...) Just facilitating cooperation between links, improving the flow of information between the different actors in the supply chain and making the supply chain a dynamic chain, through information exchange and cooperation”.

I think the biggest contribution... Right, the creation, provide this forum, right, discussions and search for minimum convergence, right, ahm, elements that are needed, right, for the development of our livestock. I think this is the job, I think this is to be their job, is to try to equate, put all the points of view, all the interests, right, inside one, inside an equation there, right, that you can please all, right, and from there start to develop. I think this is a maturity process, right (INTERVIEWEE A).

I believe that GTPS has a very important role in integrating all the stakeholders in the supply chain together at the same time, to discuss the same issues and to point out the pains of each one, right. We, many times, especially I that work in the office, I don't have much interaction with the other end, for example, the producer. So it's a moment that we meet there, we talk about deforestation, so we see the environmentalists' point of view that NGOs have, of preservation, at the same moment. The industry explains the counterpoint of the complexities of monitoring, the costs that apply to the industry, and... Right after that, we have the producer, who is the most costly in this whole process, so he already gives his point of view. This is very important for us to start thinking that the issue is not one-sided, that it is attacked in different ways; it is a very complex problem. We usually have a few moments of a controversial theme there (INTERVIEWEE F).

GTPS, for me, it turns into one, having a great catalyst function, in the sense that it brings together producers, suppliers slaughterhouses, NGOs, banks, retail, is, with research entities, anyway, right. So, it is the center of it all and is fueled by ideas, that is, tools, finally, from all these parts, including the producers, demands, anyway. And for each of these entities, it delivers something. Let's look at a specific case, right, it turns out to be a catalyzer, to demonstrate what is having retail, in terms of possibilities, right, what are the pressures of the NGOs, right, how I can get funding from the banks, right, what the research entities are producing that I can adopt on my farm, in the sense of looking for a more sustainable livestock. So when I look at GTPS I see a great catalyzer for information that will make me more sustainable, yeah, more productivity on the farm and more in line with these societal demands (INTERVIEWEE L).

Interviewee N affirms that “I think it's important for us to look for a standard, right, and that's what, the standard of all people speaking the same language and they understand each other. So, I think this is the role and the contribution of GTPS is to the beef supply chain in general”. Interviewee L explains that “because through GTPS I can know everything that is

going on with these other [supply chain] segments concerning the sustainable livestock theme”. According to the Interviewee J, the main GTPS role is to “introduce a more sustainable vision to the sector, trying to engage industries, companies, and producers, right, with a more sustainable agenda, more sustainable practices. It is also trying to bring this need for adaptation, as the demands from abroad”.

Interviewed G states that the role of GTPS is to integrate “the different links in the supply chain, bring everyone to the table and build partnerships, build and create ideas that can bring about change there and that can improve the image of Brazilian beef in the world and even show that, really show everything that Brazil does”. Thus, respondents identify the importance of GTPS precisely by integrating a large number and diversity of stakeholders. In this integration, Roundtable allows open space for discussion on sustainability in the Brazilian beef supply chains.

The integration between the members of the Brazilian beef supply chains allowed improvements in communication between the stakeholders. Interviewee D adds “yeah, and external communication too, right. The communication of livestock as a whole, ah, is communicating these sustainability issues. (...) I also think it’s one, something GTPS offers that is very relevant to everyone who is there”. Interviewee N states “our structure also needs to be prepared for the dissemination of technical information about beef, to think of a narrative of communication to the final consumer. What I want to say is that there is in GTPS, it has this role, I think it is fundamental to give legitimacy to communications...”. Regarding communication, Interviewee L states “let’s just sign below what GTPS publishes, because it’s already representing everyone here, got it? So, I believe the main gain we have is the part of having a point of reference to deal with this theme [sustainability]”.

I think that what has changed a lot about the group’s 10 years of operation has been the form of communication between the links in the supply chain. (...) Even though I started to follow it [the GTPS] in 2011, it’s been 7 years, almost 8 years, it’s... And over these 7, 8 years I’ve seen a lot of changes in the way the members in the supply chain connected and communicated about sustainability, that is, about sustainability issues, what was the restriction, what I was a challenge, what it was, is... Common benefit, anyway. Especially the civil society that is closer to the companies, the industries, which had much more contact, much closer to the rural producer, something that had not been years ago. There were few NGOs that really had this, that’s... This understanding of the supply chain as a whole, right, no... And I think this communication was very beneficial, this... This improvement of communication between the members was very, very visible (INTERVIEWEE G).

In addition to communication improvements, the discussion on sustainable livestock was another aspect attributed to GTPS by the interviewees. Interviewee N affirms “of course each company has its own policy, these things may vary, but an agreement between what is sustainable livestock needs to exist and, because of GTPS, today it exists”. Interviewee D claims that the Roundtable played a relevant role by developing the sustainable livestock concept. The respondent explains “in the group we developed, with all the stakeholders there, what we called livestock indicators guide, right. So, there... Everyone has come to a consensus on what are the important criteria to consider and how you can measure whether improvement is still happening or not”.

The main thing, the return that GTPS gives to society, to the livestock community, is to deliver tools that, in fact, are applicable to all links in the value chain and that contribute to this... It is... With the orientation to continuous improvement, which is a concept of sustainability, is a concept of what is sustainable livestock, is what we have been working a lot about. With this concept, through the tools and, especially, the Indicators Guide of Sustainable Livestock, which is the biggest delivery, is what defines sustainable livestock and that helps... Ah, both the producer and the other members to apply this day-to-day in their operations (INTERVIEWEE G).

I think it is essential because if any company decided on its own what sustainable livestock is, it would not have legitimacy and would not advance. People would not be able to reach impossible standards that do not reflect their reality. It's a discussion from the differences, finding the balance takes a long time. So I think the role of GTPS is really the legitimacy, the guidelines related to good practices of sustainable livestock, articulate actions and promote it globally also because (...) that GTPS has a leading position in the world. And I think we need recognition so I think there is a lot of this internal issue well related to sustainable development, as there is this issue of public relations and reputation abroad related to the reality of Brazilian livestock (INTERVIEWEE N).

Respondents also commented on Roundtable's role in establishing certifications. Voluntary initiatives such as roundtables can – but are not required to – establish certification to specific feedstocks or other areas (GERMAN; SCHONEVELD, 2012). Certification and standards ensure that an organization is acting in compliance with the rules and regulations. Beske and Seuring (2014) claim that certifications and standards are associated with the management of environmental and social risks in supply chains. If sustainability certification is established and adopted by stakeholders, social and environmental risks in the supply chain are likely to be lower.

Interviewee E affirms “in the livestock sector, I think that there may be conditions for moving forward now that this group that works with sustainable livestock, which has a

public-private sector, which also makes associations... Can afford this beef certification. Then it is possible to advance". The respondent continues by saying "I think maybe before heading to zero deforestation, why not do some sort of pilot, and declare a certification of meat with zero deforestation and see what is the result". However, respondent D emphasizes that the GTPS focuses on continuous improvement, rather than the beef certifications. The Roundtable does not aim at the certification of its members, but rather at voluntary adherence to best practices and continuous improvement.

We made a change of direction inside, which began with this roundtable discussion. Let's create principles, criteria, make a certification and such. But, in the middle of the way, we made a turn, because, it's... We understood that it wouldn't work, right. The certification is limited, you would select half a dozen producers, which already were agreeing with that, so there would be half a dozen certified producers and the rest would stay in the same situation. So, after 2010, we made a change there, to focus GTPS on the dissemination of good practices, legal compliance, continuous improvement. Yeah, that's how it's working to this day, right. So, you had GTPS, give up, I don't know, certification, to be continuous improvement implementer of the producers. (...) To start working, not only this supply chain control, right, but what are the public policies that need to be developed for this livestock to improve... Yeah, credit, access to technology, which is a bit of that GTPS does, right (INTERVIEWEE D).

Considering the importance of GTPS, respondents explained that the roundtable format influenced other stakeholder partnerships. Interviewee F states that "when there was no Roundtable at all, GTPS had that role. Then, I think that because of the success and all the successes that it had, different forums began to emerge to discuss topics that could be covered in GTPS. Then, some parallel things started to emerge". The respondent adds that "organizations began to see that this roundtable format of discussion and multi-stakeholder works, brings results, is... And brings new ideas, right. So, you see that began to emerge some, some of these roundtables with this parallel format". In turn, Interviewee G states that organizations that are or have been members of GTPS "took alternatives to solve these challenges within their operations, all of them. They all created their groups, their internal committees, their departments to solve these problems. Anyway, all of them are, had their individual performance to, to... To try to solve some problems".

In this context, respondents argued about the dynamics of Roundtable meetings. These comments contributed to the meetings' observations. Interviewee L explains that "who is there already knows, already knows how things work. And of course you have some moments where you have intense debates, where it takes longer, finally, where, but it's also where



things are resolved”. Interviewee F affirms that participants “sometimes they agree to disagree, right”. The respondent continues by saying that there are “some strong discussions, but I think it is interesting in the end, it’s... over the 10 years in GTPS history I think a lot of fruitful partnerships were built from the contact they had there”.

Actually, it’s a group that, it’s a multi-stakeholder group, where a lot of times, the interest isn’t always the same. So there is always the question... And it’s interesting, because, there is always a question of if you try to work by consensus, okay. So, when you have a vote, you always try to see if everyone goes to the same decision, to the same vision, right ... And often there is obviously not, right. When you have civil society and producers, often not, you are not in the same vision. On the same line. But... Right, I think for us to work with ours, our challenges and our goals, in fact, we have to give in, or discuss and see where we converge as best we can, so to speak (INTERVIEWEE C).

The dynamics, it has its problems. Because, since we involve several, it is, supply chain members that often have no direct relationship with the business... As banks, for example, banks do not have a direct relationship with livestock. They provide credit, basically so indirectly linked. So, it has many different entities, it is, it is often difficult to negotiate, right, and be able to execute something. Because there are many opinions, many different views and it impacts effectiveness for us to do something. But, right, because it is an extremely diverse group, right, what comes out, when it comes out, comes out agreed among all. So it comes out, it usually comes out great material or excellent product, which can be used by producers, by NGOs, by banks. In short, it can be used by everyone... And at the Roundtable with different entities there that are from different sectors there, which are directly or indirectly linked to livestock (INTERVIEWEE L).

It turns out that in these events, it is usually people take a very political position, very connected to what the institution defends. So who represents the producer wants to get around the situation, even if we are showing data that the situation is bad they want to, discredit their data, to say that the situation is not bad, that his farm is good and that the situation is not. It’s so critical ... So it depends a lot on the institution. Generally, NGOs have one, in general... They have a more congruent view. (...) People who are more of the industry, usually they are pretty middle ground. Yeah, they already have that little foot in the good practices, because they already have the agreements, right. So they usually try to look at the data issue and bring up the industry position, too, in that regard. They are not the ones who fight for politics. But, they try to take the position a lot too. (...) At GTPS people are already used to discussing these topics. So, this brings an opening, brings more congruence, right. Of course, there are more people prepared to defend their side, or another, behind more political as well, but surely people are already used to discussing these issues [sustainability] (INTERVIEWEE J).

Based on the Roundtable meetings’ observations, we analyzed the interactions of the stakeholders. We observed six meetings. Among them, two were related to GTPS and Communication Work Committee planning. The other meetings related to the presentation of

topics to GTPS members. These topics were previously defined as priorities in previous meetings. For the analysis of the stakeholders' interactions, we identified the three categories: the conduction of the discussion, the content discussed, and how decisions were made.

The first category is the **conduction of the discussion**. Roundtable meetings include rounds of discussion among stakeholders. According to the observations, the meetings begin with the presentation of the agenda by the GTPS executive coordinator. Information on the conduction of the meeting and the discussions are also presented. Then, the discussion is open to stakeholders' opinions.

We identified that conducting interviews is usually done by a facilitator. This facilitator is responsible for presenting the topic discussed, organizing the order of the speeches during the discussion, and closing based on the discussion. This discussion closing can be a summary, a conclusion or even a vote on the subject discussed. The facilitator can be a GTPS member or an external person. In two meetings, the facilitator was external. In the other meetings, the facilitators were the GTPS executive coordinator and the work committee coordinators. We highlight that the meeting facilitator is not the same person who is presenting about the topic under discussion.

The meetings followed the logic of organization: at a first moment, there were presentations on the topic under discussion; and, at a second moment, a space for debate between the stakeholders was opened. According to the observation notes, sentences – such as “would anyone have anything to say about it?” and “would anyone have something to do about it?” – were frequently repeated during the conduction of the discussion. During the debates, we noticed tensions between the participants when exposing their speech. In this context, we highlight two lines of participants “let me complete my idea” and “she gave her idea, let me give mine” (OBSERVATION NOTES). There were also tension moments in which a few members said: “I would like to register this here at the Assembly today...” (OBSERVATION NOTES). These moments intensify according to the content discussed at the meeting.

The second category is the **content discussed**. Observations indicated that these contents relate mainly to the application of GIPS, payment of environmental services, communication strategies, and planning of GTPS activities. “There are three fronts to be addressed: sustainable product, environmental asset, and carbon balance improvement” (OBSERVATION NOTES). However, one representative stated during a discussion: “we are here, we know the importance, but then we go home... We need a narrative as a group to justify it for my organization” (OBSERVATION NOTES).

GTPS members emphasized at different meetings on the need for partner engagement to implement the GIPS. According to the participants, it is necessary to focus on dissemination actions on what GIPS is and how to implement it. Aiming to contribute to this dissemination, one participant suggested the possibility of rewarding those who have already implemented the indicators. However, participants agree that GTPS must provide the necessary support for GIPS application. The next steps regarding the GIPS application are data analysis based on the pilot tests and making the necessary adjustments in the indicators.

Payment for environmental services was other issue emphasized at the meetings. According to the observations, environmental assets are key elements of sustainable livestock production. However, the environmental costs are paid just by the producer. GTPS participants – especially the producer group – argue that ranchers should be paid for services aimed at environmental conservation. Thus, GTPS members advocate the elaboration of an arrangement for payments for environmental services. As observed, participants believe that payment may contribute to reducing deforestation.

Moreover, they highlighted the need to qualify the deforestation. Regarding deforestation, members discussed that it would be necessary to work in a more qualified manner and to elaborate a solution proposal for each type of deforestation. Deforestation is one of the main themes in Brazilian livestock. Producing more with conservation; reducing the age of slaughter; integrating livestock, farming, and forest in systems and valuing the environmental asset are needed (OBSERVATION NOTES).

Other issues addressed at meetings include communication strategies and Roundtable's activity planning. Regarding the planning, the executive coordinator explained at the Extraordinary General Assembly that the strategic planning made in 2014 goes until 2019. Planning was revised in 2018, but it is necessary to start the organization of the new Roundtable strategic planning, for the next five years. "It is already another reality, another moment. This requires further planning. For example, GIPS is ready and there are changes in the political scenario" (OBSERVATION NOTES). However, according to the observation notes, the GTPS executive coordinator highlighted that members should be aware that funding is needed to the 'new' strategic planning.

Concerning communication, GTPS members discussed the Roundtable's communication and activities toward sustainable livestock. In this context, a topic discussed was the promotion of GTPS in the media. One member said, "I saw what you did is different from what you actually do. Reporting of what is being done is critical" (OBSERVATION NOTES). GTPS executive coordinator then questions the members: "You must want to

communicate this, that your company is part of the Brazilian Roundtable on Sustainable Livestock. How are you communicating that you are part of the GTPS?” (OBSERVATION NOTES). A certain tension was created and a debate succeeded after this questioning.

In 2018, the communication work committee focused on GIPS, engagement of partners to use the guide and dissemination actions on what the indicators are and how they should be applied. Communication should be focused on “organizing reference sources and mapping national and international events” (OBSERVATION NOTES).

GTPS president emphasized that the European agenda does not fit in Brazil. In the country, the producer’s vision is important. Thus, alignment is needed in Latin America, especially in the Amazon region. Strategy alignment between countries and roundtables is needed. We must send information from Brazil to other Latin American countries that are interested in GIPS. Argentina, for example, has the Brazilian Roundtable as its base. This is a role of the communication work committee (OBSERVATION NOTES).

Additionally, according to the observations, GTPS members understand the challenges of Brazilian beef supply chains: sustainability as a trade barrier; traceability; and conscious consumption. Participants defined these topics as priorities for future meetings. These challenges differ from the challenges highlighted by the reports published over the past decade, as well as the challenges identified in the interviews (deforestation, GHG emissions, and social issues). This difference may explain the fact that the challenges emphasized by the reports remain challenges to be faced by the beef industry since the beef supply chain recognizes other elements as challenging.

Finally, the third category is **how decisions were made**. Previously to the decision making, when some parties are arguing, it is common to hear “I count on your support”. This sentence creates tension in meeting participants because every member wants to argue about a particular subject. Thus, we highlight the importance of the facilitator for conducting the meeting, conducting the content discussed and also for decision making.

According to the observations, decisions are made by consensus or by vote. Sentences, such as “do you agree with this?”, “can we approve this?” and “let’s vote for this result?”, are frequent during the decision making (OBSERVATION NOTES). The following observation note highlights the beginning of the Extraordinary General Assembly, in which it was informed how decisions should be made.

At the beginning of the Extraordinary General Assembly, the facilitator emphasized that decision making involved GTPS full members. Decision making involves unanimity between the present groups, approval of at least 5/6 of the present groups, and approval by the full members present. Thus, each category must conduct an internal vote, by simple majority, in which each member will exercise the voting rights, informing their decision, by a single representative (OBSERVATION NOTES).

Regarding the GIPS implementation, members decided that the central focus needs to be on the implementation of the indicators and that more data is needed for the analysis. The GTPS participants also decided to elaborate a project related to the payment for environmental services.

Therefore, we identified that the dissemination process occurs during the stakeholders' interactions and discussions at the Roundtable meetings. In the next section, we analyze the influences of this process on a supply chain. By analyzing the discussion influences, we understand the contribution of the Roundtable to the Brazilian beef supply chain sustainability.

## **6 INFLUENCES ON A BRAZILIAN BEEF SUPPLY CHAIN: evidence of the dissemination of sustainability on the supply chain businesses**

We really need to compare the Brazilian livestock with livestock in other countries and show how much better we are than them in so many things (INTERVIEWEE I).

In this section, we analyze the influences of the Roundtable interactions and discussions on the Brazilian beef supply chain sustainability. We understand that the Roundtable's sustainability discussions influence the industry, supply chains, and organizations. We focus on the supply chain level. This section aims to explore the perceived influences on a supply chain, achieving the following specific objective: to analyze the influence of the Roundtable's sustainability discussions at the supply chain level. Understanding the influences of these discussions at the supply chain level contributes to the analysis of the dissemination process of sustainability in a supply chain through a multi-stakeholder partnership.

Thus, we use interviews with members of a Brazilian beef supply chain, interviews with experts and Roundtable members, observation of the Roundtable meetings, and also document analysis to support the analyzes. We organized this section into three topics. We present the analyzed Brazilian beef supply chain in the first topic, describing each of the interviewees. In the second topic, we discuss the influences of Roundtable discussions on sustainability in the Brazilian beef supply chain, through the categories: sustainability initiatives defined before Roundtable meetings; meaning of sustainability; and, GIPS discussion and implementation. We also address the engagement of each respondent with GTPS. In the third topic, we emphasize the GTPS role of sustainable supply chain coordinator in a Brazilian beef supply chain.

### **6.1 A Brazilian Beef Supply Chain: presenting the analyzed supply chain**

In this topic, we describe the interviewed actors from a Brazilian beef supply chain. However, previously to this description, we commented on three points related to the beef supply chains in Brazil that may contribute to the understanding of the supply chain dynamics. These points refer to internal (inside the ranch gate) and external (outside the ranch gate) issues. The first point lies in the lack of integration of the Brazilian beef supply chain members, as preliminary commented on this thesis. Interviewee K affirms "it is as if the

supply chain was not a chain at times”. Integration between supply chain members contributes significantly to supply chain business, impacting on issues such as product quality, food safety, beef traceability, and sustainable livestock. The lack of integration makes difficult the decision making in the supply chain. The lack of integration also makes it difficult to solve supply chain problems, especially when the complexity of the problem requires the involvement of different stakeholders in the solution.

In addition, the lack of integration between different stakeholders leads to the increase of conflicts in inter-organizational relationships and doesn't provide the proper conditions for the dissemination of sustainability initiatives in the supply chain (NEUTZLING et al., 2018). Therefore, integration is critical not only for supply chain businesses but also for the introduction and dissemination of sustainability initiatives in supply chains. The challenge of supply chain members' integration is directly associated with the challenge of supply chain sustainability. The effective dissemination of sustainability in supply chains relies on supply chain integration.

Integration among supply chain members depends on the degree to which the focal company strategically collaborates and cooperates with its stakeholders (WOLF, 2011). Thus, the focal company plays an important role in integrating the supply chain members. However, there is a tension between the cattle ranchers and the slaughterhouses (focal companies) in the Brazilian beef supply chains. Respondents especially commented on the relationship between producers and slaughterhouses. Interviewee H says “this relationship between producer and the slaughterhouse is not friendly. It turns out to be difficult, emerge this supply chain management, right, someone, a link in the supply chain that can promote sustainability and encourage the principles of sustainability”.

Practically the whole supply chain is structured by the slaughterhouse. And some problems that happened were the growth of some slaughterhouses, right. (...) For example, in Mato Grosso do Sul (...) surely more than 50% is from one company. In Mato Grosso as well. Mato Grosso is even more, ok. And this happened from the moment they were buying various production units, they started buying and closing those plants and centralizing some larger units. And they practically control the supply chain, right (INTERVIEWEE H).

So, no one is either the owner of the truth, or the good guy, or the villain. Although from the point of view of one particular supply chain agent, he often considers himself the good guy and the other agent is the villain. For example, for the slaughterhouse, the villain is the producer. [The producer] doesn't deliver standardized products, doesn't take care of leather, you know, animals aren't well finished, so on. It was a lot of that, right ... the leather damages. But it [the slaughterhouse] doesn't pay for leather, it doesn't ...

And all the producer mistrust issues about the industry. So you see one working sometimes with some antagonism to the other, between the different members in the supply chain. So, we see that sometimes there is not an organization in the whole supply chain working with a common good, with a common goal, right, the common purpose, and it ends up making it very difficult. So, the main restriction I see is the lack of this interaction and development of work, or projects, or the supply chain development, between the agents themselves. So, much more is the relationship between agents. This is the main restriction, I see. (...) They could be partners and often identify with each other, whether they treat each other as opponents or as adversaries. Since they are not really opponents, I don't know. Work as partners (INTERVIEWEE M).

The second and third points link to the first one. The lack of integration reflects on the producer position in the Brazilian beef supply chains and also in the communication between the Brazilian beef supply chain stakeholders. Firstly, we will emphasize the position of cattle ranchers. The cattle rancher is commonly considered a 'weak link' in the beef supply chains because its influence is small compared to other supply chain stakeholders. Big producers have certain space at the negotiating table, but medium and small producers have even less space. Aiming to increase their representativeness in the supply chain, producers join associations or unions.

It is the market issue, the nature of the market itself. Could, even if he knows the production costs, it will not change, he cannot set the price. Because he is not the one who defines the price. If he 'ah, I want to sell for 10', then the slaughterhouse 'no thanks, I will buy from your neighbor'. He goes there and buys from the neighbor for another price. So, he [the producer] has little power of influence. Because he is one in the sea of producers, right. And it's a commodity... (INTERVIEWEE M).

Producers receive constantly pressures from the slaughterhouses and also from other stakeholders regarding, for example, beef quality, compliance with laws and environmental conservation. Because of these pressures, the producer seems to avoid changing and distrust supply chain stakeholders. Interviewee H states "the cattle rancher, he is very averse to change; he does not like to make changes. From the moment you say to him, 'oh you have to change the handling of the animal' and such, it is hard. It is not such a simple situation". Thus, as interviewee I commented, the producer adds stakeholders' demands into the package of its enemies. "Some of this conversation of the enemy, the NGO is the enemy, the government is the enemy, and the goal is to cheat. And cheating is possible. It's getting harder and harder, but it is possible". Other supply chain members are then perceived as enemies, not as potential partners.



In this context, respondents explained that it is common for the cattle ranchers to trust on other producers than on slaughterhouses or the government. In other words, the producer does not consider another producer as a competitor. There is integration between cattle ranchers, but less integration between the producers and the slaughterhouses and other stakeholders.

The cattle rancher trusts his neighbor. The cattle rancher generally doesn't see himself as a competitor of the other cattle rancher. It is...There is no such view, this view is very different from that of the corner pharmacy that sees itself as a competitor of the pharmacy on the other corner, understood. It is clearly it is competitor and such. In livestock, [the producer] does not have this notion. Not considering the biggest, most modern cattle ranchers, anyway... But they are a minority. Minority in quantity of producers, right. So, there is not so much. So, it certainly has a lot more confidence. The slaughterhouse, of course, it is the enemy of the cattle rancher. It is seen as an enemy of the rancher. Yeah... Because they are fighting for the price, right, each one wants to take the price to one side. The slaughterhouse down and the cattle rancher up. They are fighting in the balance, right, so the cattle rancher is, he always has the suspicion that is making the weight very cheap, that the slaughterhouse steals in the balance (INTERVIEWEE I).

And this is easily explained because there are actually thousands of producers. So, they, there is no competition with the producer. Producer, can the neighbor sell more, sell less, does not affect his price, does not affect his business. So, whatever the producer does or not, or entering the activity, leaves the activity. Since there are a very large number of producers, this does not affect. Since there is a small number of slaughterhouse, it ends up, almost like a monopoly. It is not a monopoly, but a concentration, right, of the industry, is very large. This often ends up harming the producer in his view, in the sense of price control, right, market. (...) He does not price his product, he asks how much he will pay and when he will buy in the same way. He keeps asking how much it costs. That's how he gets strangled, he's in the middle. The producer cannot define his price, neither his product nor what he wants, nor the supplies he buys, nor the product he sells (INTERVIEWEE I).

Respondents emphasize economic aspects as contributing to the tension and distrust between cattle ranchers and slaughterhouses. Interviewee H explains that the economic issues "causes the producer to have a suspicion relationship with the slaughterhouse, because he [the producer] believes that at some point [the slaughterhouse] will not pay him... The damage will be with him. This is quite common". The respondent adds "it is a critical moment for him. It is the time to sell the animal. Because he is afraid to sell, he is afraid, he does not know if the slaughterhouse... No slaughterhouse wants to pay cash, so he no longer knows if the slaughterhouse will pay or not... Not a good situation". In turn, interviewee K affirms "so as the producer also does not realize that his product will be valued, he does not make an

appropriate effort to fit his product within the requirements of the international market. Because he sees that it won't pay off".

Economic issues linked to the price of the head of cattle sold, the value of the property, the supplies costs, and other production costs. Deforestation and environmental conservation also pose economic problems for cattle ranchers. Interviewee E explains that "from the strictly economic point of view, not deforesting is a cost to the producer, which is true. There's no way to escape it. (...) The producer thinking about the financial perspective, seeing his property as an investment. The legal reserve and the APP [permanent preservation areas] are a loss for him". Interviewee E continues "this is another problem that makes zero deforestation difficult. Because once you freeze deforestation, that future value is no longer there, let's say, from the point of view of selling the property". These topics were broadly discussed during the observed meetings, including the payment for environmental services. According to the content discussed at the meetings, the costs for environmental conservation and preservation are not properly accounted, becoming a cost only for the producer.

Interviewee M states that "from the producers' point of view, the economic issue would be in first place". Nonetheless, interviewee M adds "the environmental issue for them is also important, related to conservation, right, of the soil, and recovery of the degraded areas". In this scenario, a strategy for adopting sustainability practices is to show the positive impacts on the environment and on the producer's profitability from the implementation of sustainability initiatives. Sustainability as Triple Bottom Line is the integration of economic, social and environmental dimensions (ELKINGTON, 1997). Interviewee H suggests "show a farmer the alternatives that are more sustainable for production, right. (...) To show him that in most cases this is economically viable, right. Thinking about the financial issue is more profitable. Most of the strategies they will use reduce production impacts but increase profitability". The respondent, however, advises that "this is a difficulty. I think it is the main restriction on how to disseminate this knowledge. Much of what is happening, especially in Brazil, it is not disseminated".

We have enough technology available in Brazil, so we can produce a young animal, without impacts, large environmental impacts. But this information often does not reach small and medium producers. So, we have a big deficiency in the transfer of technical information to the small and medium producers, which ends up being the largest number of cattle ranchers we have in Brazil, right (INTERVIEWEE L).

Finally, the third point refers to the communication flows in the Brazilian beef supply chains. Respondents commented on communicating with consumers and society. The beef industry has been developing different practices to increase productivity and reduce environmental impacts, for example. There are also crop-livestock integrated farming systems, animal welfare practices, production technologies, etc. According to respondents, these practices do not reach the media and final consumers. Interviewee L affirms “we communicate very poorly. So, people don’t know exactly what we’re doing and how we’re doing it”. The respondent continues “I think that in relation to the technical part we conduct business very well, right. The Brazilian, the Brazilian [cattle] rancher has all the practical conditions to produce a good animal and in a sustainable way. But this information does not arrive very well in society”.

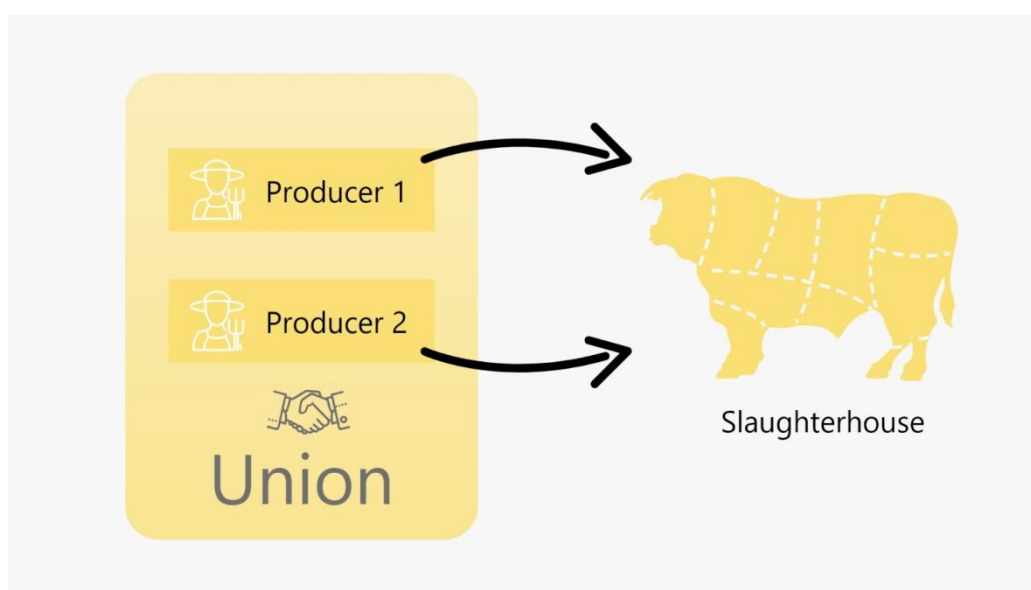
What we see are the supply chains, the supply chain members working independently. The sustainability practices of the slaughterhouses are done inside the slaughterhouse. Now it will not take information or show the producer that he needs a product with different practices inside the ranch gate. It does not share the information that it would be a supply chain obligation. There is then an upstream-downstream information flow, and then a downstream-upstream flow. So this information flow, it is buried in some links, one of the main links that bury it, in my opinion, is the slaughterhouse industry, which doesn’t share information at an appropriate level for the supply chain to work properly, right (INTERVIEWEE K).

Respondents additionally commented on communicating and sharing information with supply chain members. The lack of integration in the supply chain links to problems in communication and information sharing among stakeholders. In GTPS, the communication work committee faces this challenge, seeking to disseminate scientific knowledge and to improve communications and integration with media (GTPS, 2017).

I think the main challenge, in my opinion, is to have more cooperation between the members. So that the members know what are the demands of the one that is closest to the consumer. The retailer tells the slaughterhouse what are the consumer demands, how he wants this product, and the slaughterhouse going to the producer ‘oh, we need a product in that way’. But the producer often, especially when we talk about small and medium, he has no financial resources even to seek this information. So, the slaughterhouse could do this job, to take, educate the producer, so that he can modify his, his production model to meet a change that has been taking place for some years, right, in the profile of these consumers. And even so that, in the future, the production chain wouldn’t be demonized as it is today... (INTERVIEWEE K)

These three points are important for understanding the dynamics of Brazilian beef supply chains. Supply chain members are poorly integrated. There are tensions and conflicts between stakeholders, because of their different and individual objectives in the regular businesses and activities. Additionally, there is distrust in relationships – mainly in the relationship between the producer and the slaughterhouse. Communication and information sharing are also challenges in the Brazilian beef supply chains, as the flows often do not include all supply chain members.

Given these considerations, we interviewed members of a supply chain aiming to understand the influences of the Roundtable discussions on sustainability in the Brazilian beef supply chains. We interviewed two producers, a representative of the producers union and a representative of the sustainability department of a slaughterhouse. Figure 20 shows a schema representing the relationship of the supply chain members.



**Figure 20 - Supply Chain Members**

Interviewee P is a Brazilian cattle rancher, whose property belongs to his family for over 100 years. The farm is located in the region of Minas Gerais and has more than 1,000 hectares. According to the interviewee P, “we have a breed cattle farm and we have another farm that produces beef.... and we have crop-livestock-forest integrated farming [system]”. The producer affirms that “we have a project with Embrapa, the Carbon Neutral Brazilian Beef, where we produce the animal that will have a certification...Thinking commercially...”. In turn, Interviewee Q is a Brazilian cattle rancher in Goiás. The respondent has a degree in agronomic engineering and has a professional career related to the environmental area.

I worked, my career was always focused on the environmental area. I worked at IBAMA [Brazilian Institute of Environment and Renewable Natural Resources] during... Coordinating the supervision for three and a half years. [I] worked as a manager of a Brazilian biodiversity conservation unit, here in the Federal District, the Água Limpa Farm of the University of Brasilia, which has about 70% of its territory in protected area and recovery experiments, environmental liabilities... So I formed my career very much based on environmental protection research and development (INTERVIEWEE Q).

The two producers are linked to the producers union. We thus interviewed a representative of the Brazilian producers union (interviewee O). According to the official website, the organization is an employer union that represents 5 million small, medium and large Brazilian commercial farmers, and of diverse rural activities – including livestock. Created in 1951, the union mission is to represent, organize and support Brazilian farmers. The organization defends the producers' rights and interests, promoting the economic and social development of the agricultural sector. Among their purposes, there is an incentive for agricultural production and the environment preservation associated with agriculture development and food production. Their representatives actively and permanently participate in discussions and decisions on national agricultural issues. Interviewee O comments on his position, by saying that “there are several programs that discuss sustainability to the ranch. And within my department that is a technical superintendence (...) So, there is an exclusive sector to work with sustainability and environmental issues”.

...to be the technical advisor of beef cattle. Basically, the work that I would develop here would be to represent the producer, the cattle rancher in national level, in the national discussions. So, in the discussions that occurs in the Ministry of Agriculture, in the Senate discussions, with the congressmen... So, this part of the rural producer representation. So, my job is basically to technically advise the political part of the house [the union]... (...) So, my job is very technical and already within my condition, that I work only with beef, and we develop some projects (INTERVIEWEE O).

Therefore, the producers union aims to integrate political and rural associations and leaders in Brazil. Three entities constitute the union structure, as explained on its official website. One entity represents small, medium and large producers in Brazil. Another entity operates in rural vocational training, social promotion, and quality of life of rural men and women. Lastly, there is an entity that develops studies and research in agribusiness. Additionally, more than 2,000 local unions are part of the organization. They are responsible for supporting rural producers in the Brazilian cities. The union supports the generation of

new technologies that can assist the producer in planting and management and the creation of agribusiness responsible for increasing rural productivity.

Finally, we conducted an interview with the representative of the sustainability department of a slaughterhouse. The slaughterhouse is one of the leading beef companies in the world. The company has 35 production units in America, and eight of these production units are located in the Legal Amazon. The company operates in different parts of the world, based on the demands and needs of each region. The company's official website presents its organizational values, including relationships with customers, suppliers and other partners; company development and shareholder value creation; commitment to the production chain with operational excellence and sustainability; and, respecting the community in which the company is inserted.

According to its official website, the company has sustainable development as a business strategic pillar. The slaughterhouse adopts a production model that respects the legislation, the environment, and animal welfare. Production is monitored by a quality team, which audits and certifies manufacturing procedures and practices. Compliance to the firm internal regulation ensures that all the processes comply with international guidelines on worker safety, environment, animal welfare, social responsibility, quality and food safety. Table 14 introduces some of the slaughterhouse certifications and the number of production units that are certified.

The company has maintained a public commitment to zero deforestation in the Amazon region since 2009 (Public Livestock Commitment). Interviewee R explains that “from this, the company structured a sustainability sector there since 2010, and then this sustainability sector has been working with other members. Then, we are part of GSB, we participate in some discussion tables in Argentina”. In 2010, the firm developed a program that encourages its suppliers to apply best farming practices. The program is based on three pillars: animal respect, social respect and environmental respect.

Certification	Description	Certified Units
American Meat Institute (AMI)	International standards for the guarantee of animal welfare rights.	11
BRC	BRC Global Food Safety Standard	11
ISO 14001	Evidence of environmental responsibility and compliance with the legislation of environmental agencies.	9
OHSAS 18001	Care and concern for the physical integrity of employees, as well as the company's commitment to health, hygiene, and safety at work.	9
ISO 22000	Ensuring the efficiency of measures to guarantee the safety of food produced for human consumption.	5
Global Standard for Food Safety (GSFS)	A protocol developed by the British Retail Consortium to specify operational safety and quality criteria required to comply with legal and consumer protection obligations.	5
Rainforest Alliance Certified™	Guarantee of environmental, social and economic sustainability in agricultural and forestry processes.	3
Certified Organic Beef	Allowing the exportation of organic beef to the United States, the European Union, and Canada.	3
SA 8000	Ensuring human rights in the relationship with employees.	2

**Table 14 - Slaughterhouse Certifications**  
Source: Slaughterhouse Official Website (2019).

In 2018, the slaughterhouse was recognized by the Carbon Disclosure Program (CDP) Forest Program for its efforts to reduce deforestation in its value chain and consequently reduce the greenhouse gas emissions. Additionally, the company has a global anti-corruption policy to advise employees, stakeholders and third parties on anti-corruption guidelines on prohibited practices, anti-money laundering, accounting records, preventive measures and internal control mechanisms.

We have a program with Embrapa, so we recommend producers to implement the carbon neutral chain. Understand that we have our field days, but the producers are hardly looking for us [for more information about sustainability and other related issues]. Understand that this type of service is not a type of service linked to the slaughterhouse. For this, there are promotion tools like Emater, Senar, they have a much larger staff, even Embrapa is doing this kind of support (INTERVIEWEE R).

The slaughterhouse links to diverse organizations to develop sustainable initiatives. The firm established a partnership with Embrapa for Carbon Neutral Brazilian Beef (Carne Carbono Neutro – CCN) and Low-Carbon Brazilian Beef (Carne de Baixo Carbono – CBC<sup>13</sup>).

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<sup>13</sup> Carne de Baixo Carbono (CBC – or Low-Carbon Brazilian Beef in a free translation) refers to beef production in integrated systems or not, with pastures without trees. Based on the proper pasture treatment pasture, there is an improvement in the soil quality and its carbon storage capacity. CBC is supported by a slaughterhouse, and the partnership aims to bring low-carbon beef to the market (EMBRAPA, 2018).

These certifications ensure that meat is produced in systems that neutralize or reduce the emission of methane emitted by animals. The company is associated with the Ethos Institute, responsible for promoting and disseminating socially responsible business practices. The slaughterhouse is also a full member of GTPS. In the next topic, we discuss the relationship of the slaughterhouse, union and cattle ranchers with GTPS, as well as the influences of the Roundtable discussions on this supply chain sustainability.

## **6.2 Sustainability in a Brazilian Beef Supply Chain: the influences of the sustainability dissemination**

In this topic, we seek to understand the influences of Roundtable discussions on sustainability in the Brazilian beef supply chain. In other words, we aim to understand the dissemination process of sustainability in supply chains through the roundtable. According to the previous section, the dissemination process of sustainability starts at the Roundtable discussions and interactions. In this context, we highlight that supply chain members are full members of GTPS. Thus, we first address the engagement of each respondent with GTPS, and, finally, the influences identified in the supply chain businesses. To analyze this influence, we identified three categories discussed posteriorly in this topic.

Regarding GTPS membership, respondents stated that they have been participating in Roundtable discussions for at least a year. Interviewee P says “I don’t know... 2016, maybe 2015. It was 2015, after the [Brazilian] elections”. Interviewee R affirms that “I have been working with the company since 2014, since 2016 I participate in GTPS”. In turn, interviewee Q did not specify the beginning of the GTPS membership; however, he emphasizes the importance of “opening a dialogue with the supply chain as a whole, as we were concentrating our actions from inside the [ranch] gate, we needed to take it from outside the [ranch] gate”. The respondent continues by saying “from that moment on, it was the moment when these initiatives were reunited in the GTPS. So that these benefits, these efforts to develop an increasingly sustainable agriculture, would pass through the whole supply chain until reaching consumers and consumers. From there, we integrated GTPS”.

Interviewee O affirms “our entity is the national representation, this membership was missing. So, we started to participate so that we could really take the image of the producer from the rural area the way we imagine in here”. The respondent adds that “we joined the GTPS in the middle of last year [2017], the union. It was an older claim. It was already under discussion for three or four years, the union entry”.



There was still no involvement of the coordination of my area. It was not yet involved with sustainability. But then, at the end of last year, or middle of last year, it was decided that we would have a more active participation in relation to sustainability and demonstrate that the producer is really sustainable. That we had to embrace the cause a little more. We couldn't just talk to each other, we had to go and discuss and show our version. So we've been around GTPS now, more than a year maybe (INTERVIEWEE O).

The GTPS issue was the presence of representatives of the producer in the discussion. What was happening was that GTPS had this participation of other producers, of course. But we were missing our representation of the producer inside [the GTPS]. The discussions are happening, some actions were being deliberated and we were not being part of this discussion. The producer was not thinking we were not part of this discussion. We were not representing the producer in this discussion, presenting this profile of this important discussion. So there was this deliberation that we should participate, should get involved. Even we got so involved that I am the [Content and Advocacy work] committee coordinator. So we decided that we were going to get involved with this subject (INTERVIEWEE O).

Given these statements, we verified that the organizations studied have been full members of GTPS for at least a year. Therefore, they already attended at least one general assembly and one extraordinary assembly. In addition, as part of some work committee, they attended other meetings with GTPS full members. This information is important for understanding the influences of Roundtable discussions on the supply chain sustainability. Based on the interviews and the document analysis, we identified three categories of influences: sustainability initiatives defined before Roundtable meetings; meaning of sustainability; and, GTPS discussion and implementation.

The first category refers to **sustainability initiatives defined before Roundtable meetings**. These criteria relate to compliance with the Brazilian legislation mainly by the slaughterhouse. When asked about sustainability criteria in the selection of suppliers, interviewee R states that “yes, it is the criteria that we determined along with.... not having slave labor, not using deforestation area”.

From 2009. 2008 was when it happened. Let's say, from 2010 on here... What I mean is that all efforts in the production chain have started to turn to this theme [sustainability], because soon... That 'Farra do Boi' [Slaughtering the Amazon report] was published (...) 2009? Oh yeah, that makes sense... That's right... It was 2009... When the spotlight turns to production, people said “ops, we'll have problems”, then started to devalue brand, turns a race to suit... (INTERVIEWEE R).

As a result of the pressures from Greenpeace and the Brazilian government, especially after the publication of the report 'Slaughtering the Amazon' in 2009, the slaughterhouse

signed a Conduct Adjustment Term (TAC). The company started then to require its suppliers some evidence that they are not involved in deforestation and slave labor. These themes aligned with the challenges of sustainability in livestock – deforestation, GHG emission, and social issues. Producers can supply cattle to the slaughterhouse when they guarantee a commitment to not use slave labor or similar to slavery and child labor and to not produce cattle in indigenous reserves, protected areas and embargoed areas, or in deforestation areas. The slaughterhouse created the Club to support suppliers regarding sustainability.

According to the slaughterhouse official website, the Club was an initiative created in 2010. The initiative aims to encourage the development of rural properties of the suppliers to ensure safer production and fewer environmental impacts. The Club is supported by three pillars: respect to the environment, respect to the society and respect to the animals. Suppliers receive periodic training on issues related to these pillars. The Club Sustainable Practice Guide, available on the official website, seeks to improve the relationship with the producers, sharing information and awareness on issues related to the legal production, safe and sustainable beef. The Guide includes information on animal health, traceability, animal feed, animal welfare, social respect, and environmental respect.

We have the Club that we disseminate best practices with those who provide us. Within this Club, we have producers who are already coming... It is as if it were a tendency to the GTPS GIPS, because they are producers that already have a certain development in relation to the pillars that we here in the company have determined, which are the pillars of sustainability, social development, environmental protection and economic profitability (INTERVIEWEE R).

Table 15 presents the meaning of each Club Sustainable Practices Guide topic.

<b>Topic</b>	<b>Description</b>
Animal health	To have healthy animals, it is necessary to have procedures that seek the prevention, detection and early adoption of animal disease control measures, thus ensuring a safe food supply chain.
Traceability	Tracking the animals is nothing more than guaranteeing the origin and quality of the product offered, making it possible to identify the safety and compliance with the legislation during animal breeding.
Animal feed	We understand that for a better guarantee of waste immune food production we should pay special attention to animal feed.
Animal welfare	Animals should be treated with dignity throughout their life cycle.
Social respect	As part of society, cattle ranches have a responsibility to meet social and labor obligations
Environmental Respect	We value the proper management of natural resources in compliance with environmental laws, as well as being a market trend and requirement.

**Table 15 - Meaning of each Club Sustainable Practices Guide topic**

In addition, the official website presents that the slaughterhouse has georeferenced maps of all its suppliers in the Amazon Region. The mapping provides geospatial analyzes with supplier data and identifies whether they are in accordance with the Amazon Biome. Interviewee R explains “what we have in our report is what we have been doing for some years now, which is monitoring our supply chain, and it is monitored as if it were an outsourced company. They make comparisons of the farms’ geolocation”. The respondent continues by saying that this is a practice adopted by other companies. “It is not much different from what the market has done, so much so that the company, not only our company, but other biggest slaughterhouse has been working to standardize efforts in this type of monitoring, aiming at a reduction and an effective gain” (INTERVIEWEE R).

Interviewee R highlights “the commitment we sign saying that we will not buy deforestation or illegal area... Only we know the cost that adds us”. The respondent adds “we followed this line of monitoring, but only we doing not make sense. We also have to involve the other members... And then... It’s the GTPS, which is a roundtable that we will have contact with who is a producer, contact with who is a retailer...”. According to the interviewee, the supply chain members engage with practices toward supply chain sustainability.

We have a problem, right... The biggest ones [slaughterhouses] do this monitoring, since the smaller slaughterhouses are not so charged for this type of monitoring. You see, it is a cost that we have to absorb in our production that other slaughterhouses do not have this cost, let’s say... Especially these regional slaughterhouses (INTERVIEWEE R).

We also question the producers about sustainability practices adopted previously to the formalization of the GTPS. According to Interviewee P, “it’s not that we need to be sustainable, we are naturally sustainable”. The respondent affirms “sustainability is the concept of breeding management that considers preservation, conservation and soil improvement that is the basic tripod for livestock to have good productivity and good profit... It’s not that I’m in doubt if I’m sustainable, I am sure I’m sustainable”. The producer considers that all practices for soil improvement and productivity increase make their production more sustainable. Additionally, the interviewee perceives the adoption of these practices is fundamental for those cattle ranchers who wish to stay in the livestock activity. These practices are inherent to the livestock activity.

However, in relation to supply chain sustainability, the producer understands that the adoption of sustainability practices is a focal company role. In his opinion, what needs to be

done is to improve the relationship between cattle ranchers and slaughterhouses. Interviewee P comments on this relationship, stating “there is a difference, where they were the biggest slaughterhouses and more 15... And we are 29 million heads in Mato Grosso, 24 million in Mato Grosso do Sul... Until joining all these people... Is not easy to manage two million farmers, it is difficult, we are very numerous...”. The respondent also says “it is a lack of maturity between the parties. And then when one does not want two do not fight. We have to be more mature, whether I like the industry or not. We need to be more mature”.

Who will have to worry more about this part [supply chain sustainability] are the industries [slaughterhouses]. We'll have to improve our relationship with the industry. If we don't tune their ukulele with our accordion the industry will be charged who it is charging if we're working legally. As it does not know us and we do not know the company and the relationship is not good, because the industry is often not right with us and we are not right with them... We have to have a better dialogue so that the supply chain strengthens itself more in this member... We have to understand each other in a better dialogue (INTERVIEWEE P).

Interviewee Q believes that the adoption of sustainability practices depends on the type of rural property. The respondent states that “yes, we have a very wide spectrum of types of ranchers, product technology. It depends on the stratum you're analyzing, right”. According to the Interviewee, producers who invest in intensive livestock clearly have a concern with the international market, “compliance with protocols, certifications, actions that are required by the international market. The small [producer] no, the small, he wants to settle this eventual liability, so he doesn't care about that, he worries about production” (INTERVIEWEE Q). Thus, the type of rural property influences the type of sustainability practice adopted.

Often the cattle rancher, he is that guy who was born there on the farm, took over a farm that has been operating for many years that way and if we do not go there to bring technology, do not go there to bring compliance, he won't adopt, thinking he's doing the right thing. It is very difficult. Then, the agencies, like IBAMA, appear there to tax. Now, nobody asks “do you need any licensing? Do you need any guidance? Do you need something, an advisory?” It does not appear, now to tax him it appears (INTERVIEWEE Q).

Regarding sustainability in the supply chain, the producer follows what is required by the slaughterhouse. According to Interviewee Q, “in fact, we follow a question that is required [by the focal company], a question of environmental compliance because I use official credit. So I have to always be together, complying with all the legislation that is required”. The

slaughterhouse requires the producer to comply with Brazilian current legislation. The respondent affirms that “the beef supply chain, it as a whole, it has been adapting to it [sustainability issues] and I work with it and I see that, increasingly. The supply chain is adapting to these actions, very important this issue of providing this knowledge”.

Finally, the union already discussed sustainability issues with their associates, previously to the GTPS formalization. According to Interviewee O, different issues related to the agriculture development were addressed, especially to separate livestock as a vector of deforestation. The debate of sustainability links to the efficient use of natural resources, soil, water, and pasture, for example. However, there is no prerequisite or criterion related to the adoption of sustainability practices in the union. There are also no criteria regarding sustainability practices in the supply chain.

Until then, until the renewal of CLT (Consolidation of Labor Laws in 2017), union representation was mandatory. So, there were no requirements, prerequisites to be associated. All cattle ranchers in Brazil today are represented by us, regardless of whether they are associated or not. So we represent the producer regardless of whether he wants to or not. (...) We emphasize that he should be always more productive, we always emphasize good production practices, but whether he is doing it or not... then...  
(INTERVIEWEE O)

In this scenario, we verified that the slaughterhouse adopted sustainability practices in its supply chain previously to the GTPS formalization. These practices mainly linked to criteria for supplier selection. As already mentioned, the focal company is commonly held responsible for supply chain problems because of its influence, power, legitimacy, and urgency in the supply chain. Thus, the sustainability practices in the supply chain are an answer to the pressures made by Greenpeace and the Brazilian government to the focal company. The motivation for the adoption was the compliance with the Brazilian Forest Code, Brazilian labor law and other current legislation. The topics of the Club Sustainable Practices Guide shown in Table 15 have compliance with the Brazilian legislation as the main purpose. We understand that these practices are reactive.

Since the adoption of these practices defines who can be a slaughterhouse supplier, coercive pressures lead producers to adopt the sustainability practices and follow the guidelines presented in the Club Guide. Otherwise, the focal company may discontinue the supply contract. Moreover, producers and other stakeholders didn't discuss these supplier selection criteria. The focal company defined the criteria based on current legislation, market trends and the challenges to be faced by the beef industry. Therefore, the dissemination

process of sustainability to criteria defined previously to the Roundtable discussions occurs through coercive isomorphic mechanisms, from the focal company to the cattle ranchers. This issue may contribute to problems in the relationship between producers and slaughterers.

Aiming to control the suppliers in the Legal Amazon Region, the company uses maps georeferenced with suppliers' data. However, the Interviewee R quote "since the smaller slaughterhouses are not so charged for this type of monitoring" highlights that the company monitors its suppliers because it is charged by the government to do this type of control. Therefore, the company only makes this type of monitoring because it has to do to comply with the legislation. Finally, the union was already debating sustainability issues prior to the formalization of the GTPS, but these issues do not represent criteria for membership or supply chain sustainability.

Even though sustainability practices emerged before the GTPS formalization, we understand that the discussion and presentation of these practices during the meetings contribute to the dissemination of sustainability. Thus, Roundtable meetings allow stakeholders to discuss what they were doing previously to the group creation and enable new partnerships to be developed and disseminated. In this sense, we justify the inclusion of this category. For instance, the slaughterhouse has been developing sustainability initiatives, aligned with market demands, in partnership with other stakeholders, such as producers, Embrapa, and other government agencies.

The second category is the **meaning of sustainability** for the supply chain members. Interviewee Q relates livestock sustainability to implement practices and control those practices in a way to "prove that livestock is much more sustainable than expected". The respondent affirms that sustainability "is to monitor, to see verification and monitoring mechanisms to prove this. We already have several initiatives in this direction [sustainability], quantifying this, but we still think we have to go a long way to prove it".

Sustainability in our area, agriculture and livestock, is the competent use of natural resources so that we can make productive returns within this area, produce food, produce biofuels, natural fibers in a way that we can maintain natural resources, optimizing the use of natural resources for the economic and social development of rural areas. (...) So that we can maintain this for the next generations, as is the general concept of sustainability (INTERVIEWEE Q).

Interviewee R states that sustainability links to the increase of productivity and the improvement of products used in livestock production. According to the respondent, "what I

see are animals produced in the shortest time, with better management and restricted use of probiotics. Because today, we know we have no control over this. (...) The use of antibiotics... the tendency is that all this in the future will end... (...) Stop using it, I think is unlikely, but to not have excesses". Following the same logic, respondents O and P understand sustainability as increasing productivity and reducing environmental impacts. Interviewee O says that "for me sustainability is production, so in a way to not lead to exhaustion. May it always be renewable and always producing more with less, let's say". The respondent continues by saying the union perspective.

The union vision is that it has to have a great preservation. It has to have the preservation of this man in the field. It has to be economically viable. We participated a lot in the discussion of the new GTPS concept... (...) We participated a lot precisely because sustainability has to come along with production, with productivity. It will be a result of this technology improvement. So we need to work very well the cattle rancher too (INTERVIEWEE O).

Interviewee P affirms "sustainability for me, I summarize in a very practical way. I am sitting here in my farm's office, a farm that belonged to my grandfather inherited from my great grandfather. (...) So, sustainability for me, in my direct case, is inheriting something and having productivity four times higher". The respondent adds "we are working in a sustainable and right way and we will double our productivity. Livestock is moving towards precision rather than intensive livestock. Brazil has all the potential for growth, maintaining this sustainability". Following this idea, this interviewee continues by saying that "Brazil is a country with an aptitude for agriculture, livestock... We don't need to open any more area... But what we need is better genetics, better management, working consciously that can produce cheaper and cheaper, and with more quality". "So that has to preserve where it is possible and produce where it is possible" (INTERVIEWEE P).

Sustainability is improving what you have inherited by making it better for my children to do their best, more correctly. That can have more productivity, no wastage, no degradation. It's not just the environmental part. It's the genetic part that animals were slaughtered. It is the feeding part. Sustainability can only be said and really affirmed where you have a whole technology package, genetics management, pasture... From a set of things, a dynamic technology package, it is not static, each year has news. Like genetics... And will come in with new generations that have more balance... Is a long talk... Is a technological package that you doing the right way, you will produce with much more quality and protecting even more .. I can't harm the environment if I depend on it to survive. So, the environmental part for me is fundamental because it gives my livelihood and sustains it to who I

produce. So, this misconception that society... With some kind of wrong ideology makes the cattle rancher a villain, but on the contrary. We are the ones who produce all the things that make society work (INTERVIEWEE P).

In this context, the concepts of the interviewees are similar, showing that they share sustainability meaning. We expected that the meaning of sustainability to be shared by the interviewees, based on the interpretation of the supply chain as an organizational field. Actors in the same organizational field share concepts and definitions. Moreover, the meaning of sustainability disseminated by the GTPS aligns with the respondents' meaning. Sustainability links to improve productivity, increase profitability and generate benefits for the environment and the society by reducing deforestation, GHG emissions, biodiversity loss, forest fires, and social problems. Table 16 summarizes the meanings of sustainability.

Actor	Supply Chain Member	Sustainability Meaning
Interviewee O	Union	Increase productivity, by producing more beef with less natural resources
Interviewee P	Producer	Increase productivity and reduce environmental impacts for the next generations
Interviewee Q	Producer	Competent use of natural resources for the next generations
Interviewee R	Slaughterhouse	Improve the beef production with best production practices and control these practices
Roundtable	GTPS	Improve productivity, increase profitability and generate benefits for the environment and the society

**Table 16 - Sustainability Meaning**

Therefore, we consider the alignment of the sustainability meanings as part of the dissemination process of sustainability in the Brazilian beef supply chains. This process is possible through the Roundtable discussions. According to respondents, the meaning of sustainability and sustainable livestock has been widely debated since the GTPS creation. The dissemination of this meaning may occur through mimetic, normative or coercive isomorphic mechanisms. In the case of interviewees, it seems that dissemination occurred through any of the isomorphic pressures.

Interviewee P states “undoubtedly, the last few years is a way of no return” when we discuss livestock sustainability and the GTPS contributions. Considering the main contribution of the Roundtable discussions, different respondents point to the Sustainable Livestock Indicators Guide. Interviewee R affirms “I think the idea of GTPS is to set a standard for [livestock] activity. I think GIPS [the indicators guide] is already a big step in this... you know that a common monitoring tool was developed for everyone...”. Thus, the third category is **GIPS discussion and implementation**.



As discussed in previous sections, Sustainable Livestock Indicators Guide (Guia de Indicadores da Pecuária Sustentável – GIPS) is a tool for continuous improvement that aims to encourage beef supply chains stakeholders to improve their sustainability practices through the application of the indicators. The Guide is the largest consensus on what is sustainable livestock, involving the principles of management and support for the industry, communities, workers, environment, and value chain (GTPS, 2016). Supply chain members perceive the importance of the GIPS toward supply chain sustainability.

GIPS, despite its needs for improvement, today is the best we have (...) GIPS, which is today the tool that in the future will be the standard for understanding sustainability in the beef supply chain. It has all its problems and defects, but we are working to improve it. But today is the best solution we have. That the way it was done guarantees that (INTERVIEWEE R).

Regarding the discussions for the GIPS construction, respondent O highlights that the tool was developed to be applied to all stakeholders in the Brazilian beef supply chain. In other words, the indicators should be applied not only by the cattle rancher, but also by other organizations in the beef supply chains, so that everyone can measure their performance on the principles of sustainable livestock. In addition, the respondent comments on process of creation and developing the tool. GIPS development was a democratic and participatory process. This development involved at least one full member of each GTPS stakeholder groups. The final version was only approved by the totality of GTPS full members after stakeholder discussions in work committees, in the assemblies and external consultations.

I think it is extremely important that we may not want to charge from a specific point that it should be sustainable. We want to say is that the sustainable beef supply chain has to be from the producer, which is the base and is the largest number of organizations, the highest number of points, but it has to go to the focal point that is the consumer. It has to include even the service provider, has to consider the slaughterhouse, has to have all the stakeholders. So everyone needs to be in the same discussion, if sustainability is to be charged on one side, we have to have the same rules on the other sides. We need to have the same line, we need to have equal criteria to typify and be able to contribute to this sustainability (INTERVIEWEE O).

In this context, GIPS allows the same rule to apply to all players in the Brazilian beef supply chains. Applying this tool enables stakeholders to compare their results toward supply chain sustainability. The GIPS development was therefore collective. Indicators probably could not be developed by only an individual stakeholder in the Brazilian beef supply chain.

If developed by an individual organization, stakeholders potentially would not adhere to the indicators' application. This is because the tool would not be considered legitimate by other stakeholders. The discussions for the development of GIPS gave legitimacy to the tool.

The Guide is currently undergoing the first phase of applications. Pilot tests are being conducted with different stakeholders to verify the tool applicability. These test applications are voluntary. According to Interviewee R, the organizational level influence of GIPS occurred with the decision of the board to apply the tool in the company. The respondent explains that there was the “board involvement to see how this application will be like, here. For example, the application of GIPS, how are we going to do it? Are we going to apply it or not? Then, it was agreed that we would apply, then things will adapt”.

Yes, actually in our company, we respond and use as monitoring. Only apply to other suppliers we indicate, but is voluntary, if it wants to do, it does. We also try not to segregate many of our suppliers, because the other slaughterhouses will not segregate. Having this obligation can take away some potential supplier (INTERVIEWEE R).

When asked about requiring suppliers to apply sustainable livestock indicators, respondent R replies that the company's understanding is that the application of GIPS cannot be required. This is because they believe it can hinder the supply process. Thus, the respondent states that he does not have access to the results of suppliers who have already applied the indicators. “I know there are suppliers [applying the GIPS], but I can't make them pass me [the results]. I may even ask him if he knows, but demanding that he give it to me is not interesting... (...) Because in our understanding the GIPS role is much more so that the supplier fits what the market requires than he fits us” (INTERVIEWEE R). Moreover, the respondent explains that the company has a monitoring tool for the suppliers. According to Interviewee R, “GIPS is much more than monitoring. It is a tool for monitoring and evolving of the system. So if you have a structure, GIPS will give you a score and you have the options and information needed to improve that situation. It is a very complete tool”.

The producers seem to know about GIPS. However, they did not comment on the tool application. In turn, Interviewee O confirms that the union is applying the indicators to cattle ranchers – “I think there were 200 interviews”. The respondent comments on a problem verified in the pilot tests. Some GIPS principles are not clearly explained. Thus, producers may not understand their meaning and may not respond to the tool correctly. Interviewee O says “we have already started our part. Of course, we still have to do more, but we are still evaluating internally how we are going to present GIPS to our audience. It has a matter of

being quite complicated to explain, complex subjects”. This respondent affirms “doesn't matter to talk about drivers and things that aren't in the middle of him [the producer]. We need to speak what he understands. Of the production he is really involved in”. It is, therefore, necessary to review the description of the indicators before the final publication.

Given these considerations, we analyzed the GIPS development discussions and applications as part of the disseminating process of sustainability in the Brazilian beef supply chain, through the Roundtable. We understand that its construction process has legitimized the tool for all stakeholders and, because of that the main product of GTPS is GIPS. Although still in the first phase of the application, the expected contributions from the GIPS implementation are relevant to Brazilian beef supply chain sustainability. Since the discussion and implementation of GIPS are voluntary, we believe that the process of dissemination occurred through mimetic isomorphic pressures. Table 17 summarizes the categories of analysis of Roundtable's influence on the Brazilian beef supply chain sustainability.

Category	Dissemination Process through isomorphic pressures
Sustainability initiatives defined before Roundtable meetings	Coercive pressures
Meaning of sustainability	Coercive, mimetic and/or normative pressures
GIPS discussion and implementation	Mimetic pressures

**Table 17 - Categories of Analysis Summarized**

In the next topic, we address the GTPS role in the sustainable supply chain coordination based on the Brazilian beef supply chain studied.

### **6.3 Sustainable Supply Chain Coordination: the GTPS role in a Brazilian beef supply chain sustainability**

We aim to discuss some important points in this topic, highlighting the role of GTPS as coordinator of the sustainability in the Brazilian beef supply chain. The first point is the importance attached to GTPS by respondents. The respondents perceive GTPS as relevant and recognize the role of the Group in the beef industry, supply chains and organizations. Interviewee R affirms that the sustainability discussions in the slaughterhouse “started with the Greenpeace discussion. The dealings at the company are before GTPS, but where we have the most strength is with GTPS”. Interviewee O states that “the main GTPS product is precisely the Roundtable. It is precisely to have this communication, this joining of the

members to talk. Having everyone at the same table, I think, is the main achievement of GTPS”.

I think the biggest contribution is precisely to have the discussion. To have the time for you to argue, not just in theory, not just on one side. You have this interaction. I think this is the biggest contribution even to our sector and to the rural producer. For us to see other opportunities, discuss with other people who think differently from us. Thus, it always adds, it adds knowledge, it adds new questions. So this is the biggest, for me, the biggest gain (INTERVIEWEE O).

The space is a democratic environment. We will really have these discussions. Many times, things are adopted there that are best for us. But everything is voted. In my view, this is the best way to get somewhere. I believe that the strength inside ensures that sometimes not all interests are met, but you have something close to what you want to have. An indication of how the market will behave in the near future, a good thing to analyze and see what the future will be like (INTERVIEWEE R).

Respondents recognize the importance of GTPS as an open space for discussions and negotiations. The open space for discussion is inherent to the roundtable. When the discussion space is not open, the purpose of the roundtable cannot be properly achieved. Roundtables are arrangements based on deliberative democratic rationality because they offer an open and inclusive space for discussion (SCHOUTEN; LEROY; GLASBERGEN, 2012). Open space for discussion allows stakeholders to explain their concerns, problems, expectations, and goals. Open space provides space for sharing and solving complex sustainability issues. In other words, the open space provides the starting point for the disseminating process of sustainable practices in supply chains by allowing discussions among stakeholders. Successful roundtables offer a space to all stakeholders for open discussions on sustainability issues.

The second point is related to the diversity and quantity of stakeholders participating in the roundtable meetings. The participation of the greatest number and the most diverse stakeholders allows for better interactions and greater discussions on the themes. Therefore, the participation of all stakeholders is encouraged. Seuring and Müller (2008) affirm that supply chain sustainability requires integration and cooperation between all stakeholders. Thus, the explicit inclusion of NGOs, community members and competitors in the supply chain is needed (PAGELL; WU, 2009). In other words, it is necessary to include all the stakeholders that influence and are influenced by the supply chain business (PAGELL; WU, 2009; BESKE; SEURING, 2014).

Interviewee R commented on the importance of including all stakeholders, “that’s because it’s not the slaughterhouse speaking but the entire chain, all its members”. Interviewee affirms that “I think it is precisely to promote this integration of the members, of the supply chain members to the discussion of this subject”. Therefore, roundtables must be composed of several stakeholders from the same industry or supply chain. The proposal is that these various stakeholders have the same voice at the negotiating table, even if they are not focal companies or large companies.

I think when you participate into such a table. You have to be open to, giving up your concepts, what you want. You need to have a dialogue, otherwise you don’t get anywhere. (...) And precisely with our participation, we are trying to dialogue, to try a common agenda. So, you want to talk about deforestation, let’s talk about preservation, let’s see how we can help the producer to preserve, to not want to deforest, not have an advantage in deforestation. Because today is an economic advantage, it is land grabbing. So, we need to lose this opinion, we have to try to have an agenda together. Of course, there will be times when we will have different opinions, but that is why the roundtable is good. We have to be there with the idea, try to make a convincing and find a term that pleases most of the population and that we feel represented. While we do not find this point in common, then we need to continue discussing and evolving in the discussion [...] We have some internal meetings that we discuss what we want to seek in GTPS. What are the discussions that we want to increase or we want to reduce. And the biggest discussion we are having is how to promote the rural producer, how to show him that sustainability increases productivity. It’s viable. How can we do it, instead of talking about deforestation, how can we help the farmer avoid deforestation? So we have been trying to surround the house in other ways (INTERVIEWEE O).

In the third point, we emphasize the GTPS role for the Brazilian beef supply chain sustainability. The respondents understand that GTPS is responsible for the discussions regarding sustainable livestock. Interviewee R claims that the slaughterhouse has no intention of creating a roundtable to discuss sustainability issues in the Brazilian beef supply chains. The slaughterhouse’s role is in the supply chain management, while sustainability issues should be assumed by the GTPS. The respondent affirms “I think that this [sustainability in livestock] should be done via GTPS”.

This Roundtable is the main one that we are against it because it makes no sense to have two. GTPS is the main actor of this meeting. (...) No, I say like that, with the interest of setting up another Roundtable at the Club, no, there’s no such interest. If anyone wants to participate in the [sustainability] discussions must join the GTPS. The idea of the Club is just to verify the level of attendance of the practices that we believe (INTERVIEWEE R).

While we have other moments to discuss other issues, for example, there is the Sectorial Group of the Ministry of Agriculture to discuss various technical issues such as foot and mouth disease, such as beef quality. We have to have a place to discuss sustainability. I think the main point of GTPS is this, to have this moment on everyone's agenda for this meeting and to be focused on discussing it (INTERVIEWEE O).

Interviewee R explains that, in the slaughterhouse suppliers club, the participation follows the logic of a roundtable. According to the respondent, "it is more in the supplier register, in some cases on a few field days. It's not as structured as GTPS, that we have semiannual meetings, even quarterly meetings".

The demands that are dealt with there, for the most part they are already... our idea is that their solution is discussed there. For example, you often see NGOs charging zero deforestation, monitoring in the indirect supply chain. This discussion is also in here, we are trying to solve, but we hope that in a group like that [GTPS] the solution will come more completely, more people thinking of a structure that is more resistant (INTERVIEWEE R).

Finally, communication in the Brazilian beef supply chain is the fourth point. Interviewee R says "I think it's the dissemination of the idea of sustainable beef. They [GTPS] can make a much better advertisement, that's qualitatively. Quantitatively it's GIPS". However, interviewee P claims that "there we are few sustainable people in communication. We communicate poorly, this communication is, for the most part, very poorly done, very poorly conducted. It makes people who are unaware of our activity understand that we do not the correct". According to the respondent, communication with consumers needs to be improved. However, respondents emphasized the need for communication with the definitive stakeholders of the Brazilian beef supply chain, especially the relationship with the producer.

When a producer adopts sustainability issues, adheres to new forms of production and shows it to other producers, they tend to look, see that it is working, and copy. And that is one of the easiest forms of dissemination. That is really show that it is viable, which adds to the producer. So it's not that he doesn't want to join other people, but he is seeing a producer who is really doing and is working. It is not theoretical. So I think it's a lot more from this side, he can see something in practice that works that the other producer is making money or he is drawing, is having some kind of benefit. You are really seeing the potential of that there (INTERVIEWEE O).

The farmer is aware that he needs to meet these minimum requirements and if he has the capacity and ability to exceed these minimum requirements through certification, labeling, tracking or any other mechanism that proves the sustainability of Brazilian agriculture. He is ready to do as long as he can do it, to absorb risks. Today, the producer is very aware of this, that he has this role of sustainability, that he needs the Payment Program for Environmental Services, because he provides environmental service on his property (INTERVIEWEE Q).

Given these considerations, we understand that these points highlight the perceived importance of GTPS by supply chain members. Therefore, we assume that GTPS has the role of coordinator of the sustainable supply chain, being responsible for the sustainability discussions in the Brazilian beef supply chain. Sustainable Supply Chain Coordination is the control of the impact of individual actions (for each stakeholder) to achieve sustainability objectives in the supply chain business. The coordination links to the influence of internal actions on the sustainable supply chain, and the governance of the relationship between partners.

Focusing on continuous improvement rather than certifications, GTPS shares definitions, values and sustainability initiatives in the supply chain, since sustainability is already legitimized criterion. Roundtable aims to influence organizations to adopt sustainability initiatives and encourage stakeholder engagement and partnership for supply chain sustainability. GTPS offers an open space for sustainability dissemination, based on the participation of the diverse and numerous stakeholders of the supply. The tool for monitoring and controlling organizational actions for the sustainability of the Brazilian beef supply chain was developed by Roundtable. During the research, the tool – GIPS – was in pilot tests.

Therefore, we understand that the slaughterhouse, as a focal company, is responsible for managing the supply chain business. Slaughterhouses are responsible for determining the sustainability criteria in the supply chain business. These criteria relate to reactive issues. Dissemination occurs mainly through coercive pressures. In turn, GTPS is responsible for coordinating the sustainable supply chain. The Roundtable must provide the space for the livestock sustainability discussions. Dissemination occurs through mimetic, normative and also coercive pressures. We believe that not being responsible for managing the sustainable supply chain explains the Roundtable influence on beef supply chain sustainability.

In this section, we analyzed the influences of the Roundtable discussions on the Brazilian beef supply chain sustainability. Therefore, we identified three categories of influences: sustainability initiatives defined before Roundtable meetings; the meaning of sustainability; and, GIPS discussion and implementation. We examined these categories as

part of the disseminating process of sustainability in the Brazilian beef supply chain through the Roundtable. The dissemination process occurs through isomorphic pressures (coercive, mimetic, and normative). The Roundtable contributes to the dissemination of definitions, values, and successful initiatives, between the stakeholders in the Brazilian beef supply chains. Supply chain sustainability initiatives were adopted before the beginning of the Roundtable discussions. They were adopted to comply with the legislation.



## 7 SUMMARY OF THE RESULTS AND DISCUSSION

In this section, we summarized the main findings of this study regarding the research question and the research purposes. This study aimed to analyze the dissemination process of sustainability in a Brazilian beef supply chain, through the multi-stakeholder partnership roundtable. We understand dissemination as the diffusion of initiatives and practices from external and/or internal organizational influences that contribute to this propagation. We argued that efforts to disseminate sustainability in supply chains are more complex when the first movement does not start from the focal company. This complexity requires the establishment of new discussions and new partnerships between organizations in a supply chain. In this context, we assume that multi-stakeholder partnerships (MSPs) seem to be a good strategy to deal with the complexity and challenges of supply chain sustainability. Several initiatives can be considered MSPs, including roundtables.

Therefore, in this thesis, the argument defended is that when the first sustainability movement starts from a stakeholder; the specific multi-stakeholder partnership roundtable seems to be an alternative to understanding how the dissemination process of sustainability in the supply chain occurs. This is because efforts to disseminate sustainability in the supply chain are more complex when the first movement is not initiated by the focal company. Based on this argument, we assume that the roundtable contributes to the dissemination of sustainability in supply chains.

The argument defended in this thesis is aligned with Searcy's (2017) argument. The author argues that multi-stakeholder partnerships must play a critical role in developing supply chain sustainability. These partnerships are relevant to address many of the inherent complexities in sustainable supply chains, such as a large number of stakeholders and the need to balance economic, environmental, and social conditions across the supply chain. Additionally, we move forward by proposing that the specific multi-stakeholder partnership roundtable explains and contributes to the dissemination process of sustainability in a supply chain, particularly when the first movement towards sustainability is not initiated by the focal company.

To defend our argument, we used as theoretical support the institutional theory, supply chain approach, and sustainable supply chain management, sustainable supply chain coordination, and roundtable concepts. The institutional theory allows a better understanding of the dynamics and interactions among the actors in the organizational field. This theory provides a lens to understand the pressure that organizations exert on others to adopt

sustainability initiatives in the supply chain. Therefore, we use the institutional theory because this theory facilitates the understanding of this dissemination process. Particularly, we focused on the isomorphism concept to understand the dissemination process of sustainability in supply chains.

We also emphasized the sustainable supply chain coordination concept. Understanding that supply chain coordination and management are complementary but, simultaneously, distinct concepts, we defined the concept of sustainable supply chain coordination and differentiated it from the sustainable supply chain management concept. The coordination refers to the influence of internal actions on the sustainable supply chain, while the management refers to the management of supply chain strategies, operations, and actions aiming at sustainability.

Therefore, we propose a conceptual framework that comprises the role of the roundtable and its influences at the supply chain level and the organizational level toward the supply chain sustainability. We incorporate isomorphic pressures which explain the dissemination process of sustainability in supply chains through the roundtable. We also distinguished the isomorphic pressures that contributed to the emergence of the roundtable and the pressures that contributed to the spread of sustainability in the chain. Thus, we offer a more comprehensive conceptualization of the dissemination process of sustainability in supply chains, especially when the first move towards sustainability comes from a different stakeholder – not the focal company. We focused on the roundtable, particularly because of its characteristics; however, we believe that our argument and framework can be used as a basis for developing other frameworks and studies.

In order to develop this qualitative research, we conducted a case study. We selected the Brazilian Roundtable on Sustainable Livestock (BRSL) or the Grupo de Trabalho da Pecuária Sustentável (GTPS), since the organization has been stimulating the adoption of sustainability initiatives in the Brazilian beef industry and supply chains. In this thesis, we used GTPS for the same meaning as BRSL. We organized the empirical part of the research into two steps. The first phase aimed to investigate the context and to explore the problem. We conducted 14 semi-structured interviews with experts from the beef industry and academia. In turn, the second phase aimed to analyze and explain how the phenomenon and the context were observed throughout the research. We observed six meetings using a research protocol and we also conducted semi-structured interviews with supply chain members. We interviewed two cattle ranchers, the livestock union director, and the sustainability manager of the slaughterhouse.

Grupo de Trabalho da Pecuária Sustentável (GTPS) was formally constituted in 2009, in São Paulo, Brazil. The main purpose of the GTPS is to discuss and to formulate the common principles, standards, and practices adopted by the beef supply chains to build sustainable, fair, environmentally correct and economically viable livestock. In order to achieve its main purpose, GTPS organizes a continuous Roundtable to discuss sustainability issues in the Brazilian beef supply chain. Therefore, the group is organized in a roundtable format, created to discuss and to formulate principles and common practices for the development of sustainable beef production in Brazil.

Results indicated that the first discussions on livestock sustainability are a reactive response to the reports published by NGOs. The documents reported that livestock is, directly and indirectly, responsible for deforestation in the Legal Amazon, as well as for greenhouse gas emissions, problems with slave labor, and violation of human rights. GTPS emerges, therefore, as an initiative of the diverse stakeholders in the Brazilian beef supply chains to respond to the challenges related to livestock sustainability. Considering ten years of its formalization, the main product of the Roundtable discussions is the Sustainable Livestock Indicators Guide (GIPS). GIPS elaboration and publication, debates on sustainable livestock, and the integration of the diverse stakeholders of the Brazilian beef supply chains are the main contributions of the group.

Additionally, we identified the current challenges facing the beef supply chain. The challenges were organized into three categories: deforestation, GHG emissions, and social issues. Regarding deforestation, interviewees highlight the qualification and measurement of deforestation rather than zero deforestation. Related to GHG emissions, government partnerships, and proactive initiatives were aspects mentioned by the interviewees. Finally, social issues are linked to work conditions, compliance with Brazilian labor legislation and relationship with communities.

Our results are aligned with Schneider's (2016) findings. The author analyzed multi-stakeholder governance in the Brazilian beef value chain. According to the author, multi-stakeholder initiatives are a relatively new phenomenon. However, they addressed solutions to the challenges related to changes in the institutional environment, especially those regarding to environmental, social and economic issues. These challenges could not be addressed individually by the stakeholders. Additionally, we followed the recommendation proposed by Silva, Fritz, and Nunes (2017). The authors suggested future studies addressing the specificities of the country and the meaning of sustainability in supply chains in Brazil.

Following the presentation of the panorama of the Brazilian beef supply chain sustainability, we identified stakeholders of this supply chain based on the typology of Mitchell, Agle, and Wood (1997). We classified as definitive stakeholders the producers, slaughterhouses, suppliers and services, financial institutions, retail companies and restaurants, non-governmental organizations, and trade associations and unions. As dependent stakeholders, we classified the collaborators (universities, research centers), government agencies, and GTPS. We also classified the Greenpeace as a dominant stakeholder, the consumer as a discretionary stakeholder, and the media as a nonstakeholder. This classification allows us to understand the priority given to stakeholders considering the concepts of power, legitimacy, and urgency.

Posteriorly to the stakeholders' identification, we analyzed the stakeholder interactions during the Roundtable meetings based on the following categories: the conduction of the discussion, the content discussed, and how decisions were made. According to the observations, we identified that conducting interviews is usually done by a facilitator. This facilitator is responsible for presenting the topic discussed, organizing the order of the speeches during the discussion, and closing based on the discussion. This discussion closing can be a summary, a conclusion or even a vote on the subject discussed. The facilitator can be a GTPS member or an external person.

In this context, the contents discussed relate mainly to the application of GIPS, payment of environmental services, communication strategies, and planning of GTPS activities. Decisions are made by consensus or by vote. Therefore, we identified that the dissemination process occurs during the stakeholders' interactions and discussions at the Roundtable meetings. The process also includes the influences at the supply chain and organizational level, after the roundtable meetings, when representatives return to their companies to share what was discussed with other stakeholders.

Aiming to analyze the influences of the Roundtable discussions on the Brazilian beef supply chain sustainability, we identified three categories of influences: sustainability initiatives defined before Roundtable meetings; the meaning of sustainability; and, GIPS discussion and implementation. We examined these categories as part of the disseminating process of sustainability in the Brazilian beef supply chain through the Roundtable. The dissemination process occurs through isomorphic pressures (coercive, mimetic, and normative).

Results indicate that the Roundtable contributes to the dissemination of definitions, values, and successful initiatives, between the stakeholders in the Brazilian beef supply

chains. Supply chain sustainability initiatives were adopted before the beginning of the Roundtable discussions. They were adopted to comply with the legislation. In this context, we understand the importance of GTPS for the Brazilian beef supply chain sustainability and its role as sustainable supply chain coordinator – and not the sustainable supply chain manager. The management of the supply chain sustainability is a role played by the slaughterhouse in the Brazilian beef supply chain analyzed.

Thus, in this study, we highlight the perspective of a different stakeholder in the supply chain, as recommended by the literature (MONTABON; PAGELL; WU, 2016; PAGELL; SCHEVCHENKO, 2014). We also emphasize the sustainable supply chain coordination concept and its difference from the sustainable supply chain management concept. According to our results, these roles can be performed by different stakeholders. Thus, we need to understand the dissemination process of sustainability, especially when the first movement toward sustainability is not started by the focal company and when coordination and management of the supply chain can be played by different stakeholders.

Furthermore, we reinforce the need to understand the dissemination process of sustainability in the supply chain when the pioneering company is another actor than the focal company – as suggested by Silvestre (2016). This study emphasizes the role played by the Brazilian Roundtable on Sustainable Livestock to the Brazilian beef supply chain sustainability. Therefore, we contribute to the supply chain sustainability, multi-stakeholder partnerships, and beef supply chain literature.

## 8 FINAL CONSIDERATIONS

In summary, results indicate the Roundtable contributes to the dissemination of concepts, definitions, values, and successful initiatives since sustainability is already legitimated in the Brazilian beef supply chains. Being a member of the Roundtable gives legitimacy to organizations, since sustainability is a relevant criterion in the Brazilian beef supply chains, improving their reputation with their stakeholders and the international market. Organizations thus seek to adopt legitimized practices through isomorphic pressures or to legitimize their initiatives with stakeholders. These processes occur at the Roundtable meetings. However, although the Roundtable enables the dissemination of sustainability, compliance with sustainability legislation is the main practice in the supply chain businesses. The adoption of these practices occurred previously to the entry of supply chain members into GTPS. Thus, the contributions of Roundtable's sustainability discussions are unclear to the supply chain business.

Considering the empirical evidence of this study, we understand that the research question was answered – how does the multi-stakeholder partnership roundtable influence the dissemination of sustainability in a supply chain? The research objectives were also achieved – the main research purpose is to analyze the dissemination process of sustainability in a Brazilian beef supply chain, through the multi-stakeholder partnership roundtable. Additionally, we defend the research argument and assume that this argument is correct. Roundtable contributes to the process of disseminating sustainability since this process begins at Roundtable meetings. In this context, we emphasize four contributions of this study.

First, we contribute to the study of inter-organizational relationships since we explore a new relationship configuration between diverse organizations – the roundtable. The roundtable has specific characteristics that enable more interaction and participation among stakeholders (SCHOUTEN; GLASBERGEN, 2011; PONTE, 2014; DE MAN; GERMAN, 2017; CASTRO; SWART, 2017). Understanding the influences of this new configuration seems to be a good direction to understand the dissemination process of sustainability in a supply chain. This understanding was enabled by the theoretical support of the institutional theory, whose concepts allow a better understanding of the dynamics and interactions among the organizations.

Second, we investigated the contributions of the Roundtable to the dissemination process of sustainability in the supply chain, following the recommendations in the literature related to the inclusion of different stakeholders' perspectives (PAGELL; SHEVCHENKO,

2014; MONTABON; PAGELL; WU, 2016). The focal company perspective has been ostensibly explored in the literature (MONTABON; PAGELL; WU, 2016). We present empirical evidence on the role of different actors toward supply chain sustainability. Understanding the dissemination process of sustainability through the Roundtable seems to be a good direction to recognize the role of different actors for supply chain sustainability. Particularly, this study contributes to the understanding of the dissemination process of sustainability in supply chains when the first movement does not start with the focal company.

Third, this study contributes to the evidence of the concept of sustainable supply chain coordination. SSCC refers to the influence of internal actions on the sustainable supply chain. According to Reefke and Soudaram (2017), sustainable supply chain coordination requires the coordination of sustainability issues in the internal and external scope, considering the stakeholders. We highlight the concept of supply chain coordination and its importance to supply chain sustainability.

Four, we highlight the practical contributions of this study to the Brazilian beef supply chain. Managers can be encouraged to interact with stakeholders through roundtables toward supply chain sustainability. Moreover, we present evidence on stakeholder identification, and this identification can help managers understand which stakeholders should be prioritized. Based on the results, we emphasize the importance and role of GTPS for the beef supply chains in Brazil. Therefore, this research highlights practical contributions to the Brazilian beef supply chain, GTPS, and Roundtable members.

For the development of qualitative research, we must consider the necessity for a set of information that can support the results, and the considerations made by the researcher assume a more subjective character of understanding and interaction with the phenomenon studied. Thus, we understand as a limit for this research the analysis of the selected case within its specificities. In addition, the search for theoretical and practical approximation is based on the thesis theoretical arguments. Regarding the limitations of this study, we emphasize the participation of few supply chain members. The results reflect the perceptions of the interviewees. Other individuals could have different perceptions of the phenomenon. Furthermore, we did not analyze the power asymmetry of the participants in the multi-stakeholder partnership.

We also emphasize that the results presented in this thesis are aligned with the collected data and, consequently, with the data collection period. Different events happened throughout the year of 2019, after the data collection closure period. These events are mainly

related to political issues and fires in the Amazon region. We repudiate these events and reinforce the need to protect the environment and society.

Considering the study results and limitations, we present suggestions for future research. First, there is still a gap in understanding the role of different actors in supply chain sustainability – since this actor is not the focal company. Second, future research should focus on a better understanding of the sustainable supply chain coordination concept. Third, considering the importance of the beef industry to Brazil and the impacts of livestock activity, we understand that more studies and discussions related to sustainability must be developed. We recommend expanding the universe of analysis, including the customer and other stakeholders such as government agencies, non-governmental organizations, and community members. Four, we suggest analyzing the dissemination process sustainability in the Brazilian beef chain in a longitudinal approach. Five, we recommend deepening the sustainability challenges identified for the Brazilian beef supply chain. We hope that this study will stimulate future research on the subject.



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**APPENDIX A – First Step of the Research: Interview Protocol**

<b>Tópico</b>	<b>Nº</b>	<b>Questão</b>	<b>Objetivo</b>
<b>Perguntas Gerais</b>	1	Você poderia contar como foi o teu envolvimento com a área da carne? Há quanto tempo você está envolvido com a cadeia da carne?	Iniciar a conversa sobre a temática e identificar a trajetória do entrevistado com a temática
	2	Na sua percepção, quais são os principais desafios da cadeia da carne atualmente?	Verificar se o entrevistado percebe os impactos da cadeia como desafios, principalmente relacionados com a sustentabilidade
	3	Qual é a sua percepção sobre os impactos econômicos da cadeia da carne? E os impactos ambientais e impactos sociais? A nível global? A nível Brasil?	Delimitar o tema à relação entre cadeia de suprimentos bovina e sustentabilidade
<b>Roundtable Contribuição</b>	4	Como você conheceu a Brazilian Roundtable of Sustainable Livestock? E o Grupo de Trabalho da Pecuária Sustentável?	Identificar a trajetória do entrevistado com a Roundtable
	5	Considerando esses impactos, qual é a tua percepção sobre o papel da Roundtable?	Identificar a percepção do entrevistado sobre o papel que a Roundtable representa na cadeia da carne
	6	Em sua opinião, a Roundtable contribui para a cadeia da carne? Como?	Verificar a percepção do entrevistado sobre as contribuições da Roundtable para a cadeia da carne
<b>Roundtable Stakeholders</b>	7	Você acredita que a Roundtable integra os diferentes stakeholders da cadeia da carne?	Analisar o elemento contributivo da revisão da literatura “diversity and quantity of stakeholders”
	8	Considerando os diferentes stakeholders, como é a dinâmica da Roundtable?	Analisar o elemento contributivo da revisão da literatura “open space”
	9	Dentre os stakeholders, quem você percebe como maior incentivador de práticas de sustentabilidade na Roundtable?	Identificar stakeholders-chave na Roundtable
<b>Roundtable Resultados</b>	10	Você tem conhecimento de resultados efetivos a partir das decisões firmadas na Roundtable? Quais são esses resultados?	Analisar o elemento contributivo da revisão da literatura “standards and certifications”
	11	Você percebe as decisões firmadas na Roundtable como mudanças efetivas na cadeia da carne?	Verificar a percepção do entrevistado sobre a efetividade dos resultados da Roundtable
<b>Preparação para Coleta Dados Principal</b>	12	Como é o acesso à Roundtable?	Identificar o acesso aos dados e reuniões da Roundtable
	13	Você participou de alguma reunião da Roundtable? Qual foi o seu papel nesta reunião? Qual foi sua percepção sobre a dinâmica da Roundtable?	Verificar a percepção do entrevistado sobre a dinâmica das reuniões; identificar o processo para participação da reunião Roundtable
	14	O framework faz sentido?	Avaliar o framework (a partir da revisão da literatura)
	15	Você poderia indicar mais algum expert ou pesquisador sobre a temática discutida nesta entrevista para participação na pesquisa?	Identificar possíveis participantes da pesquisa através da técnica da bola de neve

**APPENDIX B – Second Step of the Research: Observation Protocol**

<b>Notas de Campo - Observações</b>	
Data	
Hora de Início	
Hora de Término	
Responsável pela Organização da Reunião	
Conductor(es) da Reunião	
<b>Tema(s) Discutido(s)</b>	
<b>Conteúdos Discutidos</b>	
<b>Condução da Reunião</b>	
<b>Stakeholders Ativos</b>	

**APPENDIX C – Second Step of the Research: Interview Protocol**

<b>Tópico</b>	<b>Nº</b>	<b>Questão</b>	<b>Objetivo</b>
<b>Perguntas Gerais</b>	1	Você poderia contar como foi o teu envolvimento com a área da carne? Há quanto tempo você está envolvido com a cadeia da carne?	Iniciar a conversa sobre a temática e identificar a trajetória do entrevistado com a temática
	2	Na sua opinião, o que é sustentabilidade? E o que é sustentabilidade na cadeia da carne?	Verificar o significado de sustentabilidade para o entrevistado, e também o significado do que é sustentabilidade na cadeia da carne
	3	Como você conheceu o Grupo de Trabalho da Pecuária Sustentável (Brazilian Roundtable of Sustainable Livestock)?	Identificar a trajetória do entrevistado, e da empresa que representa, com a Roundtable
<b>Ambiente Intra-Organizacional</b>	4	A sustentabilidade está integrada à estratégia da empresa? Você poderia descrever como?	A partir do significado de sustentabilidade, compreender como a sustentabilidade está alinhada com os objetivos e expectativas da empresa
	5	Quando as práticas de sustentabilidade começaram a ser implantadas na empresa?	Identificar o período em que as práticas passaram a ser implantadas na empresa
	6	Quais foram as barreiras para implantar práticas de sustentabilidade na empresa?	Verificar as barreiras percebidas e os desafios enfrentados pela empresa, na visão do entrevistado
	7	Quais foram as motivações para inserir a sustentabilidade, e as práticas de sustentabilidade, na empresa?	Avaliar os motivos pelos quais a empresa decidiu adotar práticas de sustentabilidade, traçando um comportamento organizacional reativo/proativo
<b>Ambiente Inter-Organizacional</b>	8	De forma geral, como é o seu relacionamento com membros da cadeia de suprimentos?	Constatar a relação da empresa com seus fornecedores e clientes, bem como com os demais stakeholders
	9	Existem práticas de sustentabilidade na gestão da sua cadeia de suprimentos?	Identificar a existência de práticas de sustentabilidade cadeia de suprimentos e como essas práticas foram disseminadas entre os atores da cadeia
	10	Outros elos da cadeia de suprimentos participaram da concepção e desenvolvimento dessas práticas? Você poderia descrever como?	Apurar se outros atores participaram direta/indiretamente da concepção e desenvolvimento das práticas de sustentabilidade que seriam adotadas na cadeia de suprimentos
	11	Como as práticas de sustentabilidade são comunicadas e disseminadas na cadeia de suprimentos?	Analisar a disseminação de práticas de sustentabilidade na cadeia de suprimentos
	12	Você saberia citar quais foram as motivações para inserir a sustentabilidade, e as práticas de sustentabilidade, na cadeia de suprimentos?	Verificar a percepção do entrevistado acerca dos motivos pelos quais foi decidido adotar práticas de sustentabilidade a nível de cadeia de suprimentos

<b>Roundtable</b>	13	As motivações que você identificou para adoção de práticas de sustentabilidade na empresa e na cadeia de suprimentos podem estar relacionadas à Brazilian Roundtable of Sustainable Livestock?	Averiguar a relação entre os motivos para adoção da sustentabilidade e a participação da empresa, e também dos seus stakeholders, no GTPS e Roundtable
	14	Qual é o papel da Roundtable para as cadeias de suprimentos de carne bovina brasileiras? Como você percebe a importância desse papel?	Identificar a percepção do entrevistado sobre o papel que a Roundtable representa na cadeia da carne
	15	Na sua opinião, qual é o diferencial da Roundtable para a disseminação da sustentabilidade nas cadeias de carne bovina brasileiras?	Conforme a resposta sobre o papel da Roundtable e GTPS, verificar o diferencial do Grupo para a disseminação de práticas de sustentabilidade na cadeia
	16	Como você diria que é a participação da sua empresa na Roundtable? Existe alguma preparação para participar das discussões?	Constatar a percepção do entrevistado acerca da participação da empresa nas discussões e como ele(a) se prepara para as reuniões
	17	Quais são os resultados efetivos, a partir das discussões firmadas na Roundtable, mais representativos para a sua empresa?	Verificar a percepção do entrevistado sobre a efetividade dos resultados da Roundtable e para os resultados mais representativos para a empresa
	18	Diante dessas considerações, qual é a contribuição da Roundtable para a cadeia da carne bovina brasileira?	Compreender a percepção do entrevistado sobre as contribuições da Roundtable e GTPS para a cadeia da carne
<b>Encerramento</b>	19	Você considera que sua cadeia de suprimentos seja sustentável?	Averiguar a percepção do entrevistado acerca da contribuição da cadeia de suprimentos para um desenvolvimento mais sustentável
	20	Você poderia indicar uma empresa, membro de sua cadeia de suprimentos, para participação na pesquisa?	Identificar possíveis participantes da pesquisa através da técnica da bola de neve

### APPENDIX D – Documents Analyzed

Main Documents Analyzed		
Document	Author	Source
Livestock's long shadow: environmental issues and options	FAO	<a href="http://www.fao.org/3/a0701e/a0701e00.htm">http://www.fao.org/3/a0701e/a0701e00.htm</a>
What is the Amazon Fund?	Amazon Fund	<a href="http://www.amazonfund.gov.br/en/amazon-fund/">http://www.amazonfund.gov.br/en/amazon-fund/</a>
Encyclopedia of American Business	FOLSON, W. D.; BOULWARE, R.	
Soja em números (safra 2018/19)	Embrapa Soja	<a href="https://www.embrapa.br/web/portal/soja/cultivos/soja1/dados-economicos">https://www.embrapa.br/web/portal/soja/cultivos/soja1/dados-economicos</a>
Companhia Nacional de Abastecimento	Conab	<a href="https://www.conab.gov.br/">https://www.conab.gov.br/</a>
Combate ao Trabalho em Condições Análogas às de Escravo	Ministério da Economia, Previdência e Trabalho	<a href="http://trabalho.gov.br/fiscalizacao-combate-trabalho-escravo">http://trabalho.gov.br/fiscalizacao-combate-trabalho-escravo</a>
Nota conjunta com a taxa preliminar do Projeto de Monitoramento do Desmatamento na Amazônia Legal por Satélite (PRODES)	MMA, MCTIC	<a href="https://www.mma.gov.br/informma/item/15259-governo-federal-divulga-taxa-de-desmatamento-na-amaz%C3%B4nia.html">https://www.mma.gov.br/informma/item/15259-governo-federal-divulga-taxa-de-desmatamento-na-amaz%C3%B4nia.html</a>
Plano de Ação para Prevenção e Controle do Desmatamento na Amazônia Legal	MMA	<a href="https://www.mma.gov.br/informma/item/616-preven%C3%A7%C3%A3o-e-controle-do-desmatamento-na-amaz%C3%B4nia">https://www.mma.gov.br/informma/item/616-preven%C3%A7%C3%A3o-e-controle-do-desmatamento-na-amaz%C3%B4nia</a>
Desenvolvimento rural	MMA	<a href="https://www.mma.gov.br/desenvolvimento-rural/cadastro-ambiental-rural.html">https://www.mma.gov.br/desenvolvimento-rural/cadastro-ambiental-rural.html</a>
O que é REDD+	MMA	<a href="http://redd.mma.gov.br/pt/pub-apresentacoes/item/82-o-que-e-redd">http://redd.mma.gov.br/pt/pub-apresentacoes/item/82-o-que-e-redd</a>
O que é? Amazônia Legal	IPEA	<a href="http://www.ipea.gov.br/desafios/index.php?option=com_content&amp;id=2154:catid=28&amp;Itemid">http://www.ipea.gov.br/desafios/index.php?option=com_content&amp;id=2154:catid=28&amp;Itemid</a>
Instituto Peabiru		<a href="https://peabiru.org.br/">https://peabiru.org.br/</a>
Conclusion of the acquisition of independencia's assets	JBS	<a href="https://jbss.infoinvest.com.br/enu/2399/jbs1.pdf">https://jbss.infoinvest.com.br/enu/2399/jbs1.pdf</a>
Monitoramento do Desmatamento da Floresta Amazônica Brasileira por Satélite	INPE	<a href="http://www.obt.inpe.br/OBT/assuntos/programas/amazonia/prodes">http://www.obt.inpe.br/OBT/assuntos/programas/amazonia/prodes</a>
MP diz que produtores e frigoríficos devem cumprir exigências	Senado Federal	<a href="http://www.senado.gov.br/noticias/agencia/quadros/qd_062.htm">http://www.senado.gov.br/noticias/agencia/quadros/qd_062.htm</a>
O que é o Termo de Ajustamento de Conduta?	CNMP	<a href="https://www.cnmp.gov.br/direitoscoletivos/index.php/4-o-que-e-o-termo-de-ajustamento-de-conduta">https://www.cnmp.gov.br/direitoscoletivos/index.php/4-o-que-e-o-termo-de-ajustamento-de-conduta</a>
Frigoríficos assinam termo de ajustamento de conduta	Agência Estado	<a href="https://www.gazetadopovo.com.br/economia/frigorificos-assinam-termo-de-ajustamento-de-conduta-bnhqd6xj4tujigime97t3xff2/">https://www.gazetadopovo.com.br/economia/frigorificos-assinam-termo-de-ajustamento-de-conduta-bnhqd6xj4tujigime97t3xff2/</a>
Lei nº 12.651, de 25 de maio de 2012.	Brasil	<a href="http://www.planalto.gov.br/ccivil_03/_Ato2011-2014/2012/Lei/L12651.htm">http://www.planalto.gov.br/ccivil_03/_Ato2011-2014/2012/Lei/L12651.htm</a>
Rastreabilidade animal	MAPA	<a href="http://www.agricultura.gov.br/assuntos/sanidade-animal-e-vegetal/saude-animal/rastreabilidade-animal">http://www.agricultura.gov.br/assuntos/sanidade-animal-e-vegetal/saude-animal/rastreabilidade-animal</a>
Entenda o que é a Operação Carne Fraca e os impactos para a BRF	Karin Salomão	<a href="https://exame.abril.com.br/negocios/entenda-o-que-e-a-operacao-carne-fraca-e-os-impactos-para-a-brf/">https://exame.abril.com.br/negocios/entenda-o-que-e-a-operacao-carne-fraca-e-os-impactos-para-a-brf/</a>
JBS tem prejuízo nos últimos meses do ano, mas fecha 2017 com lucro de R\$ 534 milhões	Karina Trevizan	<a href="https://g1.globo.com/economia/noticia/jbs-tem-prejuizo-nos-ultimos-meses-do-ano-mais-fecha-2017-com-lucro-de-r-1-bilhao.ghtml">https://g1.globo.com/economia/noticia/jbs-tem-prejuizo-nos-ultimos-meses-do-ano-mais-fecha-2017-com-lucro-de-r-1-bilhao.ghtml</a>

O combate ao avanço da pecuária na Amazônia	Greenpeace	<a href="https://www.greenpeace.org/brasil/blog/o-combate-ao-avanco-da-pecuaria-na-amazonia/">https://www.greenpeace.org/brasil/blog/o-combate-ao-avanco-da-pecuaria-na-amazonia/</a>
Caso Lava Jato	MPF	<a href="http://www.mpf.mp.br/grandes-casos/caso-lava-jato/atuacao-na-1a-instancia/parana/investigacao/historico/por-onde-comecou">http://www.mpf.mp.br/grandes-casos/caso-lava-jato/atuacao-na-1a-instancia/parana/investigacao/historico/por-onde-comecou</a>
Operation Car Wash: Is this the biggest corruption scandal in history?	Jonathan Watts	<a href="https://www.theguardian.com/world/2017/jun/01/brazil-operation-car-wash-is-this-the-biggest-corruption-scandal-in-history">https://www.theguardian.com/world/2017/jun/01/brazil-operation-car-wash-is-this-the-biggest-corruption-scandal-in-history</a>
JBS é investigada em várias operações; entenda suspeitas contra a empresa	UOL Economia	<a href="https://economia.uol.com.br/noticias/redacao/2017/05/19/jbs-e-investigada-em-varias-operacoes-entenda-suspeitas-contra-a-empresa.htm">https://economia.uol.com.br/noticias/redacao/2017/05/19/jbs-e-investigada-em-varias-operacoes-entenda-suspeitas-contra-a-empresa.htm</a>
Acordo viabiliza primeira área de estudo oficial da Carne Baixo Carbono	Embrapa	<a href="https://www.embrapa.br/en/busca-de-noticias/-/noticia/38870256/acordo-viabiliza-primeira-area-de-estudo-oficial-da-carne-baixo-carbono">https://www.embrapa.br/en/busca-de-noticias/-/noticia/38870256/acordo-viabiliza-primeira-area-de-estudo-oficial-da-carne-baixo-carbono</a>
Marfrig lança títulos vinculados à Sustentabilidade	Marfrig	<a href="https://www.marfrig.com.br/pt/documentos?id=838">https://www.marfrig.com.br/pt/documentos?id=838</a>
Política Global Anticorrupção	Marfrig	<a href="https://www.marfrig.com.br/Uploads/Arquivos/Politica-Anticorruptcao.pdf">https://www.marfrig.com.br/Uploads/Arquivos/Politica-Anticorruptcao.pdf</a>
Guia de Práticas Sustentáveis Marfrig Club	Marfrig	<a href="http://www.marfrigbeef.com/Uploads/Arquivos/Guia/Guia-Praticas-Sustentaveis-Marfrig-Club.pdf">http://www.marfrigbeef.com/Uploads/Arquivos/Guia/Guia-Praticas-Sustentaveis-Marfrig-Club.pdf</a>
Eating up the Amazon	Greenpeace	<a href="https://www.greenpeace.org/usa/wp-content/uploads/legacy/Global/usa/report/2010/2/eating-up-the-amazon.pdf">https://www.greenpeace.org/usa/wp-content/uploads/legacy/Global/usa/report/2010/2/eating-up-the-amazon.pdf</a>
Slaughtering the Amazon	Greenpeace	<a href="https://www.greenpeace.org/usa/research/slaughtering-the-amazon/">https://www.greenpeace.org/usa/research/slaughtering-the-amazon/</a>
Carne ao molho madeira: vamos colocar a Amazônia na frente dos bois	Greenpeace	<a href="http://carneamolhomadeira.org.br/">http://carneamolhomadeira.org.br/</a>
Estatuto do GTPS	GTPS	<a href="http://www.gtps.org.br/wp-content/uploads/2014/02/Estatuto-2016-Registrado.pdf">http://www.gtps.org.br/wp-content/uploads/2014/02/Estatuto-2016-Registrado.pdf</a>
GTPS		<a href="http://gtps.org.br/">http://gtps.org.br/</a>
Beef Report: Brazilian livestock profile	ABIEC	<a href="http://www.brazilianbeef.org.br/download/sumarioingles2019.pdf">http://www.brazilianbeef.org.br/download/sumarioingles2019.pdf</a>
Pathways to Sustainability in Livestock	GTPS	<a href="http://gtps.org.br/">http://gtps.org.br/</a>
Sustainable Livestock in Practice	GTPS	<a href="http://gtps.org.br/">http://gtps.org.br/</a>
Mechanisms of Control and Reduction of Deforestation in Brazilian Amazon Biomet	GTPS	<a href="http://gtps.org.br/">http://gtps.org.br/</a>
Handbook of Practices for Sustainable Livestock	GTPS	<a href="http://gtps.org.br/">http://gtps.org.br/</a>
Guide for Sustainable Livestock Indicators	GTPS	<a href="http://gtps.org.br/">http://gtps.org.br/</a>
Brazilian Livestock and Its Contribution to Sustainable Development	GTPS	<a href="http://gtps.org.br/">http://gtps.org.br/</a>