

## **Food Public Procurement Police Factors in Brazil: A Literature Review**

**ANA CAROLINA FERREIRA DE SIQUEIRA**

FACULDADE DE ECONOMIA, ADMINISTRAÇÃO E CONTABILIDADE DA UNIVERSIDADE DE SÃO PAULO - FEA

**MARIA SYLVIA MACCHIONE SAES**

FACULDADE DE ECONOMIA, ADMINISTRAÇÃO E CONTABILIDADE DA UNIVERSIDADE DE SÃO PAULO - FEA

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## **1. Introduction**

In Brazil, food procurement public policy for the school is regulated by the law nº 11,947, from 2009, stating that at least 30% of the whole amount of money handed from the federal government to each municipality must be used to buy food from family farm producers<sup>1</sup>. Every year, all municipalities are compelled to submit their food procurement invoices to be approved by the School Feeding Council (CAE, in Portuguese), and then send it to the federal government. As a consequence, federal government knows what and how much was bought for school feeding purposes.

The available data indicates different achievements on this goal by the municipalities (FNDE, 2016). This diversity can be related to different social, economic, geographical context, governance structures and other factors. This leads to the question why this phenomenon happens. The purpose of this research is to investigate factors related to varieties of compliance with legislation regarding food public procurement for schools, according to previous literature.

The methodology used is a literature review. After a decade that this new format for the National School Feeding Program (PNAE in Portuguese) started, much has been published about it. Our purpose is to critically synthesize these previous works and to extract what they support as factors for more or less family farm procurement. Before that, as this is also an international subject, we provide an overview of how this issue is managed worldwide.

In Brazil, the social impact produced by inclusive school food public procurement affects not only students, but the family farm producers. “Family farmer agriculture is fundamental for Brazil's development. There are approximately 4.4 million family farmers, which is 84% of all Brazilian farmers” (Brazilian Agriculture Ministry, 2018). And the analyzed law incentives public procurement, specifically, from this kind of agriculture. A greater role for the community and the smallholder farmers in food procurement is an emerging trend (Drake et al, 2016).

Empirically, the question of this study is relevant for some reasons. The first reason is related to the social impact, for the recognition of food public procurement at schools is directly linked to at least three Sustainable Development Goals, created by the United Nations: Zero Hunger, Good Health and Well-Being and Quality Education (see United Nations, 2019).

Regarding education, many researches have already shown how a good nutrition for school-age children is positively related to a better school performance and a better learning (Sorhaindo, & Feinstein, 2006). “School feeding programs can help to get children into school and help to keep them there, increasing enrollment and reducing

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According to the Brazilian law (nº 11,326), a farmer is considered a family farmer if they do not hold, in any way, an area greater than four fiscal modules (which varies by location, e.g. the Amazon region has larger fiscal modules than the southern region of Brazil); predominantly use the labor force of the family itself in the economic activities of its establishment or enterprise; have income predominantly originated from activities linked to the farm; direct their establishment or enterprise with their family.

absenteeism, and once the children are in the classroom, these programs can contribute to their learning, through avoiding hunger and enhancing cognitive abilities" (Drake et al, 2016 p.viii).

The second reason is that school feeding is near-universal activity, happening in almost every country in the world with a comprehensive reach of approximately 368 million children benefiting from it (Drake et al, 2016). To be exact, in Brazil, in 2016, 5,570 municipalities and 154,060 schools participated on the analyzed program, which generated R\$ 3,421,487,528.00 on food procurement.

## **2. School Feeding in the World**

Public procurement has been used in the world to achieve social objectives since the 19<sup>th</sup> century. As the government has a large demand for products and services, it has the power to introduce markets policies and incentive new behaviors (Stefani et al, 2017).

School food public procurement potentially benefits both sides of the market, the demand and indirect consumers, who are the students; and the suppliers, that can be a specific group or a social minority (Stefani et al, 2017). For the suppliers, some advantages of systematically selling for the government are structured, costing less and reducing the risk of selling opportunities. For the consumers, some indirect advantages are incentives for food production directed to domestic demand instead of commodities to export, making possible the lead to a greater food security (Sumberg and Sabates-Wheeler, 2011).

The global investment on public school feeding procurement is in the order of US\$75 billion a year, however this investment does not seem to achieve the same output worldwide. On poorest countries, there is less coverage and quality on the public policies related to it (Drake et al, 2016).

The demand focus behind some of these programs considers there is small farmers latent producer's capacity just waiting to be requested, therefore more demand would easily lead to more economic transactions. Nevertheless, it is not always the case, resources are scarce and even though there are consumers interested in buying, suppliers sometimes are unable to produce or deliver products to meet the required demand, i.e. there are market failures (Sumberg and Sabates-Wheeler, 2011). Hence, in some context, the family farm producers would need capacity instruction, technology investment and other manners of support, that poorest countries government may be incapable to provide.

One issue that draws attention is the possible incompatibility of objectives pertaining school food policies. On one hand, there is the interest in buying affordable food so that the students have access to it, however on the other hand, there is the need to ensure sustainability for farmers. This antagonism is clearly observed in the 1990's, when the European Union (EU) defined that members states should adopt its lower prices policy to buy products and services in general, which hampered the role of social and environmental concerns.

In the following decade, after the Directive 2004/18/EC, several states started to address public food procurement towards local and organic foods. The sustainability addressed by public food procurement literature is mainly about the social aspect and not on the environmental sustainability, which is the primarily focus in green procurement (Stefani et al, 2017).

Overall, as we see from the 2000s, the food policy became more centralized on social and sustainability themes. We have noted this tendency observing the literature on the subject. The public food procurement literature review on scientific paper in 2017 (Stefani et al)

identified 66 out of 77 papers from U.S. and Europe, the former is probably because of their English written limitation excluded most developing countries researches. The following databases were searched: Web of Science, CAB Abstract, Scopus, Emerald Insight, and Sociological Abstract.

The American literature contains a great share of management studies, focusing mostly on themes such as policy types (“farm to school” and, nutrition and health initiatives) and the food supply chains, probably due to a long tradition that characterizes these programs. At the same time, the Farm to School Program that linked schools to local agriculture and helped schools cope with financial limitations on food budgets started in the United States. With this program, schools could opt to buy food based on geographical preference, instead of just cheaper products (Stefani et al, 2017).

Drake et al (2016) compared fourteen developing countries on case studies: Botswana, Brazil, Cape Verde, Chile, Côte d'Ivoire, Ecuador, Ghana, India, Kenya, Mali, Mexico, Namibia, Nigeria and South Africa. These countries were purposely selected as case studies because they exhibit how diverse and how innovative feeding school programs can be. Their analysis considered design and implementation, policy and legal frameworks, institutional arrangements, funding and budgeting, and community participation.

For design and implementation, the specific concern was which subjects each program were related: agriculture, education or health and nutrition. Almost all programs were related to education and only Ghana and Mali were related to all topics. The targeting approach could be universal to all students; individual, especially for low-income students; and geographic to certain regions (see, Table 1).

**Table 1: 14 Case studies design and implementation**

	Strategic Focus			Targeting Approach		
	Agriculture	Education	Health and nutrition	Universal	Individual	Geographic
Botswana		x		x		
Brazil	x	x		x		
Cape Verde		x		x		
Chile		x	x		x	
Côte d'Ivoire	x	x				x
Ecuador		x		x		
Ghana	x	x				x
India		x	x	x		
Kenya (HGSM program)		x				x
Kenya (NMK program)	x					x
Mali	x	x	x		x	

Mexico		x		x		x
Namibia	x		x			
Nigeria	x		x			
South Africa		x			x	
Total	5	13	4	7	2	7

Source: Drake et al (2016, p. xxxix)

Regarding policy and legal framework for the authors “it is important to have a clear policy in place to govern implementation. Whilst sound regulations certainly do not guarantee implementation, they establish a visible mandate to be realized and set standards for service delivery across the different objectives.” (Drake et al, 2016 p. 27). However, rigid and static laws can stand in the way to these programs’ evolution. These programs usually have a fluid and dynamic nature and change as their implementation and experience provide lessons and their managers learn (Drake et al, 2016).

Accordingly, there is a delicate balance between imposing targets and restrictions by law, as it occurs in the Brazilian program, to make sure implementation happens, and leaving room for innovation and adaptation. A solution for such a problem could be creating goals that progress over time and making targets that varies in line with some context characteristics.

Like that challenge, there are others related to school feeding procurement. “Providing food to children in school, though a simple and widely accepted idea, in practice, is a complex intervention that involves a range of stakeholders operating at various levels across different sectors” (Drake et al, 2016, p. iii). To overcome these barriers, there are adequate institutional arrangements that varies across countries, but they should consider coordination needs between different levels, like national and subnational, and the interaction among like local agriculture and food nutritional quality (Drake et al, 2016).

Coordination can be overseen by the community. The community can also be one of the stakeholders responsible for check and balance for the school feeding process. Community can participate in different supply chain stages. Drake et al (2016) found diverse kind of participation in their 14 countries research. Accountability and monitoring were generally deficient in the eleven countries, Chile, Ecuador and Brazil being exceptions.

The conclusion for this report is that there is no ‘one size fits all’ model because school feeding is a complex task that arises in different levels and requires various stakeholders. Drake et al (2016, p. ix) point out “The most sustainable and government-owned programs are those that are more than the sum of their parts: designed and implemented together by the education, health and agriculture sectors.” The Brazilian National School Feeding Program (PNAE, in Portuguese) can be considered as a program of this type, as will be more detailed below.

### 3. School Feeding in Brazil: PNAE

#### 3.1.1 Historical Context

The government concern with public school feeding started in 1930’s decade in Brazil with President Getúlio Vargas. It was first associated with a health issue (Balestrin et al, 2016) but it became an Education Ministry responsibility in 1955 based on the National School Lunch Program developed in the United States of America (Cunha et al, 2017).

In 1979, the school feeding policy was officially named National School Feeding Program (PNAE, in Portuguese) (Schwartzman et al, 2017).

Until then, family and smallholders' farms have been excluded from rural public policies that prioritized monoculture and large estates properties (Souza-Esquerdo and Bergamasco, 2015). It was only around 1990, after civil society and family agriculture groups pressure that idea to link family farming with public purchase finally gained political support (Schwartzman et al, 2017).

In 1994, it became possible for local public managers like mayors and education secretaries to privilege short circuits and to encourage local production and commerce because the Brazilian federal law nº 8,913 decentralized the school feeding process. This law also stated that nutritionists should create the menus, prioritizing staple foods that respects the local food culture and tradition (Schwartzman et al, 2017 and Balestrin et al, 2016).

However, there are barriers for smallholders and family farm producers to sell to the government even if there are law incentives for it. An obstacle in Brazil is the federal law nº 8,666 from 1993, that requires competitive bidding for public procurement, the winner is the cheapest supplier. Small enterprises and farmers are rarely able to offer the lowest prices. To overcome this, in 2003, the Federal Government created the Food Procurement Program (PAA, in Portuguese). That was the first strategy to avoid competitive bidding related to food procurement (Schwartzman et al, 2017).

In 2009, with the federal law nº 11,947 federal government required that at least 30% of the money transferred from it to the municipalities for the school feeding should be used to buy family farmers products. To do that, municipalities were allowed to use the Public Call mechanism, consisting of municipalities offering to buy from family farmers who are willing to sell their products for the region mean prices. If more than one supplier wants to sell, the municipalities prioritize local producers, and social minorities. There should be a wide call disclosure and the municipalities must make apparent the time and place of delivery, the quantity, and quality standard information so that family farmers can access public procurement opportunities (Schwartzman et al, 2017).

According to Reinach et al (2012), this 2009 law is characterized by hyper-decentralization management, because in addition to buying at the local level, the municipalities prioritize family farmers market.

### **3.1.2 PNAE's Structure and Characteristics**

Governance centralization is about the provision of a uniform order (for instance national regulations/laws). To the opposite, decentralization provides diversity in the governance of social interactions. Each frame has strength and weaknesses depend of the characteristic of the environment in implement the macro-institutions.

According to Brousseau and Raynaud (2006) in a population of finite and heterogeneous agents, “the more general the order, the more it must deal with heterogeneous coordination needs.” (p. 12).

The same authors also emphasize that “centralization provides agents with (i) scale and scope effects, (ii) learning and specialization benefits, and (iii) means to reduce collective welfare losses by boosting consistency between local rules, and internalization of externalities, and the creation of positive network effects due to the use of common rules.” (p.15). But also, the following disadvantages: “static maladaptation (increasing heterogeneity of preferences), dynamic maladaptation (reduced renegotiability),

cumulative information asymmetries, enforcement requirements (increasing incentives to free ride), private capture (greater incentives to distort collective governance) (p.32, 2006).

PNAE is a complex program with a diverse stakeholders' structure. Table 2 provides a simplified representation of the institutional frame PNAE with special emphasis on the entities and their responsibilities:

**Table 2: PNAE structure**

Kind	Actor	Specific organization	Responsibility
Operational	Federal government	National Education Development Fund (FNDE in Portuguese)	Defining the program rules, providing complementary financial assistance, standardization, coordination, monitoring and supervision of program implementation, as well as evaluating their effectiveness
	Executing Entities	Departments of Education of the States, Federal District and the Municipalities	Developing all conditions for the PNAE to be executed in accordance with the law.
	Executing Unit	Non-profit privately owned, civil society legal entity that may be instituted at the initiative of the school, the community or both. Executing Units may be also referred to as "School Cashier", "Parent-Teacher Association" or 'Parent-Teacher Circle".	Educational community representation
	School Feeding Council (CAE, in Portuguese)		Social control of the PNAE, monitoring the purchase of products, the quality of the food offered to students, the hygiene and sanitary conditions in which food is handled, distribution and consumption, financial execution and the task of evaluating the accountability of the Executing Unit and issuing the Concluding Opinion document
Supporters	Court of accounts (Tribunais de Conta in Portuguese)		Oversee accountability

<u>Federal Prosecutor (Ministério Público in Portuguese)</u>	In partnership with FNDE, receives and investigates PNAE's mismanagement reports
<u>Departments of Health and Agriculture of the States, Federal District and the Municipalities</u>	Sanitary inspection, attesting the quality of the products used in the food offered and for articulating the production of family agriculture with the PNAE.
<u>Federal and Regional Councils of Nutritionists</u>	Oversee the performance of nutritionists

Source: author based on FNDE (2019)

The municipality that does not accomplish applies the law risks being penalized<sup>2</sup>. There are some justifications that municipalities may claim for non-compliance with the law, they are especially related to the low or uncertain supply of the family farmer's products. As a result, the penalization is applied only in rare cases: when the municipality is not accountable for purchases, or does not institute a School Feeding Council, or does not provide food of any kind in schools (Bonduki, 2017).

There are three coordination options to implement PNAE according to FNDE. In the traditional model, municipality centralized model, town hall buys the food products and they are responsible for cooking and distributing for all the school in the municipality. Some advantages of this strategy are no need for stock in the schools and greater purchase bargain power, due to scale. Some disadvantages are need for greater stock management specially for expiration date losses and need for stock space in the secretaries (Santos et al, 2016).

The second option is the decentralized model, when each school is responsible for their own feeding process. The positive aspect is more autonomy to decide the menu and make it more personalized to the school taste and needs and the negative is the lack of a specialized team to manage this process (Santos et al, 2016). The third option is the centralized model, in which the States are directly responsible for school feeding, through Department of Education of the States or Federal District.

According to the literature, there are other two models: semi-centralized in which raw food products are bought by each school and more industrialized food products are bought by the education secretary and the outsourced model, where the education secretaries buy the food products and a contracted enterprise prepares and delivers meals (Santos et al, 2016). The outsource model is not foreseen by the updated PNAE guide available on its website, information about it is reached only in by primary data collection directly with municipalities.

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The penalizations alternate between not receiving money on the following period, and being obliged to return the money to the federal government

Machado et al (2018) have found that traditional model is most frequent than decentralized, mixed or outsourced for the units that buy at least 30% from family farmers. The centralized model is probably the most effective to link school feeding to local agriculture, that is to successfully implement PNAE's goal.

Another fundamental element for this local agriculture policy is the nutritionist support. Based on the federal law nº 11,947 and the Resolution nº 26 from 2013, nutritionists must do the following activities: diagnosis of the students' nutritional status; planning, elaboration, monitoring and evaluation of the school feeding menu; human resources training; sanitary hygiene quality control; coordination and realization of food and nutritional education actions and others (Corrêa et al, 2017).

Bonduki (2017) found that the most successful PNAE implementation municipality cluster was the one with a population around 20,000 to 100,000 inhabitants. These municipalities are privileged compared to bigger cities for their low logistic complexity and usually their low distance to family farm producers; and at the same time, they are privileged compared to smaller cities because their bureaucracies are more established and efficient.

Bureaucracy enacts as a barrier, for its tiresome sequence of activities and authorizations needed for the school feeding process. The chronological order of each stage, as reported by Hirata et al. (2017), is: 1) Appointment of a special committee for family agriculture procurement (CECAF); 2) Identification of family farmers and local producers; 3) Establishment of the menu; 4) Basic project; 5) Prices quotation; 6) Formalization of the process; 7) Public announcement; 8) Budget/ authorization; 9) Legal analysis; 10) Publication of the public call; 11) Receipt of the proposed sales; 12) Public session of judgment; 13) Publication of the judgement; 14) Receiving samples; 15) Homologation; 16) Disclosure of the waiver of bidding System of Electronic Disclosure of Purchases and Procurements (SIDEC, in Portuguese) and Integrated System of Management of General Services (SUASG, in Portuguese); 17) Note of commitment; 18) Issue of the contract.

Abreu (2014) identified other challenges in PNAE's execution, especially in small municipalities. Beyond them there is heterogeneity in Brazilian geographic regions. There is a notorious heterogeneity between Brazilian municipalities, their population varies from 815 to 20 million inhabitants or 10% of the country population (Bonduki, 2017).

Table 3 shows a case where a municipality is able to locally complement the transferred financial resources from the federal government to school feeding. Once the funds from different sources are integrated, it is hard to separate them and to know exactly where it came from. Therefore, it is only possible to analyze the amounts.

This municipality uses part of its own money to obey the federal government rule so to continue to have access to its income, which stand-to-reason especially if family farm products are more expensive. Apart from that, the municipality may not be interested on buying this kind of products, as it almost reaches the minimal percentage required by law regarding FNDE money, and but acquire only 12,1% from family farm products, considering all the financial resources available for school feeding.

**Table 3: Financial resources used for school feeding procurement in a municipality**

<b>Financial resources used for school feeding procurement</b>	
Amount handed by FNDE	34,5%

Municipality complementary amount for school feeding procurement	65,5%
Total amount used for school feeding procurement	100%
Amount used for family farmers products buying, considering only the amount handed by FNDE	29,5%
Amount used for family farmers products buying, considering the total amount used for school feeding procurement	12,1%
Amount used for family farmers products buying, considering only the municipality complementary amount for school feeding procurement	2,9%

Source: Soares et al, 2018

Soares et al (2018) also show there are three kinds of food used for school feeding according to FNDE health concerns: recommended, restricted and prohibited products. Family farm products provided only the recommended kind of food. The relationship between family farm products and healthy food could be possibility.

#### 4. Methodology

To reach the goal of identifying which PNAE's factors of success and failures are addressed by the literature, we searched for it in Brazilian research data bases, Scielo and Spell, looking for the word "PNAE" either in abstract, title or key words in any time<sup>3</sup>.

We read all articles and collect the following information: title, whether it is case study or geographic limited, (if yes) specific region analyzed, authors, year, journal, research database it was found, keywords, abstract, research question or objective, theory used, methodology, results, conclusions and determinants of result.

We found 37 articles, of which 12 were excluded from the final analysis because they were duplicated in both research data bases, or they were previous to the federal law nº11,947 from 2009, or they were not specifically about PNAE, or they did not address the family farm agriculture or procurement subjects. Thus, only 25 articles will be analyzed in the following topics.

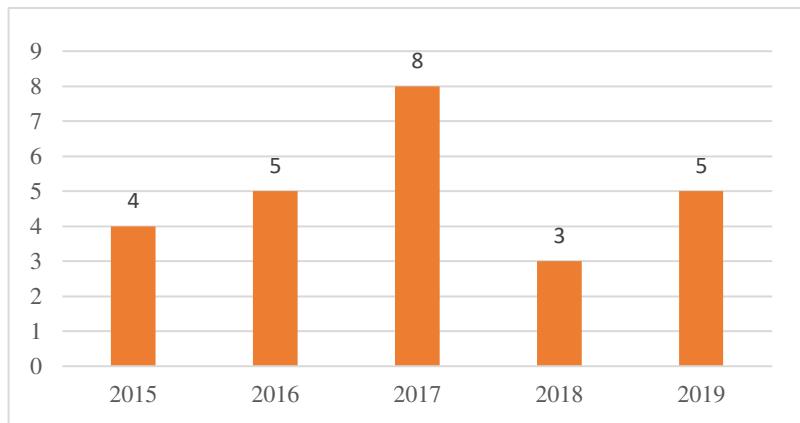
#### 5. Results

For the articles search, there was no time limitations, however, as one of the requirements was that they approached the federal law nº 11,947 from 2009, and it takes some years for an article to be published, the first year with an analyzed article published was 2015. From there, it grows until reaches a peak in 2017, then falls for more than a half and grows again. It may tell that PNAE as a research object has reached a limit when associated with specific other subjects, besides more recently other ideas are appearing.

**Figure 2: Number of articles by year**

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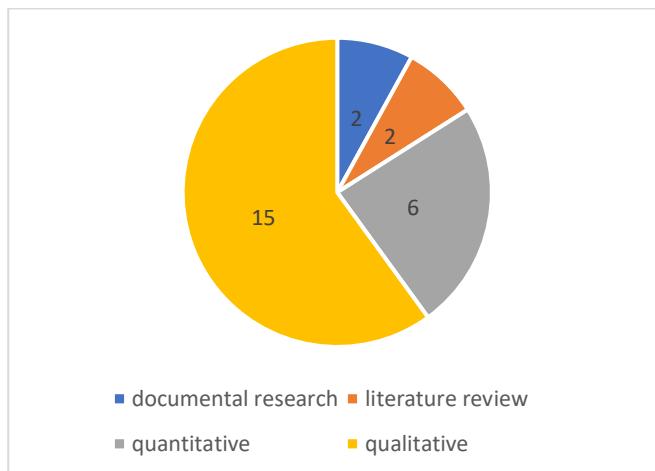
There are many thesis and dissertations about this subject, as Bonduki (2017) and Abreu (2014), who are cited in this chapter. This literature review focused on journal published articles only for they are expected to have gone through a peer review to certify their quality.



Source: research data

For the methodology, in most of the articles, 60% used the qualitative approach with interviews and case studies. Two used only documental data collection, which was possible because PNAE is nationally wide documented. One of the articles analyzed previous regulatory standards that led to the regulation of the program management structure (federal law nº 11,947).

**Figure 3: Number of articles by methodology**



Source: research data

In relation to articles focused in a specific geographic area, 17 out of 25 articles were found, representing more than 75% of its total. The most researched region is the Southeast, which is also the most populated one. There was no specific article about the West Center region, also there was just one about the North, however it is combined with the Northeast. The West Center and North regions are the least populated ones. The region specificity is in line with the qualitative approach, the most common one, as shown in Figure 3.

**Table 4: Number of Articles by region**

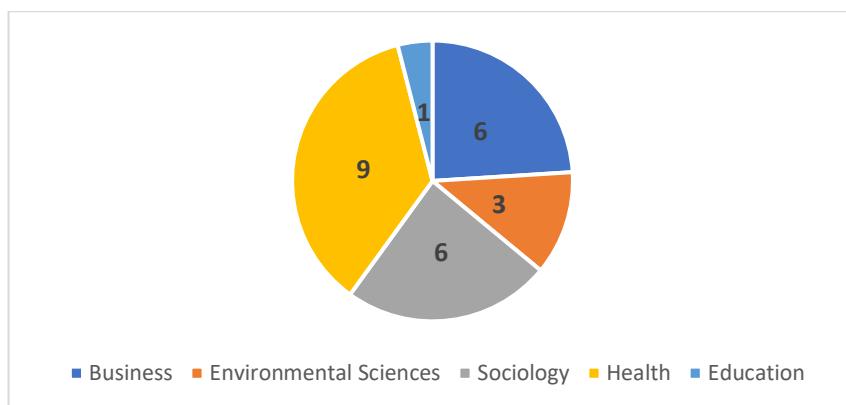
Region	Location	Number of articles
North and Northeast regions	BA	1
	PE	1
	North and Northeast regions	1
	Total	3

Southeast region	ES	1
	MG	4
	SP	2
	PR	2
	Total	9
South region	South region	1
	RS	4
	SC	2
	Total	7

Source: research data

School feeding program is an interdisciplinary subject, linked to nutrition, education, rural development, management and others. Therefore, journals from different themes publish papers about it focusing on various aspects. The most common journal theme is health<sup>4</sup>, which is probably due to the fundamental role nutritionists play in this program.

**Figure 4: Number of Articles by Journal subject**



Source: research data

In 15 articles out of total, or 60%, it is identified at least one aspect that would promote or hinder family farm products procurement. They are divided into coordination mechanism kind, that takes into account autonomy and centralization or decentralization structure such as: municipal centralized management (Melo et al, 2016) and its partnerships and inter-sectoral coordination (cited in seven articles); and social, economic or geographical local context like small scale municipality (Machado et al, 2018) and nutritionists' role (cited in four articles), which is in line with the law nº 11,947 and the Resolution nº 26 from 2013. All these factors are associated with more family farm products procurement according to the literature.

For the factors concerning less family farm products procurement are also coordination context related like institutional arrangement and resistance to change (Elias et al, 2019; Mossmann et al, 2017) or social, economic and geographical local context related ones, such as low family farmer's infrastructure, the most mentioned negative factor and bureaucracy, cited in six articles.

The resistance to change can be related to a fear public manager might have. Even though there are legal alternatives to replace the traditional bidding mechanism that hinders

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This classification was based on the journal title and which knowledge area was evaluated with the highest score on CAPES (Higher Education Improvement Coordination) assessment.

family farm products procurement. Public managers are afraid of administrative and judicial sanctions for having used these alternatives. It probably happens because innovative public procurement approaches that prioritize family farmers, like the Public Call, are not as well-known and institutionalized as the long-established ones. This problem probably happens because the rules are not clear.

Low infrastructure seems to characterize family farms (Sodré et al, 2016; Souza-Esquerdo, 2015; Schwartzman, 2017; Pedraza et al, 2018; Vilela et al, 2019; Mossmann et al, 2017; Melo et al, 2016) as agriculture public policies in Brazil historically prioritize large farmers. A consequence of this can be low quality, variety and bad appearance or high cost of family farm products, a factor cited by three articles (Oliveira et al., 2017; Vilela et al, 2019; Mossmann et al, 2017). Bureaucracy problems is also very present as school feeding is it is an 18 activities process (Hirata et al, 2017).

Table 5 show the other factors identified in the literature.

**Table 5: Positive and Negative Factors in the purchase food from family farm**

<b>Positive Factors</b>		
<b>Coordination Mechanism or local context</b>	<b>Factor</b>	<b>Who cited it</b>
Coordination Mechanism	Actors partnership and inter-sectoral coordination	Schwartzman, 2017; Corrêa et al, 2017; Pedraza et al, 2018; Lopes et al, 2019; Cunha et al, 2017; Elias et al, 2019; Mossmann et al, 2017
Coordination Mechanism	Municipal centralized management	Melo et al, 2016
Social, economic or geographical local context	Close or abundant family farm products	Elias et al, 2019
Social, economic or geographical local context	Nutritionals role	Schwartzman, 2017; Santos et al, 2016; Lopes et al, 2019; Machado et al, 2018
Social, economic or geographical local context	Program institutionalization and community participation	Melo et al, 2016
Social, economic or geographical local context	Small scale municipality	Machado et al, 2018
<b>Negative Factors</b>		
<b>Coordination Mechanism or local context</b>	<b>Factor</b>	<b>Who cited it</b>
Coordination Mechanism	Institutional arrangement and resistance to change	Elias et al, 2019; Mossmann et al, 2017
Coordination Mechanism	Outsource	Machado et al, 2018
Social, economic or geographical local context	Bureaucracy	Souza-Esquerdo, 2015; Schwartzman, 2017; Pedraza et al, 2018; Vilela et al, 2019; Mossmann et al, 2017; Cruz e Assis, 2019

Social, economic or geographical local context	Large scale agriculture tradition	Machado et al, 2018
Social, economic or geographical local context	Low family farmers infrastructure	Sodré et al, 2016; Souza-Esquerdo, 2015; Schwartzman, 2017; Pedraza et al, 2018; Vilela et al, 2019; Mossmann et al, 2017; Melo et al, 2016
Social, economic or geographical local context	Low quality, variety and bad appearance or high cost of family farm products	Oliveira et al., 2017; Vilela et al, 2019; Mossmann et al, 2017
Social, economic or geographical local context	Not an interesting selling for family farmers	Souza-Esquerdo, 2015; Schwartzman, 2017; Triches and Silvestri, 2018

Source: research data

These factors will be analyzed on chapters three and four by qualitative or quantitative approaches as shown on appendix B.

#### 4 Conclusion

This article aimed to characterize food purchase programs in Brazil, based on a literature review. There was a tendency of increasing complexity due to social and environmental concerns, like the purchase of food from family farmers, local producers and organic products. In Brazil in particular, the legislation requires the acquisition of 30% of family producers.

The aim of this literature review was accomplished. Thirteen positive and negative factors were found. They were divided into coordination mechanisms and social, economic and geographical local context.

In the Brazilian case, on the one hand, it can be observed that the main factors that hinder compliance with the legislation are bureaucracy, infrastructure problems and resistance to change (new forms of procurement execution). On the other hand, the positive factors cited were municipalization and with family producer's proximity.

With the literature so far, it is not possible to deduce what strategies would be better for accomplishing this policy nationwide as most of the research's found are based in one or a group of locations. However, research strategy adopted by these papers can be appropriate for Brazil, where indeed one procedure that is very successful for one region, meaning that it leads to more family farm products procurement, can be unsuitable for another. Because it can be infeasible or would lead to unexpected results.

A limitation for this research is the use of only the initials PNAE as a word search and looking for peer-reviewed papers and not thesis or dissertations. For future researches we suggest empirically analyzing the found factors using qualitative and quantitative methodologies.

The contribution for this research is a clearer understanding on what factors can help the successful implementation of public policy related to school food procurement. This has a social relevance for the welfare as it is related to education, health and a large economic budget pertaining to children, teachers and family farmer producers.

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