


Horizontes das **Ciências Sociais Rurais**



**Leonardo Tullio
(Organizador)**



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Leonardo Tullio

(Organizador)

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APRESENTAÇÃO

A obra “Horizontes das Ciências Sociais Rurais” aborda em seu primeiro Volume uma apresentação de 19 capítulos, no qual os autores tratam sobre a questão da gestão e extensão no meio rural, analisando e discutindo cenários atuais no agronegócio.

Conhecer sobre os conceitos e possibilidades de gestão como sendo ferramentas para estudos sobre este tema vem sendo amplamente discutido, contudo, conhecer as formas de atuação e as políticas envolvidas tornam-se pontos essenciais para desenvolver a crítica construtiva sobre os problemas rurais. Assim, o papel da ciência social está cada vez mais transformando o meio rural.

Transmitir conhecimento e resolver problemas da sociedade é papel de todas, mas nem sempre é possível. A ciência é responsável por gerar conhecimento e tornar o indivíduo crítico sobre o ponto de vista analisado, portanto, adquirir conhecimento exige tempo e crítica é construída com isso.

Por fim, espero trazer conhecimento nesses artigos e incentivar a discussão e entendimento sobre o tema. Bons estudos.

Leonardo Tullio

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BIODIESEL POLICY AND RAW MATERIAL ACQUISITION IN PARANÁ STATE: A CASE ABOUT BRAZILIAN BIODIESEL NATIONAL PROGRAM

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RESUMO: Este artigo tem como objetivo destacar e discutir os impactos do Programa Nacional de Produção e uso do biodiesel (PNPB) na aquisição de matéria-prima da agricultura familiar para a produção de biodiesel. Este programa tem algumas características que o tornam único, tais como o incentivo a inclusão social e ao desenvolvimento local pela inclusão dos agricultores familiares como fornecedores de grãos para a produção de biodiesel. A participação da agricultura familiar na indústria do biodiesel se tornou uma realidade devido à forte pressão institucional proveniente do quadro regulatório do PNPB. O estudo mostra que as estratégias e os processos de aquisição de matéria-prima foram organizados de modo a garantir e dar suporte aos objetivos da política, muitas vezes em detrimento da eficiência.

PALAVRAS-CHAVE: biodiesel, matéria-prima, quadro regulatório, compras.

ABSTRACT: The aim of this article is to highlight and discuss the impacts of National Program for Production and Use of Biodiesel – PNPB on raw material acquisition from family farming to produce biodiesel. This program has some unique characteristics such as the incentive to social inclusion and local development by family farmer's inclusion as oilseeds suppliers of biodiesel production. Family farming participation on biodiesel industry became a reality due the strongest institutional pressures from the regulatory framework of PNPB. The study shows that the raw material acquisition strategy and processes has been arranged in a way that guarantees and support the policy goals, many times in detriment of efficiency.

KEYWORDS: biodiesel, raw material, regulatory framework, acquisition.

1 | INTRODUCTION

The incentive to the production and use of clean and renewable energy is an alternative to mitigate the damage caused by man in the ecosystem. Those energy received increasing support from governments, driving industries in this context, and beaming key strategy with regard the attempt to satisfy together the environmental and energy needs (MATSUMOTO; SANO; ELDER, 2009; MATSUMURA; YOKOYAMA,

2005; TSAI, 2009; BECKER; MOSELEY; LEE, 2011; SORDA; BENSE; KENFERT, 2010; PADULA et al., 2012). Within this context, biofuels have become an important alternative energy source in many countries, in which agriculture is the main source of economic and social development. In this way, many players sees biofuels, especially the biodiesel, as a means of promoting development and growth (SANTOS; IANDA; PADULA, 2014).

The increase of government supports to biofuels (YOUNG; HUANG, 2012; BECKER; MOSELEY; LEE, 2011; FAN et al., 2011; SORDA; BENSE; KENFERT, 2010; MATSUMOTO; SANO; ELDER, 2009; TSAI, 2009; DEMIRBAS, 2007, 2008a, 2008b, 2009; 2011; MATSUMURA; YOKOYAMA, 2005; PADULA et al., 2012) results in the expansion of its production and its participation in the energy matrix of many countries. Political support can have different forms: (i) financial incentive for producers of biofuels, (ii) mandatory use of biofuel blends in diesel or petrol; (iii) special fees and taxes to the producers and others members of production chain (iv) subsidies provided to the sector, (v) investments in research, among other mechanisms used to consolidate the production and use of biodiesel around the world (Food and Agriculture Organization of the United Nations /GBEP, 2007; Food and Agriculture Organization of the United Nations, 2008; SORDA; BENSE; KENFERT, 2010 , PADULA et al., 2012).

Biodiesel history in Brazil is recent and marked by government participation in the incentive and regulation of its use and production through laws, rules and guidelines, which compose the National Program for Production and Use of Biodiesel (PNPB). The PNPB intends develop and introduce the biodiesel at the Brazilian energy matrix, was designed to create environmental, economic and social benefits based on the production and use of biodiesel. Since the beginning, the biodiesel has assumed strategic importance for national development, and to social inclusion, based on some aspects such as the reduction of energy imports, the development and creation of jobs in rural areas and decrease the differences between the regions and the environmental impact of using a fuel from nonrenewable sources.

The role of the government in this industry was fundamental to its development. The institutional arrangement composed by biodiesel policies had structured and directed the industry in Brazil, It impacted on the activities and strategies of the agents and actors involved, given an important role to the government within this industry (VACCARO et al., 2010; GARCEZ; VIANNA, 2009; PADULA et al., 2012; RATHMANN; SZKLO; SCHAEFFER, 2012; SANTOS, 2009; 2013; SORDA; BENSE; KENFERT, 2010; SANTOS; PADULA, 2012a; 2012b, SANTOS; STAMM; PADULA, 2014). In this sense the institutional pressures and the institutional arrangement have a central function in raw material acquisition, defining with actors are involved and how they interact.

The incentives to family farming entrance in the biodiesel production chain represent one of the unique characteristics of the Brazilian Biodiesel National Program in virtue of the social inclusion and local development achieved through family farmers'

inclusion as oilseeds supplier. This brings to light an important issue that is the relation between the biodiesel producers and family farming, and in the other hand the impact of biodiesel policies on this relationship. Therefore, the aim of this article is to highlight and discuss the impacts of the PNPB's policies in the acquisition of raw material from family farming. To this end, the research focused on the relation of biodiesel producer from Paraná State and family farmers from those same states.

2 | BIODIESEL PUBLIC POLICIES

To encourage the production and use of biodiesel, the Brazilian government launched in December 2004 the PNPB based on legislation, plans and programs for the development and the introduction of this fuel in the Brazilian energy matrix and that is currently driving the structuring of the sector. The PNPB intends to introduce a technical, socioeconomic and environmental sustainable production and use of biodiesel, looking for a social inclusion and regional development through the generation of employment and income. The PNPB has three main goals: to regulate the operation of the biodiesel market in Brazil, by establishing mandatory percentages of this biofuel on diesel, in consequence, determining the national demand for biodiesel; to encourage the diversification of raw materials for the production of biodiesel in all regions of the country; to incorporate small (family) farms to the biodiesel production chain.

Since the establishment of the regulatory framework Biodiesel production assumed strategic importance for national development based on three pillars: implement a sustainable program promoting social inclusion in rural area, ensure competitive prices, quality and supply and produce biodiesel from different feedstock and in different regions of the country (BRASIL, MME, 2012a). Through the PNPB the government organized the production chain, defined lines of financing, structured technological base and edited the regulatory framework of the biodiesel

Despite the launch of the program in late 2004, the movement to make biodiesel a widely used biofuel in Brazilian territory starts earlier. In September of 2003, the Government launched the Provisory Measure No. 214, which defined biodiesel as a fuel intending to include this biofuel into the energy matrix, and allowed the gradual replacement of fossil diesel, the introduction of new technologies and the development of small communities (BRAZIL, CASA CIVIL, 2004a). This Provisory Measure also expanded the powers of the National Agency of Petroleum, Natural Gas and Biofuel Agency - ANP, enabling it to regulate and authorize activities related to the production, storage, distribution and sale of biodiesel throughout the country.

The PNPB provide an opportunity to promote the development of family farming. Accordingly, in order to ensure the participation of family farms in the biodiesel chain, the Government created and introduced the Social Fuel Seal, through a Decree in 2004. The Decree set a differentiate tax model to biodiesel production and introduce

the concept of social fuel, a label that characterizes the biodiesel produced by the bond between the biodiesel producers and family farmers, according to the rules of Pronaf - National Program for Strengthening Family Agriculture. (BRAZIL, MDA, 2012a).

The biodiesel producer that acquires raw material from family farmers in the quota defined by Social Seal regulations was able to require the Seal. Among the actions undertaken by the Federal Government, the constitution of the Social Fuel Seal can be recognized as one of the most important to PNPB and to the social inclusion policy, and as the characteristic that made PNPB unique and the Brazilian biodiesel policies different from the other countries.

The Social Fuel Seal allows the agro-industrial processors to receive tax exemptions, to obtain preferential loans from the National Bank of Economic and Social Development (BNDES) and other financial institutions, also ensures them the right to offer their product at biodiesel purchase auctions within the specific quota established by the National Agency of Petroleum, Natural Gas and Biofuels (ANP). Equally, the family farmers benefit from, among other things, technical assistance and the guaranteed sale of their produce. This format of the Seal engineered within a regulatory framework induces biodiesel producers to obtain it (SANTOS; PADULA, 2012a, 2012c).

The Law 11.09 effectively introduced the biodiesel in Brazilian energy matrix during in 2005. It set compulsory levels of blending with diesel starting from 2% in 2008 to reach 5% in 2013 (BRASIL, CASA CIVIL, 2005), but this percentage was achieved in 2010, due the necessity of minimizing the production idleness in the industry. The year of 2005 was also important to the Social Fuel Seal two Normative Instructions from MDA regulated and implemented it (BRASIL, MDA, 2005a; 2005b).

These Normative Instructions had significant impacts on the purchase of raw materials for biodiesel production; one of them was the regulation of the minimum percentage of acquisitions from family farming for granting the Seal, another impact was the imposition of at least one representative of family farmers in the negotiation and contracts between biodiesel producers and farmers (BRASIL, MDA, 2005a). Indeed, this program determined the negotiations between farmers and biodiesel producers, accomplished through a predetermined contract, which ensured a market reserve for family farming and increased its competitiveness.

Throughout the years, those Normative Instructions were modified to improve the program results and to adapt it to the market dynamics. One of the changes increases the minimum percentage of raw materials from family farmers for biodiesel production, due the available supply of seeds and the potential of social insertion (BRASIL, MDA, 2009; BRASIL, MDA, 2012b). Additionally, was included the value spending on soil analysis and technical assistance and the donation of inputs and services to farmers in the cost of acquisition demonstrated to MDA. The incentive reinforcement to alternative feedstock (rapeseed, castor, palm, and sunflower) comes from the change on the acquisition value calculation (BRASIL, MDA, 2012b).

Regarding the business relationship between family farmers and biodiesel

producers is important to highlight the existence of a bonus paid over the price of raw material from this supplier. This practice is not a legal criterion of the Seal, but the family farming representative required it to give his agreement on the contract between biodiesel producer and family farmer (SANTOS, 2009; SANTOS, 2013).

Another government action that had an impact over raw material acquisition was the market reserve of 80% on the volumes traded in auctions conducted by ANP to the producer with Social Seal, assuring the family farming inclusion on biodiesel production chain. To the Federal Government the auctions are important to give economic support to the biodiesel production chain, apart from maintaining a stable supply of biodiesel throughout the country until the sector is organized and consolidated (BRASIL, MME, 2008, 2012b). This tie between the instrument to encourage family farming and the means of biodiesel commercialization had an influence on purchases of raw materials by stimulating the search for the Social Seal by biodiesel producers.

The history of PNPB shows that the Federal Government, through its ministries and agents, used legal instruments (decrees, laws, normative instructions, regulations and programs, among others) to construct and enable the PNPB and reach their goals. The policies and targets from PNPB brought security to the organizational field, allowing and attracting investment from the private sector, in addition influenced the organization of biodiesel industry as well as the relationships between its actors. This work highlighted the commercial link between biodiesel producers and family farmers, analyzing the impact of biodiesel policies in raw material acquisition within the regulatory context from PNPB. It is important to point out that the inclusion of family farming on biodiesel industry is what apart Brazilian biodiesel program from the programs of other countries, besides the fact that hundred percent of our production is directed to supply the national demand for biodiesel.

3 | METHODOLOGY

This is a qualitative research, justified by the fact that studies on this nature are associated with the quality of the entities and the processes and meanings, without a rigorously exam or measures in terms of quantity, intensity or frequency. In this sense, it investigate solutions concerning how social experience create and acquires meaning (DENZIN; LINCOLN, 2006). This is suitable for the purpose of this work, which is to analyze and understand the impact of biodiesel policies in raw material acquisition taking into account the relationship between the institution and the organizational strategies considering the active role of the actors, and not to measure it.

The research had two stages; the first one was a documentary research on official documents, governmental reports, and legal publication such as laws, norms and decrees, covering a 10 years period from 2003 to 2013. The database consisted of 302 documents from the Brazilian government. The information extracted from those texts

built the regulatory framework. The research focused on the National Program for the Production and Use of Biodiesel (PNPB), the main instrument used by the government to promote and consolidate the biodiesel.

Based on this framework, in order to find out the impacts of biodiesel policy on the acquisition of raw material from family farming, a second stage started. The researcher conducted interviews with two biodiesel producers in operation, with two family farmers' representative (Federation of Workers in Agriculture in the State of Paraná – FETAEP and Federation of Workers in Family Agriculture - FETRAF/PR) and with two cooperative that maintained relationships with those biodiesel producers studied. This stage allowed identifying and understanding the relation between biodiesel producers and family farming regarding the procurement of raw material for biodiesel production and the impacts and influence of PNPB policies over this relationship.

The work used the content analysis as its analytical method, being a set of analysis techniques of communication with a view to obtain indicators that allow the inference about the area studied (Bardin, 2011), in this case the influence of biodiesel policies over raw material acquisition from family farming to biodiesel production. Regarding the diversification of this technique, the researcher's option was to follow the steps suggested by Bardin (2011), which are: 1) pre-analysis, 2) exploration of material and 3) treatment of the results, inference and interpretation.

4 | RAW MATERIAL ACQUISITIONS FROM FAMILY FARMING IN PARANÁ STATE AND THE IMPACTS OF BIODIESEL POLICIES

Soybean is the main feedstock used in biodiesel production in Brazil, it represented in the last few years about 79% of all raw material used, followed by beef fat (15%) (BRASIL, ANP, 2014). Soybean oil has easily occupied the first position on biodiesel producer's preference because it relies on an organized and consolidated supply chain, with high production. The state of Paraná, following the national trend has its biodiesel productive chain based on soybean, but differs from the way in which the biodiesel producers in Rio Grande do Sul entered at the market, characterized by vertical integration of the production process. In Paraná, on the contrary, the industry did not have a preexisting social and commercial organization from soybean market and the producers did not have an upward structure.

In Paraná, the purchase of raw material involves two different contexts, one for biodiesel production itself and the other to comply with the Social Fuel Seal. In the first context, the biodiesel producers buy the vegetable oil or animal fat to produce biodiesel because they do not have within its industrial complex a plant to crush the grain. The Seal's regulations mark the second context; here the biodiesel producers negotiate the soybean with family farmers or cooperatives, even without crushing and using it

in their production process. The soybean purchase occurs within a regulatory context, following the Ordinance nº 60 of the MDA meeting the rules of the Social Fuel Seal, being the material from family farming, even if the biodiesel producers does not use it in the biodiesel's production.

Considering institutional pressures as a limiter of individuals and individual actions of organizational actors the research revealed that the instruments introduced by PNPB printed high pressure on the chain organization and brought consequences to the acquisition of raw materials concerning the Social Fuel Seal, the auctions and the quality and specification of biodiesel. According to the interviewees, they purchase taking into account the regulatory framework, in particular the legal instruments of the MDA. In this scenario, the rules relating to the Social Fuel Seal have the biggest interfere, determining how the family grain should be purchased and the how this transaction should be checked and proven.

The first item, within the rules of the Social Fuel Seal, that had countless impact on the strategies of acquiring raw materials was the determination of a minimum percentage of acquisition of raw material from family farmers, with is different for each Brazilian region, in South region it was established 40% to crop 2013/2014 (BRAZIL, MDA, 2012c). This include and authorized the family farmers or the cooperatives with DAP to be a supplier to biodiesel production, and somehow made biodiesel producers organize their supply network in a way that family farmer was include as a supplier, defining their choice of whom to buy.

The second one is the incorporation of family farmer's representations (associations and unions) in the negotiation between the farmers and the producers of biodiesel (Normative Instruction 1). In Paraná, Fetraf Sul/Paraná and Fetaep along with its affiliated unions are responsible for monitoring the process from the trading until the conclusion of the contract. During the negotiation the associations assist the formulation of contracts, ensuring that it consider all legal aspects of the Seal. In addition, they negotiate the contract's elements (agreeing the bonus value, the technical assistance and the guidelines of the contract) and nod the agreement between biodiesel producers and family farmers, making the purchase process more complex and formal.

The third are the specifications and criteria of the purchase contracts between biodiesel producers and family farmers, particularly the technical assistance to family farmers which is referred in the Regulation 60 from Civil House (BRAZIL, MDA, 2012c) as an obligation to those biodiesel producer's that make business inside Social Seal. However, according to the associations interviewed, there is a difficulty to control the provided technical assistance and there still a need to broaden the understanding of what is the technical monitoring. The common practice among biodiesel producers is to outsource this service, yet they maintain a team or a responsible for monitoring the process and keep in touch with the family farmers.

Besides these three roles, the research observed other effects of the regulation on business between farmers and biodiesel during the analysis of the interviews. Such

as the collection of bonuses, the practice of sign forward contracts with farmers, the incorporation of new administrative procedures, the existence of an administrative area or people destined to the relationship with family farmers and the organization of the supply base and the practice of reselling the soybean from family farming. This highlights the strength and the influence of the regulatory framework over biodiesel producers' strategies on raw material acquisition.

The bonus has become a central element in the negotiations between the representatives and biodiesel producers. It is noteworthy that even without a legal determination; the bonus became a reality in all negotiation between family farmers and biodiesel producer, being now a common practice among biodiesel producers. This is a consequence of the policies with set the participation of family farming representatives in the negotiations, according to the interviews it started as a suggestion of associations along with Contag (*Confederação Nacional dos Trabalhadores na Agricultura*) to attract family farmers to PNPB and ensure their loyalty to the Program. Family farmers and their associations see the bonus as a transfer of benefits given to biodiesel producers by PNPB, on the other hand the biodiesel producer see it as an extra cost on the negotiation. Besides, for the biodiesel producer the bonus has been a problem to the industry, because there is no clear rule in the value negotiation, the family farmers simply takes the highest bidder, which leads uncertainties the market.

The bonus is not the only additional cost that biodiesel producers have when comparing the acquisition of family and non-family raw material, all the adjustment at organizational processes, management and structure to fulfill the Social Seal rules also contribute to enhancement of family raw material. The interviewees highlighted that biodiesel producers allocate resources (financial and human) in their relationship with family farming and has a specific team to deal with them. This team is responsible for contact and negotiates with family farmers and or cooperatives, and for follow-up and visits the farmers from planting to harvest and for the promotion of alternative oilseeds such as the canola, a crop of winter. A peculiarity of Paraná is that although with a large number of family farmers, at the begging of PNPB they were not organized, making biodiesel producer's work in the organization of their supply base.

The creation of areas or positions specifically focused on contact and work with family farmers stems from the influences coming from the institutional arrangement over raw materials acquisition. The statements made by the interviewees suggest that this management structure and relationships with family farmers probably would not exist if there were not benefits and the Seal regulation emphasizes the influence of biodiesel policy on biodiesel chain.

Besides the creation of a department or division to deal with family farming, biodiesel producers and their suppliers have to do complete reports and send it to the MDA with information related to the purchase of raw materials, family and non-family. The Ministry of Mines uses that information and Energy to control the activities of companies within the Seal and evaluation of compliance with standards and rules.

Consequently, all the business becomes, to biodiesel producers, more bureaucratic, time consuming and costly.

In auctions, the reserve of 80% of the volume to be auctioned to the companies with Social Fuel Seal influence the choice of having it. The reserve is considered as the main stimulus leading the biodiesel producers to opt for Seal, since owning it is not required for the granting of production and marketing of biodiesel. In this sense, the effect of auctions on purchasing strategies is indirect because it encourages the companies to obtain the Seal, which has a direct impact on the purchase of raw materials as seen.

Considering the types of strategic responses suggested by Oliver (1991) (Chart 1) it is understood that the strategies for purchase raw material can be seen as acquiescence, more specifically the tactic of complying. This tactic can be seen when the companies choose to accept and obey the rules and norms of PNPB by self-interest, in order to enjoy the benefits from the program and social support, such as in the agreement with the charge of a bonus in family raw material and the payment of it to have the consent of family representatives to keep the Seal. The researchers found a subordination of biodiesel producer actions to the policies and its formal and informal pressures, as observed among the consent of the institutional pressure and compliance with the standards and rules of PNPB because of coercion from the different agencies and government agents who operate the program.

Strategies	Tactics	Examples
Acquiesce	Habit	Following invisible, taken-for-granted norms
	Imitate	Mimicking institutional models
	Comply	Obedying rules and accepting norms
Compromise	Balance	Balancing the expectations of multiple constituents
	Pacify	Placating and accommodating institutional elements
	Bargain	Negotiating with institutional stakeholders
Avoid	Conceal	Disguising nonconformity
	Buffer	Loosening institutional attachments
	Escape	Changing goals, activities, or domains
Defy	Dismiss	Ignoring explicit norms and values
	Challenge	Contesting rules and requirements
	Attack	Assaulting the sources of institutional pressure
Manipulate	Co-opt	Importing influential constituents
	Influence	Shaping values and criteria
	Control	Dominating institutional constituents and processes

Chart 1- Strategic Response to Institutional Processes

Source: Oliver (1991, p. 152).

It is important to note that compliance with the rules and regulations within the legal framework is due the recognition of the benefit of being able to participate in 100% of the volume traded in auctions promoted the ANP. Since the biodiesel producers does not seen as an advantage the tax incentives, reduction of PIS and COFINS, because to receive it the grain purchased shall be crushed by the producer himself, and this does not occur in the plants located at Paraná State, during the research period.

Given the influence of institutional arrangement on family farming raw material acquisition and the acquiescence of biodiesel producers to this arrangement, it was possible to list some of the policy impacts on raw material acquisition and its strategies (Chart 2).

PNPB instrument		Impacts
Social Fuel Seal	Minimum percentage of feedstock family	Makes the producer with Seal buy raw material from family agriculture regardless of whether it is advantageous to the companies or not, as result biodiesel producers incorporate this matter to their purchasing and strategies. The acquisition from family farmers to meet the standards of the Seal result in the restructuration or incorporation of administrative procedures, such as having a team designed to the relationship with the family farmer, send information to MDA and organize their supply base.
	Presence of family farms representative	Increased the number of practitioners involved in the acquisition process and added new processes, such as the need of negotiating the criteria of contracts and the value of bonds with the representative before dealing with family farmers and the need of sending the contracts after signing to the representative for endorsement and agreement. This places the bonus as a key element of the purchase, which includes its negotiation during the processes and incorporate it in biodiesel producers supply forecast and to their acquisition strategies.
	Criterion of contracts	Incorporate the issue of technical assistance to the acquisition strategy. By associating the purchase of raw materials to technical assistance, contracts have been carried out in advance and from harvest to harvest, for that reason biodiesel producers had to rearrange their purchasing strategies.
Auctions		The reserve of 80% of the volume to be auctioned to the Social Seal has stimulated biodiesel producers to seek for it.
		The sales made at the auctions and the biodiesel deliveries scheduled predict at the public notices lead the biodiesel producers to sign short-term contracts and use currency hedge to avoid losses.

Chart 2 - Policy impacts on raw material acquisition

To Jarzabkowski (2004) a practice can have a recursive or adaptive tendency, in the first case the actions are routinized and tend to stability, reinforcing the institutional arrangement, on the other side there are the adaptive tendency, in which the practices are more flexible and can be change through the actors' agency. In case of family raw material acquisition for biodiesel production, it was found that it is a recursive practice by strengthening the existing structure, perpetuating the practices and giving them

continuity and stability at the same time in which disclose the way how acquisition strategies of raw material connect to the policies that provide the institutional arrangement of biodiesel.

The strengthen and continuity of intuitional arrangement through raw material acquisition can also be explained through the fact that biodiesel industry was created into the legal and regulative context of fuel sector, legitimating and rooting institutional arrangement in practice and strategies of the companies. Giving support to Beckert (1999), who believe that the most entrenched and legitimized institutional arrangements tend to be more accepted and played, with lower actuation of the actors agency on them, which would also lead to a lower probability of changes in the institution.

The study revealed that the institutional arrangement has great influence on the way that the family raw materials purchases occurs, especially, due to family Social Fuel Seal, which guides and regulates transactions occurred between biodiesel producers and family farmers. The rules of PNPB not just imposed these trade relations, but also procedures activities, which those involved at the trade performs. It highlight the complexity existing in this negotiation that goes beyond legal and regulatory issues surrounding it, such as: (i) the interests of different stakeholders; (ii) the valorization of family grain that inflates the bonus price; (iii) the need for supply base organization; (v) and the performance of biodiesel producers as a promotion and technical assistance agencies.

The research also verifies that the government has an active role in the search for improvements and consolidation of biodiesel as an alternative energy source in the country. The members of the chain also have an important part not only because it actions reinforce the policies when accepting them, but also when they seek for improvements and a adjustments on the policy by organizing themselves and act to push for changes in institutional arrangement in order to take better account of the characteristics and demands of the market.

5 | FINAL DISCUSSION

The aim of this article was to discuss the impacts of biodiesel Policies, through the Nacional Program for Production and Use of Biodiesel– PNPB, on raw material acquisition from family farmers for biodiesel production. This analysis is important since the Brazilian program offers some unique features such as encouragement of social inclusion and local development through inclusion of family farmers as suppliers.

The historical research on Brazilian biodiesel policies revealed that it has the power to drive the marketplace to the purposes defined in PNPB with regard to the dynamics of production, warehousing and distribution. The set of policies has the strength to lead acquisition of raw materials, responding positively to the goal of inclusion of family agriculture in the biodiesel chain, but not so much the desire to increase raw material

diversity in order to find a replacement for soybean.

Indeed, the institutional arrangement coming from the Nacional Program for Production and Use of Biodiesel creates pressures on raw material acquisition processes, but it is important to emphasize that those pressures operate differently on purchases of raw material from family farmers and non-family. In the case of non-familiar raw material the influence from Biodiesel Policy are not strong, however, there is a greater pressure from the market. Furthermore, the pressures coming from the institutional arrangement related to the quality and specification of the biodiesel have some impact on companies' strategies, which chooses between different raw material, in Paraná case it is to decide between fat and oil.

Regarding the acquisition of family raw material, the influences of biodiesel policies are higher and direct. This occurs because the issues related to family farming get a special attention from the government because this actor is strategic and central to the program, having specific regulations, rules and norms to follow. The main institutional effects related to the feedstock acquisition from family farmers regard to the rules of the Social Fuel Seal, created to promote social inclusion.

The research showed that the Seal rules determine the supplier selection, the actors involved in the raw material strategy formulation, as well as some activities related to the acquisition and strategy implementation. It is noteworthy that the decision related to raw material acquisition is not only driven by the Seal rules, the companies also consider the sales expectation at the auctions, the experiences and the expertise.

The practice of the bonus payment was another important finding. To biodiesel producer it has been a problem for the industry, because do not exist rule in the bonus value negotiation and makes the family grain more expensive. On the other hand, the representative of family farming sees the bonus as a benefit to the farmers, being a manner to share the tax incentives received by biodiesel producer.

The acceptance of the policy pressures and the adjustment to the rules, laws and procedures created by the government enforce the macro context in which the biodiesel producers participate. There is a predisposition of biodiesel producers to accept and fulfill what is defined PNPB, due the institutional control exercised through legal coercion, punishing or removing from the market the companies that do not meet the legally established, provoking reflections on strategies for buying raw material.

In this sense, the decisions of biodiesel producers when buying raw materials proved to be top down to the extent that the institution, through its arrangement, has great effect on their purchasing strategies. The researcher also observed that in the context in case of family raw material acquisition, the power of actors' agency is lower, by being highly regulated. In the case of non-family purchase the PNPB pressures do not have a direct and severe impact, however the acquisition in this context is driven by the commodity market, which is already consolidated being imperative, given that biodiesel production in Paraná State is based on soybean.

The biodiesel market in Brazil is going through a consolidation stage; it brings

uncertainty about its sustainability, making public policies important to ensure the existence of a market for biodiesel and to achieve the goals of social inclusion. The strong presence of institutional pressures highlights the fundamental role of the Brazilian Government for the establishment and continuity of this activity.

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