

Implementation of the Brazilian School Feeding Program in a pandemic context in the municipality of Viçosa/MG: implications for public management and family farming

Implementação do Programa Nacional de Alimentação Escolar em contexto pandêmico no município de Viçosa/MG: implicações para a gestão pública e para a agricultura familiar

Implementación del Programa Nacional de Alimentación Escolar en un contexto de pandemia en el municipio de Viçosa/MG: implicaciones para la gestión pública y la agricultura familiar

Cinara Tatiana Simonino

Universidade Federal da Bahia, Brasil

cinara.simonino21@gmail.com

Luana Ferreira dos Santos

Universidade Federal de Viçosa, Brasil

luana.f.santos@ufv.br

Alan Ferreira de Freitas

Universidade Federal de Viçosa, Brasil

alanf.freitas@ufv.br

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Abstract

Research Objective: To analyze the implementation of public purchases via the Brazilian School Feeding Program (PNAE), from the perspective of public management and family farming, in the context of the Covid-19 pandemic, in the municipality of Viçosa (Minas Gerais Brazil). **Theoretical Framework:** Implementation of public policies and the role of street-level bureaucrats; state-of-the-art studies on the implementation of PNAE during the Covid-19 pandemic.

Methodology: Qualitative research, having as method the case study, as a technique of data collection interviews, and as a technique of data analysis the content analysis. **Results:** The decision to maintain public purchases of family farming and distributing food kits to parents/guardians of students was the primary strategy adopted. Both street-level bureaucrats and family farmers have faced difficulties in implementing the PNAE due to the pandemic; However, they outlined plans to continue making public purchases of family farming. **Originality:** The research understands the phenomenon from the bias of different public actors and family farming, in addition to empirically understanding the implementation of the PNAE in an atypical pandemic context. **Theoretical and practical contributions:** The theoretical contributions revolve around empirical analysis applying the literature of public policy implementation and street-level bureaucrats, considering the interface between school feeding and family farming in the pandemic circumstances. The practical contributions show suggestions for municipal public management.

Keywords: Implementation of public policies, Brazilian School Feeding Program (PNAE), Covid-19 pandemic, Street-level bureaucrats, Family farming.

Resumen

Objetivo de la investigación: Analizar la implementación de compras públicas de alimentos a través del Programa Brasileño de Alimentación Escolar (PNAE), desde la perspectiva de la gestión pública y de la agricultura familiar, en el contexto de la pandemia de Covid-19, en el municipio de Viçosa (Minas Gerais, Brasil).

Marco teórico: Implementación de políticas públicas y el papel de los burócratas a nivel de calle; estudios de vanguardia sobre la implementación de PNAE durante la pandemia de Covid-19.

Metodología: Investigación cualitativa, teniendo como método el estudio de caso, como técnica de recolección de datos entrevistas y como técnica de análisis de datos el análisis de contenido. **Resultados:** La decisión de mantener las compras públicas de la agricultura familiar, distribuyendo kits de alimentos a los padres/tutores de los estudiantes fue la principal estrategia adoptada. Tanto los burócratas callejeros como los agricultores familiares han enfrentado dificultades para implementar el PNAE debido a la pandemia; Sin embargo, trazaron estrategias para seguir haciendo compras públicas de la agricultura familiar. **Originalidad:** La investigación comprende el fenómeno desde el sesgo de diferentes actores públicos y de la agricultura familiar, además de entender empíricamente la implementación del PNAE en un contexto de pandemia atípico.

Aportes teóricos y prácticos: Los aportes teóricos giran en torno al análisis empírico aplicando la literatura de implementación de políticas públicas y burócratas callejeros, considerando la interfaz entre alimentación escolar y agricultura familiar en la circunstancia de la pandemia. Las aportaciones prácticas evidencian sugerencias para la gestión pública municipal.

Palabras clave: Implementación de políticas públicas, Programa Brasileño de Alimentación Escolar (PNAE), Pandemia de Covid-19, Burocratas a nivel de la calle, Agricultura familiar.

Resumo

Objetivo da pesquisa: Analisar a implementação das compras públicas via Programa Nacional de Alimentação Escolar (PNAE), na perspectiva da gestão pública e da agricultura familiar, no contexto da pandemia da Covid-19, no município de Viçosa/MG.

Enquadramento teórico: Implementação de políticas públicas e o papel de burocratas de nível de rua; estado da arte de estudos a respeito da implementação do PNAE durante a pandemia da Covid-19.

Metodologia: Pesquisa qualitativa, tendo como método o estudo de caso, como técnica de coleta de dados entrevistas e como técnica de análise de dados a análise de conteúdo. Resultados: A decisão de manter as compras públicas da agricultura familiar, distribuindo kits de alimentação aos pais/responsáveis dos alunos foi a principal estratégia adotada. Tanto os burocratas de nível de rua quanto a agricultura familiar enfrentaram dificuldades na implementação do PNAE devido à pandemia; no entanto, traçaram estratégias para manter as compras públicas da agricultura familiar.

Originalidade: A pesquisa compreende o fenômeno a partir do viés de diferentes atores públicos e da agricultura familiar, além de entender de forma empírica a implementação do PNAE em contexto atípico pandêmico.

Contribuições teóricas e práticas: As contribuições teóricas giram em torno da análise empírica aplicando a literatura de implementação de políticas públicas e burocratas de nível de rua, considerando a interface entre alimentação escolar e agricultura familiar na circunstância da pandemia. As contribuições práticas evidenciam sugestões para a gestão pública municipal.

Palavras-chave: Implementação de políticas públicas, Programa Nacional de Alimentação Escolar (PNAE), Pandemia de Covid-19, Burocratas de nível de rua, Agricultura familiar.

1. Introduction

Hunger, malnutrition, and food insecurity are global challenges, intensifying the need to address these public issues. According to data from the *Second Survey on Food Insecurity in the Context of the COVID-19 Pandemic* (II Vigisan), published in 2021 by the Brazilian Research Network on Food Sovereignty and Security (Rede Penssan), 116.8 million people in Brazil were experiencing food insecurity. Among them, 43.4 million (20.5% of the population) lacked sufficient access to food (moderate or severe food insecurity), and 19.1 million (9% of the population) were suffering from hunger (severe food insecurity). These figures highlight how economic, political, and health crises combined have reduced food and nutritional security (FNS) in the country (Rede Penssan, 2023).

In this scenario, public policies play a critical role in guaranteeing social rights, such as the right to food. The *Brazilian School Feeding Program* (PNAE) is Brazil's main and longest-running school feeding program. It aims to provide school meals and promote food and nutritional education for students in public basic education, ensuring access to quality food during school attendance. The program originated in the early 1940s, when the then *Nutrition Institute* proposed that the federal government provide meals to students in Brazil's public schools (*National Education Development Fund* [FNDE], 2023).

Since its inception, the PNAE has undergone various changes in its operational structure. These adjustments have allowed the program to expand its coverage to all students in public basic education and facilitated the inclusion of local businesses, small enterprises, and small-scale farmers through decentralized institutional procurement (Peixinho, 2013). One significant change was the shift away from canned and ultra-processed foods, favoring local and healthier options.

With this understanding and the need to generate income for family farming, Law No. 11,947 (2009) mandated the inclusion of family farming in the PNAE. Article 14 of the law stipulates that at least 30% of the financial resources provided by the FNDE for school feeding must be allocated to purchasing food products from family farming, rural entrepreneurs, or their organizations, prioritizing agrarian reform settlements, traditional Indigenous communities, and quilombola communities (Law No. 11,947, 2009).

The COVID-19 pandemic brought a new challenge to the PNAE, resulting in temporary but significant operational changes. Analyzing the program's implementation during the pandemic involves understanding Law No. 13,987 (2020), which temporarily authorized the distribution of food purchased with PNAE resources to parents or

guardians of public school students during the suspension of in-person classes due to a public emergency (Law No. 13,987, 2020). Under this law, the PNAE shifted from being a school-centered feeding program to a tool for combating hunger and promoting FNS during a period of heightened socioeconomic vulnerability for much of the Brazilian population.

In this context, examining the PNAE's implementation during the pandemic also entails analyzing how Law No. 13,987 (2020) influenced public food procurement from family farming. It becomes crucial to understand the actions, challenges, and strategies of the different actors involved in the PNAE's implementation, often referred to as street-level bureaucrats, a concept introduced by Lipsky (2010). Given the program's intersectoral nature—encompassing education and family farming through public procurement—it is also vital to study these categories to grasp the dynamics of its execution.

To explore this policy implementation based on local evidence, the empirical focus is the municipality of Viçosa, located in the Zona da Mata region of Minas Gerais. This research seeks to answer the question: How did public procurement of family farming products function during the COVID-19 pandemic within the local implementation of the PNAE? The objective is to analyze the implementation of public procurement through the PNAE, focusing on public management and family farming in the context of the COVID-19 pandemic in Viçosa/MG.

Several studies have addressed the challenges and strategies faced by PNAE managers and family farmers during the pandemic (Pereira et al., 2020; Sousa & Jesus, 2021; Sperandio & Morais, 2021). However, most of these works are theoretical, highlighting a gap in empirical research on the PNAE's implementation during the pandemic. Unlike these studies, this research empirically investigates the program's implementation in the atypical pandemic context. In addition to this introduction, the article includes a theoretical framework, methodological procedures detailing the methods and techniques for data collection and analysis, presentation and discussion of results, and a conclusion outlining contributions, limitations, and suggestions for further studies.

2. Theoretical Framework

This section reviews literature on public policy implementation, focusing on the role of street-level bureaucrats and discussing insights from studies on the PNAE's implementation during the pandemic.

2.1. Public Policy Implementation and Street-Level Bureaucrats

A robust theoretical foundation for exploring the social practices associated with the studied phenomenon begins with defining public policy and the role of street-level bureaucrats within it. Secchi et al. (2020) defines public policy as "a guideline designed to address a public problem" (p. 2), with its purpose being the resolution of a public issue, understood as an undesirable situation relevant to the collective. The public policy cycle—comprising problem identification, agenda-setting, alternative formulation, decision-making, implementation, evaluation, and termination—is a framework for understanding the life stages of a public policy (Secchi, 2022).

This study focuses on the implementation phase, which is considered one of the most difficult and critical stages of the public policy cycle for public managers. During this phase, public policy decisions are translated into actions, and any deficiencies or vulnerabilities in the application of the policy become evident (Wu et al., 2014). Regarding implementation models—top-down and bottom-up—Secchi et al. (2020) explain that the top-down model adopts a functionalist and technocratic perspective. This model assumes that public policies should be formulated and decided at the political level, with implementation being a mere administrative effort to find means for pre-established ends. In contrast, the bottom-up model views public policies as modifiable by those who implement them, allowing greater discretion for managers and bureaucrats (Secchi et al., 2020).

In the case of the PNAE, the public policy provides general guidelines but can be adapted at the local level. According to Freitas and Freitas (2020), implementation occurs through interactions among various actors, who develop their own rules to operationalize the program's guidelines. This same logic of adapting program guidelines to local realities applies to Law No. 13,987 (2020), enacted during the suspension of in-person classes. Under this law, new practices emerged to implement the PNAE's provisions effectively, not as distortions but as necessary adjustments by implementers to address practical challenges caused by the COVID-19 pandemic.

The implementers of the PNAE are referred to here as street-level bureaucrats, based on Lipsky's (2010) concept of "street-level bureaucracy." Lipsky defines these actors as public service workers who make policy decisions through their significant discretion in the day-to-day implementation of public programs, working directly with the beneficiaries. Literature on public policy implementation highlights discretion as a key factor in the actions of street-level bureaucrats, influencing how services are delivered during implementation (Ferreira & Medeiros, 2016).

Discretion is linked to these bureaucrats' ability to interpret public policies, which is shaped by their constant interactions with political, organizational, professional, and community systems (Lotta, 2012).

Applying this theoretical lens to analyze the social phenomenon studied here underscores the importance of street-level bureaucrats in ensuring the effective implementation of the PNAE and achieving its intended outcomes. As Lotta (2012) points out, understanding the role and influence of these bureaucrats is crucial to comprehending how actions are executed in practice and what factors impact the direction and results of public policies.

2.2. Implementation of the PNAE During the COVID-19 Pandemic

Research on PNAE implementation, particularly regarding the procurement of food from family farming to sustain the program during the suspension of in-person classes, has identified various challenges and strategies. According to Pereira et al. (2020), legal challenges include the discretionary nature of Law No. 13,987 (2020). Financial constraints were exacerbated as per capita food costs increased; assembling food kits generally required more items than regular school meals. On the nutritional front, Pereira et al. (2020) note that the kits should primarily consist of fresh and minimally processed foods. However, perishable items require specific logistics to maintain quality.

Oltremari et al. (2020) report that Curitiba/PR prioritized kits featuring fresh and minimally processed foods as a key strategy during the pandemic, adhering to regulatory standards. Amorim et al. (2020) highlight the PNAE's contributions to combating hunger and food insecurity during the pandemic through strategies such as distributing food kits or meals to students, increasing the funding provided by the PNAE for municipalities with low human development indices, and maintaining or promoting food purchases from family farming.

Sperandio and Morais (2021) point out that the most significant changes in the PNAE's operations were linked to initiatives developed by local managers. These managers, along with other actors, determined the best logistical approaches while adhering to the PNAE's nutritional, health, and social principles. Sousa and Jesus (2021) observe that the state of Tocantins implemented social, economic, and technological measures to minimize the pandemic's negative impacts on family farmers. Breitenbach (2021) identifies two main categories of strategies used to mitigate the pandemic's effects on family farming: governmental and emergency public policy actions, and civil society initiatives.

Although most studies on PNAE implementation during the pandemic take a predominantly theoretical approach, involving bibliographic and/or documentary research, some authors have conducted empirical studies. For instance, Futemma et al. (2021) examine the impact of the health crisis on small-scale farmers, identifying effects on production, sales, income, human health, and communication methods. Despite these challenges, small-scale farmers managed to overcome some difficulties through solidarity actions, collective efforts, individual creative solutions, and PNAE support.

Sousa et al. (2021) reveal that a cooperative's family farmers saw their sales halved, prompting them to seek alternative markets for their produce as traditional institutional markets for this segment were severely affected by the pandemic. Salgado and DelGrossi (2022) report that before the pandemic, a municipality in Goiás surpassed the minimum 30% procurement requirement from family farming due to strong collaboration between the public sector and a local farmers' cooperative. This collaboration continued during the pandemic through the distribution of food kits to students' families experiencing food insecurity.

The literature reviewed here indicates that the main challenges to PNAE implementation during the COVID-19 pandemic were legal, logistical, financial, nutritional, related to family farming procurement, and linked to social oversight. The reviewed studies also highlight strategies developed by program managers to address these challenges, including distributing food kits or meals to students and maintaining or promoting purchases from family farming. These strategies involved solidarity actions, collective efforts, individual creative solutions, and public policy support. Figure 1 summarizes the primary challenges and strategies identified in the literature for executing the PNAE during the pandemic.

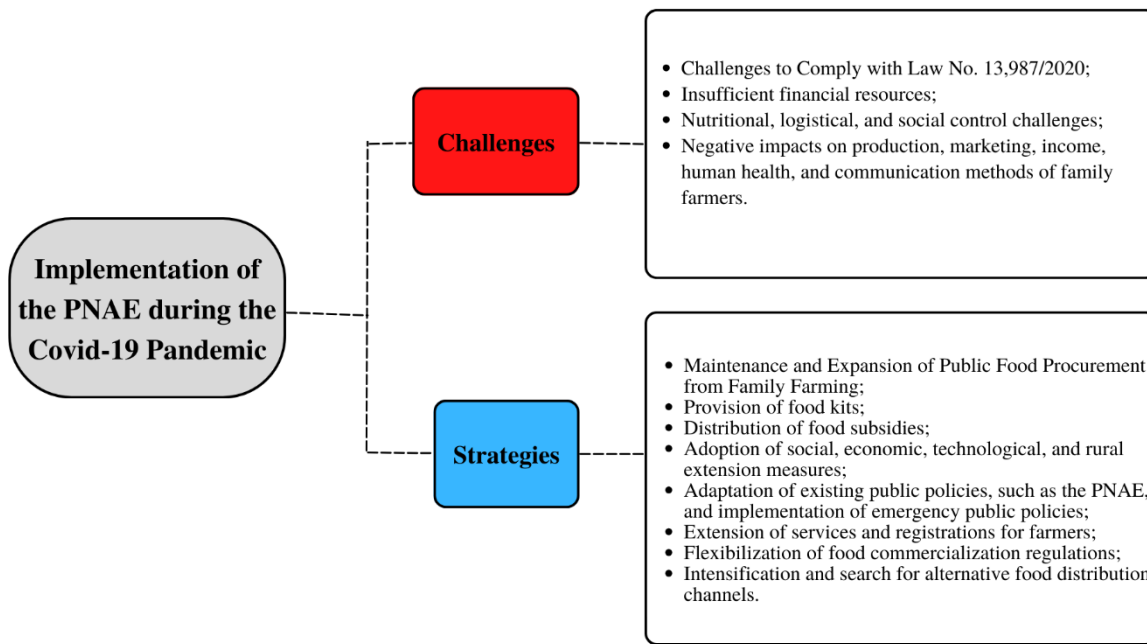


Figure 1 Challenges and Strategies in the Implementation of the PNAE During the Pandemic

In the scope of this research, the empirical case of Viçosa/MG was analyzed to determine the implications of the COVID-19 pandemic on the implementation of the public policy, considering the benefits of the PNAE, the strategies developed, and the challenges faced by the various actors involved in the process. Furthermore, as highlighted by studies on this topic, the pandemic altered how the PNAE was executed, creating difficulties and prompting strategies among public managers responsible for implementing the program. This also impacted family farming, which had to adapt to meet the new configuration of the public policy, particularly through strategies such as providing food kits and establishing new delivery arrangements due to safety measures. Therefore, to understand the implementation of the PNAE in the pandemic context, it is essential to consider both the implementers' perspective and that of family farming. Accordingly, the following methodological procedures demonstrate that both perspectives were addressed in this study through interviews.

3. Methodological Procedures

The research adopts a qualitative approach, with the method employed being a case study. This method consists of an empirical investigation that "explores a contemporary phenomenon (the case) in depth and within its real-world context, especially when the boundaries between the phenomenon and the context are not clearly evident" (Yin, 2015, p. 17). The investigation conducted here focuses on a contemporary phenomenon, considering the importance of understanding the implementation of public policy in an atypical pandemic context.

According to Yin (2015), applying the case study method involves using "how" or "why" questions related to a set of events over which the researcher has little or no control. Thus, the research question presented in the introduction aligns with this concept of a case study. As a data collection instrument, semi-structured interviews were conducted, guided by a script developed based on the aspects addressed in the theoretical framework and the research objective. Table 1 presents the characterization of the interview subjects, summarizing information about their occupation and affiliation, that is, the organization/entity they represent.

Table 1 *Characterization of Interview Subjects*

Interviewees	Codes	Occupation	Affiliation
Street-level bureaucrats	Interviewee 1	Nutritionists	Municipal Department of Education
	Interviewee 2		
	Interviewee 3		
	Interviewee 4	Extensionist	Technical Assistance and Rural Extension Company (Emater)
	Interviewee 5	Agronomist	Municipal Department of Agriculture and Rural Development
Family farming	Interviewee 6	Cooperative Director	Cooperative of Producers and Producers of Solidary Family Farming (COOPAF/Muriaé)
	Interviewee 7	Family farmer	Individual family farmers
	Interviewee 8	Family farmers	
	Interviewee 9		
	Interviewee 10		
	Interviewee 11		

Considering that the study involves human subjects, the project associated with this research was submitted to and approved by the Human Research Ethics Committee of the Federal University of Viçosa (UFV). Interviews with the nutritionists, the Emater extension worker, the director of COOPAF/Muriaé, one female farmer, and two male family farmers were conducted virtually via the Google Meet platform (between March and November 2022). Additionally, interviews with the agronomist and two male family farmers were conducted in person (in January and February 2023). Thus, the interview period spanned from March 2022 to February 2023.

The choice of the COOPAF/Muriaé director as an interviewee is justified by the fact that COOPAF was the sole cooperative supplying food for school meals in Viçosa/MG through the PNAE in 2021 and 2022, as determined by an analysis of the public calls from those years. All interviews were recorded—either on Google Meet for virtual sessions or via a mobile recorder for in-person sessions—and subsequently transcribed using Microsoft Word. The total recorded content amounted to approximately four hours, with the transcriptions totaling 75 pages.

The data analysis technique applied was content analysis, defined as "a set of techniques for analyzing communications using systematic and objective procedures for describing message content" (Bardin, 2011, p. 44). The type of analysis used was categorical analysis, which examines a text in its entirety, classifying its elements according to the frequency or absence of meaningful items. This approach allows for the classification of the constitutive elements of the message (Bardin, 2011). The content analysis was conducted in three phases: (1) pre-analysis of the data through listening to the interviews; (2) exploration of the material via the transcriptions; and (3) analysis of results and discussion informed by the theoretical framework.

4. Analysis of Results

The first category analyzes the verbal content generated by the interviews with street-level bureaucrats. The second category examines interviews with the COOPAF director and individual family farmers.

4.1. The Role of Street-Level Bureaucrats in the Implementation of PNAE

According to the interviewees, the implementation of the PNAE in Viçosa/MG is carried out through the joint efforts of the Municipal Department of Education, Emater, and the Municipal Department of Agriculture and Rural Development. Lima and Oliveira (2020) emphasize the importance of collaboration between these departments and Emater for PNAE implementation.

The nutritionists interviewed have been working in the school food sector of the Municipal Department of Education since 2020. Their primary responsibilities include: conducting nutritional education for students, performing nutritional assessments, training school staff, monitoring adherence to pre-defined menus, overseeing product quality and delivery to schools, and managing logistics and the procurement of food products from family farms.

The agronomist, involved in PNAE implementation since 2021, is primarily tasked with visiting family farmers' properties, assessing their production capacity, monitoring their outputs, and providing technical assistance. This includes soil analysis, advising on crop implementation, optimal planting schedules, and seedling development.

Emater extension workers play a crucial role in PNAE implementation by publicizing public calls, mobilizing family farmers to participate, organizing and updating their documentation, including the Declaration of Aptitude to the National Program for Strengthening Family Agriculture (DAP), preparing sales projects, and offering technical assistance.

The nutritionists reported difficulties in complying with Law No. 11,947 (2009) during 2020, which mandates that at least 30% of the financial resources allocated by the FNDE for school meals be spent on food products from family farms. They managed to achieve only around 12% in the first year of the pandemic. To comply with Law No. 13,987 (2020), food kits were assembled for distribution to students. The food kit strategy served as a measure under PNAE to combat hunger and food insecurity, highlighting the program's broader role as a public policy tool for ensuring food and nutritional security (SAN), exceeding its original objective of merely providing school meals during the pandemic (Amorim et al., 2020).

Since Law No. 13,987 (2020) delegated to local governments the responsibility of defining criteria for food acquisition through PNAE during the suspension of in-person classes, various strategies emerged nationwide. Some municipalities chose to distribute food kits, basic baskets, prepared meals, or financial aid to students' families (Oltamari et al., 2020). While different approaches were adopted, the law primarily recommended food kits, discouraging other modalities implemented across the country (Sperandio & Morais, 2021).

When food kit distribution began in Viçosa/MG in 2020, the local school food sector was still unprepared to adapt to this new model, leading to challenges in meeting the 30% allocation requirement for family farm products. However, by 2021, with lessons learned from the previous year and the return to hybrid learning, the municipality improved its performance, achieving about 28% of FNDE resources spent on family farm acquisitions—a figure close to the legal requirement. One nutritionist's testimony illustrates this learning curve in implementing public policy:

"In the year 2021, when we already knew what we were going to do, we started dividing by school. Then we gathered all the products, all the offerings we had, and calculated a per capita for each product. We grouped the foods because we couldn't meet the needs of all students with all the family farming products, as there were products we used less frequently. So, we weren't thinking about individual students; we were thinking about the collective to provide school meals." (Nutritionist, Interviewee 1)

The nutritionist's statement aligns with the perspective presented by Pereira et al. (2020), which highlights that insufficient financial resources become more severe as the per capita food cost increases. This is because assembling food kits generally requires a larger quantity of items than those used in school meals, revealing challenges in implementing Law No. 13,987 (2020). At the beginning of 2022, the nutritionists expressed hope that it would be a normal year due to the return of in-person classes in the municipality. However, an event external to the PNAE and the pandemic—the heavy rains of January—contributed to making 2022 another atypical year for family farming and sales through the PNAE. Consequently, farmers lost part of their production that was scheduled for delivery in February, which may have hindered compliance with the requirement to allocate 30% of FNDE resources for school meals to purchases from family farming.

To implement the actions mandated by law, the street-level bureaucrats involved faced challenges and had to devise strategies to distribute the food kits. This underscores a key aspect highlighted by Lotta (2012): the role and influence of street-level bureaucrats in the policy implementation process are central to understanding how actions are actually carried out and what factors influence changes in direction and policy outcomes.

In this context, another difficulty reported by the nutritionists and the extension agent interviewed was related to the kits that were not delivered because some parents or guardians of the students did not pick up the food at the schools. The interviewees could not pinpoint the exact reason for this but speculated that it could stem from various causes, as expressed in their statements:

"The producers delivered fresh products, we assembled the baskets on the same day, and asked the parents to pick them up. However, many parents didn't come to collect them, either because they didn't have transportation, were working and couldn't make it, or simply weren't interested." (Nutritionist, Interviewee 2)

"I'm curious about the reasons why some parents didn't pick up the kits. What was their difficulty in coming down, considering it was something free? Was it fear? Could it be fear of infection? Or was it convenience? I don't know." (Extensionist, Interviewee 4)

The nutritionists reported that, in the case of the municipal PNAE, the FNDE recommended delivering the food to students' homes if the parents or guardians did not pick it up at the school. However, this guidance was unfeasible due to a lack of transportation and time to go door-to-door delivering the kits. To avoid food waste, the nutritionists' first strategy was to give school principals autonomy to redistribute the kits within their own schools. This way, parents or guardians of students in situations of greater socioeconomic vulnerability who were interested could receive an extra kit. If there were still kits left undelivered, a second strategy adopted by the nutritionists was to donate these kits to charitable institutions in the municipality. In parallel with these two strategies, another measure was to prepare a document for schools to assess how many kits should be made available based on the interest of parents and guardians in receiving the products. Families who were not interested in picking up the kits signed a refusal document, as reported in the statement:

"And then we protected ourselves because if that parent didn't want it, they would sign the refusal document, and I had proof that I tried to deliver it, but they didn't want it." (Nutritionist, Interviewee 2).

This document, along with the allocation of undelivered kits to other families or charitable institutions, exemplifies adaptations made to improve the functionality of public policy under local implementation circumstances. From this, it is possible to identify factors shaping the actions of street-level bureaucrats, such as interactions with the beneficiary public, individual capabilities, and the influence of the local context (Lotta, 2012). Furthermore, the actions of the nutritionists align with the bottom-up model of public policy implementation, which is characterized by granting greater freedom to bureaucrats to adapt the implementation process (Secchi et al., 2020).

According to research by Oltramari et al. (2020), similar difficulties in delivering kits were observed in Curitiba, Paraná. In response, a survey was conducted to determine the number of kits to be sent to each school. After distribution, the following actions were taken with the surplus: non-perishable items from the kits were returned to the contracted companies responsible for deliveries to the schools, while perishable items were purchased with municipal resources and donated to a social assistance organization. This donation strategy for undelivered kits, highlighted by Oltramari et al. (2020), is similar to one of the strategies adopted by nutritionists working with the PNAE in Viçosa, Minas Gerais.

Another challenge, as noted in the agronomist's testimony, involved visiting family farmers' properties for production assessment and monitoring. Due to the pandemic and the enforcement of social distancing measures, these visits were limited. One strategy was to hold remote meetings with farmers, which the interviewee described as highly accessible. This approach encouraged family farmers to adopt new technological tools, such as virtual meeting platforms, and enabled their continued participation in the institutional market facilitated by the PNAE. Sousa and Jesus (2021) identified that technological adaptation strategies for family farming during the pandemic were also observed when the traditional Agrotechnological Fair of Tocantins (Agrotins) was launched in a virtual format. The virtual fair was a strategy to mitigate the pandemic's effects on family farming.

The implementation of public policies is considered critical for public managers because it is during this phase that policy decisions translate into actions, and any deficiencies and/or vulnerabilities become apparent (Wu et al., 2014). The contribution of public servants' engagement reflects the importance of analyzing the influence of street-level bureaucrats in public policy implementation.

Table 2 Summary of Street-Level Bureaucrats' Role in Implementing the PNAE During the Pandemic in Viçosa/MG

Bureaucrats	Attributions	Difficulties	Strategies or Discretionary Actions
Nutritionists	Develop and supervise menus; Monitor public calls; Conduct nutritional education work for students and school staff; Control product quality; Handle logistics and purchase of family farming foods.	Compliance with Law No. 11,947/2009 regarding the minimum of 30%; implementation of Law No. 13,987/2020 due to higher costs in the composition of food kits; delivery of kits to parents and/or guardians who did not pick them up.	Choice to offer kits; redistribution and donation of uncollected kits; preparation of a term to be signed by parents who did not pick up the kits.
Extensionist from Emater	Publicize public calls and mobilize family farmers to access the funds; Register and organize farmers' documentation; Prepare sales projects; Provide technical assistance to family farmers.	Delivery of kits to parents and/or guardians of students who did not pick them up.	Delivery of kits to students' homes.
Agronomist	Visit the properties; Conduct production surveys; Monitor production; Provide technical assistance to family farmers.	Conduct visits to farmers for production assessment and monitoring.	Remote meetings with family farmers.

The findings from this category of analysis indicate that the implementation of the PNAE in the municipality faced challenges due to the pandemic context. However, it also highlights the commitment of street-level bureaucrats to adapt the public policy implementation to ensure better management of the Program under adverse conditions. These results underscore the fundamental role of these bureaucrats in implementing the PNAE, especially in an atypical scenario where the provision of meals to students in school environments was suspended.

4.2. Public Procurement from Family Farming through PNAE

COOPAF/Muriaé operates regionally, supplying food to several municipalities, including its headquarters, serving approximately 160 schools with products from its members. Specifically, in Viçosa/MG, the main product supplied is yogurt. This is explained by the cooperative's well-structured administrative and personnel framework, facilitating the production of processed food items.

The director of COOPAF (Interviewee 6) explained that, upon the announcement of the public call, the cooperative submits a sales proposal listing all products from its members. From there, the municipality selects items that local farmers cannot supply. Thus, preference is given to local family farmers, and if they are unable to supply certain products, PNAE implementers contact COOPAF to fill the gap. Regarding strategies developed during the pandemic, the interview with the COOPAF director revealed new dynamics in work and trade, emphasizing adherence to sanitary measures to prevent and contain virus transmission. These measures included the use of masks and hand sanitizer, isolating symptomatic staff with recommendations for testing, and later, encouraging vaccination.

New work and trade dynamics within the family farming sector, generated by the Covid-19 pandemic, were also observed in Breitenbach's (2021) research. When asked about the difficulty of family farmers in Viçosa/MG organizing into cooperatives, the COOPAF director expressed similar questions. This is particularly puzzling given the municipality's multiple entities focused on cooperative studies and activities, such as the UFV's Bachelor's

Degree in Cooperativism and its university extension program, the Incubator for Popular Cooperatives (ITCP), alongside social movements.

The COOPAF director recounted that cooperative leaders were invited by Emater, along with other formal family farming organizations, to engage with family farmers in Viçosa/MG. These meetings aimed to share experiences and discuss the importance of establishing cooperatives, particularly for accessing public policies. However, despite these discussions, the idea of creating a cooperative in the municipality has not materialized. The interviewee believes there is potential for a cooperative given the existing support for cooperativism, but emphasizes that the initiative should originate from the farmers themselves rather than public authorities.

A cooperative initiated by public authorities risks becoming an organization lacking social roots, with limited identification among family farmers, thus relegating them to a secondary role. This issue was observed in Patos de Minas/MG, where the institutional PNAE market began with the creation of an association. However, the formalization of this organization was instrumental, dominated, and supervised by public authorities (Lima & Oliveira, 2020). When family farmers were questioned about their lack of formal organization, the main reasons cited included a lack of interest in self-organization, competition, disunity, and individualism, as illustrated by some statements:

"The farmers here, especially those involved with the PNAE, have a lot of, how do you say, competition. To have a cooperative, I think everyone has to be on the same path, right? And I see there, I don't know, I think the farmers aren't very united for this kind of cooperative; otherwise, it could have existed a long time ago, right?" (Family farmer, Interviewee 8).

"It's because the farmers in Viçosa are very individualistic. They prefer to keep everything for themselves, right, and don't want to share. Out of, I think, about 30-something producers, there are maybe four or five who want and are willing to form a cooperative. The rest don't want it; the rest are all individualistic, every man for himself and God for all, right?" (Family farmer, Interviewee 10).

From this perspective, Salgado and Delgrossi (2022) highlight the low level of formal organization among family farmers in the studied municipality in Goiás, despite the presence of a local cooperative. In Viçosa/MG, farmers report that contracts were fulfilled as usual during the pandemic, even with the suspension of in-person classes, and later, with the implementation of the hybrid teaching model. As for COOPAF, it began selling its products through the PNAE in the municipality in 2021, already within the pandemic context, making it difficult to compare the cooperative's participation in the PNAE before and after the pandemic.

From the analysis of the interviews, it becomes evident that the main benefit of family farmers' participation in the PNAE is income security, which was particularly relevant during the pandemic. This underscores the importance of the institutional market created by the Program for enabling the sale of produce and generating income for family farming. This result aligns with the findings of Fudemma et al. (2021), who consider the sale of family farming products as one of the greatest challenges faced by rural producers. One of the interviewed farmers stated that participation in the PNAE is their main source of income, and with the onset of the pandemic, their earnings declined. However, this was unrelated to the Program, which, on the contrary, was crucial for ensuring income during the pandemic, as highlighted in their statement:

"We were kind of caught off guard at the beginning of the pandemic, but my income drop at that time wasn't due to the PNAE; it was because of the market fair, the university shutting down, and the overall decrease in people going to the market. On the contrary, what kept me afloat during the pandemic was the PNAE. So, my income issues were more related to the town's reduced activity than the PNAE itself. In fact, the PNAE was a pillar that helped me hold things together until everything returned to normal" (Family farmer, Interviewee 9).

The report highlights the importance of the decision by the Municipality of Viçosa (PMV) to continue purchasing food products from family farming for school meals during the pandemic. With the suspension of in-person classes, many municipalities discontinued public purchases of family farming products through the PNAE, thereby removing

the public policy support for family farmers (Futemma et al., 2021). In this context, the role of public management, through the program implementers, proved fundamental for family farming.

Another benefit highlighted by a family farmer (Interviewee 9) from participating in the PNAE is related to the permanence of family farmers in rural areas, particularly young people, and their connection to agricultural production. The interviewee mentioned that his family has participated in the PNAE for a long time, but he started supplying food to the program in 2018, after returning to farming following a period away to complete higher education. He considers that the opportunity to market products through the PNAE was one of the main reasons for his decision to return to farming.

This result is supported by Corrêa and Wives (2018), who found that the program impacts family organization, changing young people's relationship with agricultural production. It also increases the number of rural youths engaged in family farming and enhances their involvement in family production, promoting the retention of young people in rural areas and, consequently, facilitating family succession.

Regarding the challenges of supplying food through the program, external adversities unrelated to the PNAE itself are prominent, and in some cases, unrelated to the pandemic. Both the interviewed street-level bureaucrats and some farmers reported that heavy rains in January 2022 affected the production planned for delivery in the first semester of the year. Another challenge faced by family farming is the increase in production costs, as prices for inputs and fuel, such as gasoline, have risen. It is worth noting that this economic scenario was not limited to Brazil; the pandemic's effects impacted the global economy, causing inflation and rising costs in many countries, including more developed ones.

The poor conditions of rural roads in the municipality also hinder the delivery of food to schools, as reported by two of the family farmers interviewed. These challenges illustrate how the implementation of public policy is influenced not only by state and non-state actors but also by local, national, and global circumstances.

An intrinsic difficulty of the PNAE faced by farmers is the delay or lateness of payments by the municipality. Although payment is guaranteed, these delays disrupt family farmers' production, especially for small-scale producers who rely on timely payments for their livelihood and reinvestment in production. Inconsistencies in meeting payment deadlines for family farmers participating in the PNAE were also identified in the research by Santos et al. (2022). Given these reported aspects, Table 3 summarizes the main strategies, benefits, and challenges identified by the research.

Table 3 *Strategies, Benefits, and Challenges in Family Farming's Access to the PNAE in Viçosa/MG*

Strategies	Benefits	Difficulties
New Work and Trade Dynamics (in the case of COOPAF): Guidelines for preventing and containing virus transmission; Suspension of employees suspected of infection; Vaccination incentives.	Production Flow. Generation and assurance of income, especially during the pandemic period; Retention of young people in rural areas and their connection to agricultural production.	Formal organization, in cooperatives or associations. Heavy rains in January 2022. Increase in production costs. Poor conditions of rural roads in the municipality. Delays in payments.

Reflecting on the findings of this article, it is worth noting that, during the pandemic, when classes in public schools were suspended, the PNAE became a public policy that exceeded its primary purpose of providing healthy and nutritious school meals to public school students while valuing food produced by family farming. Amid the crisis caused by the pandemic, in addition to this main goal, the PNAE became even more crucial in ensuring food and nutrition security (SAN) and combating hunger. It benefited both students and their families, by continuing to distribute food outside the school environment, and family farmers, by ensuring income and market access.

5. Final Considerations

The research concluded that, during the pandemic, the implementation format of the PNAE in Viçosa/MG was altered, changing the school meal preparation process and adapting the way products were delivered. To meet the new demand and the dynamic implementation context, implementing actors adopted the strategy of distributing food kits to parents and/or guardians of the students. A term prepared by nutritionists, to be signed by parents or

guardians who chose not to collect the food kits, was the main discretionary strategy observed during the pandemic. Kits not collected by their initial recipients were redirected to other families within the schools or donated to local charitable institutions.

It was concluded that both street-level bureaucrats and family farmers, whether organized in cooperatives or operating individually, faced challenges in implementing the PNAE during the COVID-19 pandemic. These challenges were related to both internal aspects (formal organization, payment delays, kit preparation) and factors beyond public policy control (climatic events, production costs, road conditions). However, strategies were developed to maintain public purchases from family farming and continue providing food to public school students, given the context of school closures and the subsequent hybrid learning model.

The study was limited by the absence of interviews with other actors involved in the implementation process, even if not directly related to family farming purchases, such as parents of students, school principals, and members of the School Food Council (CAE). For future research, it is suggested to conduct interviews with other relevant actors/institutions in the implementation process to include perspectives from agents who may have played significant roles in the PNAE's implementation, especially during the pandemic. It is also recommended to analyze the phenomenon through other theoretical lenses, such as municipal state capacities, and other methodological approaches, such as multivariate data analysis models that correlate municipal state capacities with the (in)success of family farming purchases in public food acquisition policies.

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