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Organic foods from family farms in the National School Food Program: Perspectives of social actors from *Santa Catarina*, Brazil

Alimentos orgânicos da agricultura familiar no Programa Nacional de Alimentação Escolar: perspectivas de atores sociais em municípios de Santa Catarina

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ABSTRACT

Objective

To analyze suggestions that facilitate the use of organic foods produced by family farms made by the social actors responsible for *Santa Catarina*'s school meals.

Methods

This qualitative and exploratory study used an electronic questionnaire for surveying 293 municipalities in the state of *Santa Catarina* in 2010 and identified the percentage of organic school foods purchased from family farms. The social actors from 52 municipalities who were responsible for organic food acquisition were interviewed in person. Their suggestions were categorized and analyzed by content analysis.

Results

A total of 446 social actors made 684 suggestions categorized into four themes: *Awareness strategies for the use of organic foods* (n=286) were proposed by principals and dieticians, who emphasized the need of educating social actors and community and raising community awareness; Better *Programa Nacional de Alimentação Escolar* management (n=148) was suggested by principals and family farmers, who wanted less bureaucracy and outsourcing, fewer taxes, and more management involvement; Better coordination between the *demand and supply of organic foods* (n=130) was suggested by principals, family farmers, and cooks because of logistic

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and supply problems; and *Better management of school food production* (n=120) was suggested by principals and cooks, who reported problems with the supply of specific foods, low organic food diversity, and lack of certification.

Conclusion

For the social actors, the use of organic foods in the schools of *Santa Catarina* requires the education of those involved (technical support, educational strategies, and community awareness), government support, coordination between demand and supply, and better management of organic food production.

Indexing terms: Agriculture. Content analysis. Food, organic. School feeding.

RESUMO

Objetivo

Analisar sugestões de atores sociais da alimentação escolar em municípios de Santa Catarina para facilitar a utilização de alimentos orgânicos da agricultura familiar.

Métodos

Estudo qualitativo e exploratório. Em 2010, foi realizado censo nos 293 municípios catarinenses com questionário eletrônico, identificando-se o percentual de compras de alimentos orgânicos da agricultura familiar para a alimentação escolar. Em seguida, foram entrevistados in loco *atores sociais de 52 municípios que realizavam a compra. As sugestões foram categorizadas e analisadas com base na técnica de análise de conteúdo.*

Resultados

Foram identificadas 684 sugestões de 446 atores sociais, categorizadas em 4 temas: Estratégias de Sensibilização para a utilização dos alimentos orgânicos (n=286) foram destacadas por diretores e nutricionistas, com ênfase para formação e sensibilização de atores sociais e comunidade; Gestão Governamental do programa (n=148) foi tema de diretores e agricultores familiares que destacaram diminuição da burocracia, dos impostos, da terceirização e maior envolvimento dos gestores; Programação da Demanda e Oferta de alimentos orgânicos (n=130) foi apontada por diretores, agricultores familiares e merendeiras pelas dificuldades de logística e necessidade de organização da oferta e demanda dos alimentos orgânicos e Gestão da Produção da alimentação escolar (n=120) foi referida por diretores e merendeiras que relataram problemas com volume de um mesmo produto na safra, diversidade de alimentos orgânicos e certificação.

Conclusão

Para os atores sociais, a utilização dos alimentos orgânicos pelas escolas de Santa Catarina se dará pela formação dos atores (apoio técnico, estratégias educacionais e sensibilização comunitária), apoio governamental, organização entre demanda e oferta de alimentos orgânicos e melhoria na gestão da produção da alimentação.

Termos de indexação: *Agricultura. Análise de conteúdo. Alimentos orgânicos. Alimentação escolar.*

INTRODUCTION

The *Programa Nacional de Alimentação Escolar* (PNAE, National School Food Program) is a public policy that promotes Food and Nutrition Security, the Human Right to Adequate Food, and healthy school meals. PNAE, covering all Brazilian municipalities, aims to meet the nutritional needs of children while they are at school, promoting healthy food habits, growth and development, learning, and student performance[1].

The *Programa Nacional de Alimentação Escolar* guidelines are given by the Law nº 11.947[1] and Resolution/CD/FNDE n° 38, passed in July 2009[2]. One of the guidelines determines that at least 30% of the resources received from the *Fundo Nacional de Desenvolvimento da Educação* (FNDE, National Education Development Fund) be used for buying foods, preferably organic and/or eco-friendly foods, produced by local, regional, or domestic family farmers. According to Triches & Schneider[3] and Saraiva *et al.*[4], these guidelines fueled the local family farms that produce organic foods, increasing food supply and diversity, farmer income, and consumption of fresh foods; decreasing the amount of ultra-processed foods

consumed by schoolchildren and transportation costs; and establishing a direct link between farmers and consumers.

The policy requiring the acquisition of organic foods from family farmers may revive schoolchildren's intake of fresh foods. Studies conducted in Denmark[5-8], Finland[5,6,8], Norway[5,6,8], United States[9-14], Italy[5,6,8,15], and United Kingdom[15,16] reported difficulties of introducing organic foods in schools, and some suggested ways of facilitating their use. Despite PNAE's scope, the number of Brazilian studies on this subject is very small, especially those that investigate the perspective of social actors involved with the program.

Therefore, the present study revolves around the suggestions made by social actors that support and operate PNAE. Social control by the school community is critical not only to ensure the supply of foods associated with the broad concept of health (human, social, and environmental)[17] but also to guide future public policies and strategies that promote the local acquisition of organic foods in the study municipalities and coordinate its implementation and promotion in other municipalities[12,13,16,18,19].

In this context and in agreement with PNAE's guidelines, the objective of this study was to analyze the suggestions made by social actors to facilitate the use of organic foods in the schools of *Santa Catarina*.

METHODS

The study is part of a larger study conducted by *Santa Catarina*'s *Centro Colaborador em Alimentação e Nutrição Escolar* (Cecane/SC, Collaborating Center on Schoolchildren's Food and Nutrition), sponsored by the FNDE, called: "*Utilização de produtos provenientes da agricultura familiar e de gêneros orgânicos na alimentação de escolares e sua interface com o Programa Nacional de Alimentação Escolar em municípios do estado de Santa Catarina*" ("Use of family farm and organic products in school meals and its interface with the National School Food Program in *Santa Catarina*"). The larger study was approved by the Human Research Ethics Committee of the *Universidade Federal de Santa Catarina* under Protocol number 1005/10 and conducted in *Florianópolis*, capital of the state of *Santa Catarina*, located in the Southern Region of Brazil[20].

The *Centro Colaborador em Alimentação e Nutrição Escolar Santa Catarina* conducted the study in two stages. The first stage used an electronic questionnaire to survey all municipalities in *Santa Catarina* from May to August 2010, identifying the percentage of school foods produced by family farms and the schools buying organic foods.

Of the 63 study municipalities, nine incorrectly informed that they were buying organic foods, and another two were used in the pilot study. Hence, the study analyzed data from the 52 municipalities that met the inclusion criteria established in the first phase of the study.

The municipalities that acquired organic school foods from family farms were included in the second phase of the study, which consisted of using a semi-structured questionnaire to interview the pertinent social actors (family farmers, cooperative presidents, school food counselors, principals, dieticians, and cooks). The interviews with all social actors were scheduled in advance by the municipal dieticians.

The study used a qualitative and quantitative approach to analyze the last open question: "What would you suggest to facilitate the use of family farm and organic products in school meals?".

The questionnaires were self-administered except for the illiterate, who were helped by the interviewer. The interviewers then digitalized the answers, giving them with a four-digit code to protect the identity of the schools, social actors, and municipalities. The first digit identified the social actor; the second, the region; and the third and fourth, the school code.

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The categories were created according to the mixed model, that is, they were created before data analysis but could be modified if necessary[21]. The pre-analysis categories and respective units (suggestions) were given by the pertinent literature and organized as follows: logistics (less transportation time and improved purchasing system)[12,13,16]; quality control (better quality control and personnel training)[13,16]; menu planning (menu reformulation, taking season into account)[8,22]; government incentives (reducing prices and bureaucracy)[11,12,16]; and promotion methods (encouraging more organic food intake and providing more information to parents and students)[14].

The data were treated by content analysis, as recommended by Bardin[23]. Content analysis is a set of communication analysis techniques that use systematic and objective message content descriptions to obtain indicators, quantitative or not, that enable the inference of knowledge on the conditions in which these messages are created/received (inferred variables). It requires:

a) Pre-analysis of the interviews: Reading and organizing the information according to exhaustiveness criteria (the selected material covered all the necessary elements); representativeness (the truly representative documents were selected); homogeneity (all documents were chosen using the same technique); and pertinence (the material addressed the problem). These stages were created by Cecane/SC interviewers.

b) Material exploration: The data were codified by units (suggestions), which corresponded to the segment that would be considered a base unit. Once the units were chosen, a new categorization was performed, considering the pre-existing categories and the new findings. In this process, content elements grouped by similarity were organized into the pertinent analytic categories[21].

c) Treatment and interpretation of the results: The data were interpreted by category, consulting the pertinent literature to complement contemplation. The occurrence frequency of each unit (suggestion) was determined by the software Microsoft Excel version 2010, to determine whether the study elements differed between social actors. Suggestions made by different actors (identified by region) were used for illustrating some categories and subcategories.

Given the number of suggestions and social actors, the former was systematized by the latter; the units (suggestions) were purified, codified, and categorized one last time into themes and subthemes; and the categories were distributed by social actor.

RESULTS

The study included data from 52 municipalities located in six regions of *Santa Catarina*: Western Region (25), Mountain Region (4), *Itajaí* Valley Region (4), Northern Region (6), Southern Region (12), and Greater *Florianópolis* Region (1). A total of 713 social actors answered the questionnaire, but 212 were excluded because they made no suggestions, and 55, because they had no suggestions. Therefore, the study included 446 social actors (74 farmers, 14 cooperative presidents, 36 school food counselors, 167 principals, 46 dieticians, and 109 cooks).

Content analysis looked into the 684 suggestions made by 446 social actors to facilitate the use of organic foods in the schools of *Santa Catarina*.

The suggestions were grouped into four categories or themes and eight final subcategories (Chart 1), and listed by decreasing frequency.

The Western Region, followed by the Southern Region, had the highest number of suggestions.

The category *Awareness strategies for the use of organic foods* contained 41.8% of the suggestions (n=286), made mainly by principals (43.0%) and dieticians (17.1%). They were grouped into three subcategories: social actor education, education strategies, and raising community awareness (Table 1).

Chart 1. Suggestions for facilitating the use of organic foods made by social actors from 52 municipalities in *Santa Catarina* that purchased organic foods for the National School Food Program in 2010.

1. Strategies for raising awareness and use of organic foods		
1.1 Social actor education	*1.2 Teaching strategies*	*1.3 Raising community awareness*
- Partnerships	- Encourage healthy eating	- Advertising
- Technical assistance	- Teacher support	- Advertising forum
- Professional training/education	- Exchange experiences	- Make aware
- Training/Courses/Lectures/Explanations/Workshops	- Education proposal	- Parent involvement
- Guidance	- Environmental management	- Community inclusion
		- Student participation
		- Projects
2. National School Food Program management		
2.1 Government incentives		
- Demand compliance with the law		- Reduce bureaucracy
- Finance		- Reduce taxes
- Credit lines		- Increase manager involvement
- Increase funds/resources		- Discourage outsourcing
		- Value the farmer
3. Coordination between organic food supply and demand		
3.1 Supply management and logistics		*3.2 Coordinate supply and demand*
- Facilitate delivery		- Increases purchases
- Facilitate distribution		- Organize production
- Facilitate access to organic foods		- Organize the farmers
- Improve transportation		- Increase production
- Improve infrastructure		- Guarantee the purchase
		- Increase supply and intake
		- Organize cooperatives
		- Increase human resources
		- Reduce product price
4. Management of school food production		
4.1 Sanitary quality		*4.2 Food planning*
- Quality control		- Food variety/diversity
- Sanitary quality		- Food amount
- Sanitary surveillance		- Menu planning and adjustment
		- Better storage
		- Avoid waste
		- Seasonality/Use in-season foods
		- Food distribution times

Education of the social actors is the main item of all suggestions, and all social actors mention it as a limitation, pointing out the importance of skilled labor for the production and acquisition of organic foods for school meals: "*Train the families who live in the communities that produce organic foods, offering incentives, organization, hygiene, and environmental awareness*" (principal, Northern Region); "*Provide technical support for the production of organic foods, since we have to learn everything online; it would be nice to have an educator*" (family farmer 1, Western Region).

The second subcategory refers to education strategies for increasing organic food intake at school, such as teachers encouraging healthy eating and education proposals: "*Provide lectures accessible to everyone about organic*

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Table 1. Number of "Awareness strategies for the use of organic foods" - related suggestions to increase the use of organic foods by *Santa Catarina* region and social actor. *Florianópolis* (SC), Brazil, 2013.

Subcategories	Regions	Diet	SFC	Principal	Cook	FCP	Farmer	Total
Social actor education	West	13	13	17	3	1	12	59
	South	10	3	10	9	3	3	38
	Norte	6	3	7	1	5	1	23
	Mountain	1	3	6	1	-	1	12
	Valley	3	-	7	-	1	1	12
	GFR	-	1	4	-	1	-	6
Teaching strategies	West	-	-	3	-	-	-	3
	South	3	1	7	2	-	-	13
	Norte	-	1	4	1	1	1	8
	Mountain	-	-	2	-	-	-	2
	Valley	-	-	5	-	-	-	5
	GFR	-	-	-	-	-	-	-
	West	2	5	17	3	2	9	38
	South	5	2	25	6	2	1	41
Raising community awareness	Norte	3	3	6	4	1	-	17
	Mountain	2	-	-	-	-	2	4
	Valley	-	-	3	-	-	1	4
	GFR	1	-	-	-	-	-	1
Total	N	49	35	123	30	17	32	286
	(%)	(17.1)	(12.2)	(43.0)	(10.5)	(5.9)	(11.2)	(41.8)*

Note: *With respect to the total 684 suggestions.

Social actors: Diet: Dieticians; SFC: School Food Counselors; FCP: Farmer Cooperative President; Region: GFR: Greater *Florianópolis* Region.

products and the importance of producing and consuming them, including the associated health benefits, and their positive impact on farmers' income and the environment" (cooperative president, Western Region); *"Always have monthly meetings to exchange experiences and encourage even more"* (principal, Mountain Region).

Suggestions regarding raising community awareness show the need of educational support and strategies: *"Make people and other farmers aware, since many believe it is easier to use poisonous chemicals than to grow organic foods"* (family farmer 2, Western Region); *"Advertise through all means of communication, since we know preventing makes a difference. Education is the solution; educated people know how to take care of themselves and their health,"* (principal, Northern Region).

Another category is *PNAE management* (Table 2). Many suggestions (21.6%; n=148) emphasize the role of the government in the implementation of the policy. Principals (31.7%) and family farmers (27.7%) criticize the lack of more governmental incentives: *"Effective surveillance for public entities to follow the law"* (Cooperative president, Southern Region); *"More funds for the acquisition of organic foods from family farms"* (school food counselor, Western Region); *"The situation and associated difficulties vary across the municipality. However, the greatest difficulty is the lack of government managers' awareness of the cause"* (dietician, Western Region).

Still within the PNAE management category, outsourcing the school meals in the state schools of *Santa Catarina* was perceived as a hindrance to program quality: "*School food outsourcing in Santa Catarina decreases family farmers' sales considerably; the people who are preparing the meals are from other municipalities and the children are not familiar with the food, for example, saying that they had never eaten*

Table 2. Number of "PNAE management" - related suggestions to increase the use of organic foods by *Santa Catarina* region and social actor. *Florianópolis* (SC), Brazil, 2013.

Subcategories	Regions	Diet	SFC	Principal	Cook	FCP	Farmer	Total
Government incentives	West	12	9	13	3	3	29	69
	South	2	4	11	6	4	7	34
	Norte	-	3	14	1	2	1	21
	Mountain	1	1	5	2	-	1	10
	Valley	2	-	4	3	-	3	12
	GFR	1	-	-	1	-	-	2
Total	N	18	17	47	16	9	41	148
	(%)	(12,2)	(11,5)	(31,7)	(10,8)	(6,1)	(27,7)	(21,6)*

Note: *With respect to the total 684 suggestions.

Social actors: Diet: Dieticians; SFC: School Food Counselors; FCP: Farmer Cooperative President; Region: GFR: Greater *Florianópolis* Region.

cornmeal" (family farmer 3, Western Region); "*School meals should not be outsourced; the municipality should also provide foods for the state schools because people who live in the municipality know what the local children like. What the local children eat should not be determined by someone from São Paulo*" (family farmer 4, Western Region).

Coordination between supply and demand represented 19.0% (n=130) of the suggestions (Table 3).

Principals (28.5%), family farmers (22.3%), and cooks (16.9%) pointed out the need of better food delivery logistics and coordination between the production of organic foods and the school's demand. "*Delivery difficulty - a walk-in refrigerator was purchased and a distribution center will be built to facilitate delivery*" (principal 1, Western Region); "*Encourage the farmers to better organize themselves and encourage the creation of cooperatives*" (dietician, Western region).

Social actors pointed out that the organization of farmers, cooperatives, and organic food production can facilitate the supply of organic school foods. Organization is critical for meeting the demand and reducing prices: "*I often leave home to deliver only a few items, for example, 10 heads of lettuce and some cabbages, so the resulting cost is very high*" (family farmer 5, Western Region).

A total of 120 suggestions (17.8%) referred to the Management of school food production (Table 4).

These suggestions were made mostly by cooks (40.8%) and principals (27.5%). They emphasized the small supply of processed organic foods, and especially the lack of laws and certification: "*Inspect the products so that we can serve homemade cheese from the Mountain Region, honey, eggs, milk, meats, etc.*" (cook, Mountain Region); "*Assign people to certify organic products*" (family farmer, Southern Region).

The social actors made many suggestions related to food planning, especially the unstable supply and poor diversity of organic products, excessive amounts available around harvest time, and the benefits of this type of food: "*They need to diversify the products because sometimes we receive too much of something, which ends up spoiling and generating waste*" (principal 2, Western Region); "*A stable supply throughout the year would be better - sometimes we have too much and sometimes too little*" (principal 3, Western Region); "*The amount is small, but we notice the farmer's happiness. If they sold to grocers, they would get much less. It is nice to see the cooks peeling oranges and making juice. Before they only opened a juice box and added sugar*" (school food counselor, Western Region).

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Table 3. Number of "Coordination between supply and demand" - related suggestions to increase the use of organic foods by *Santa Catarina* region and social actor. *Florianópolis* (SC), Brazil, 2013.

Subcategories	Regions	Diet	SFC	Principal	Cook	FCP	Farmer	Total
Management of school supply logistics	West	6	1	7	7	1	5	27
	South	-	2	4	4	3	-	13
	Norte	-	-	2	-	-	2	4
	Mountain	-	-	-	2	-	-	2
	Valley	-	-	-	-	-	-	-
	GFR	-	-	-	-	-	-	-
Coordination between supply and demand	West	5	4	14	1	3	15	42
	South	3	2	4	7	1	4	21
	Norte	3	2	2	-	3	1	11
	Mountain	-	1	1	1	-	1	4
	Valley	1	-	3	-	1	1	6
	GFR	-	-	-	-	-	-	-
Total	N	18	12	37	22	12	29	130
	(%)	(13.8)	(9.2)	(28.5)	(16.9)	(9.2)	(22.3)	(19.0)*

Note: *With respect to the total 684 suggestions.

Social actors: Diet: Dieticians; SFC: School Food Counselors; FCP: Farmer Cooperative President; Region: GFR: Greater *Florianópolis* Region.

Table 4. Number of "Management of school food production" - related suggestions to increase the use of organic foods by *Santa Catarina* region and social actor. *Florianópolis* (SC), Brazil, 2013.

Subcategories	Regions	Diet	SFC	Principal	Cook	FCP	Farmer	Total
Sanitary quality	West	2	2	5	4	-	-	13
	South	3	-	-	-	-	1	4
	Norte	-	-	-	-	-	-	-
	Mountain	-	-	-	1	-	-	1
	Valley	-	-	-	-	-	-	-
	GFR	-	-	-	-	-	-	-
Menu planning	West	7	4	15	29	-	13	68
	South	2	2	7	10	1	-	22
	Norte	-	-	2	4	-	-	6
	Mountain	-	1	3	1	-	-	5
	Valley	-	-	-	-	-	-	-
	GFR	-	-	1	-	-	-	1
Total	N	14	9	33	49	1	14	120
	(%)	(11.7)	(7.5)	(27.5)	(40.8)	(0.8)	(11.7)	(17.8)*

Note: *With respect to the total 684 suggestions.

Social actors: Diet: Dieticians; SFC: School Food Counselors; FCP: Farmer Cooperative President; Region: GFR: Greater *Florianópolis* Region.

DISCUSSION

The study collected suggestions from social actors involved with school meals in the state of *Santa Catarina* in 2010 to facilitate the use of organic foods in school meals. Most suggestions were made by the Western Region, possibly because it has the highest number of organic farmers, followed by the Southern Region[24].

More acquisition of organic foods from family farms recognizably ties farmers to the land. Altmann *et al.*[25] analyzed the perspectives of representatives from the agro-industry,

cooperatives, and social organizations in *Santa Catarina* for 2008 to 2015 and found the following in all regions: youth moving to cities, increasing the age of farmer population; small and unskilled labor force; and the need to improve the state's infrastructure to improve production diversity. These findings agree with the study suggestions, where actors evidenced the need of improving the skills of those involved with school meals.

All social actors placed the greatest emphasis on "Awareness strategies for the use of organic foods". Education of social actors was considered the most important item, followed by raising awareness and teaching strategies.

Conner *et al.*[12] and Santos *et al.*[26] agree that skilled workers are critical for the acquisition of school foods.

Chaves *et al.*[27] and Juzwiak *et al.*[28] believe that PNAE-related professionals require constant refresher courses and more transdisciplinary activities to ensure knowledge and reflection, and to support and promote healthy eating-related actions in schools. The development of specific methods and multi-professional promotion of healthy eating are essential for meeting the targets mostly already established by public policies[29,30].

Suggestions on *PNAE management* include reducing bureaucracy, taxes, and outsourcing, and increasing manager involvement. Buttivant & Knai[16] analyzed school food policies in England and found that efforts made at all levels of government have a positive impact on school food. Nielsen *et al.*[5] and Nolting[6] conducted studies in Denmark, Italy, Finland, and Norway and found that government incentives through laws, promotion strategies, programs, guides, and financial control effectively increased the intake of organic foods in schools. Studies have shown the importance of government-sponsored operationalization of school food programs in these countries.

In Brazil Saraiva *et al.*[4] analyzed purchases from family farms and their compliance with new PNAE guidelines and emphasized the importance of government for local development, and therefore, for promoting school food regionalization. For this to become a reality, social actors stress that public managers must implement family farm foods as a cross-sectional action in sector policies and predict challenges, such as providing technical assistance for farmers, transportation and storage infrastructure, diagnosis and interaction with the local and regional agricultural landscape, and spaces or forums for farmers, managers, and schools to debate and plan. These aspects reinforce the demands and suggestions of social actors for government incentives and the economic impact of acquiring products from family farms.

Suggestions on *Coordination between supply and demand* consisted of the logistics and production difficulties that cooperative presidents, cooks, and family farmers face to meet schools' organic food demands. These professionals are directly involved with food distribution and storage in schools. Conner *et al.*[12], Duval & Moy[13], and Buttivant & Knai[16] reported the same difficulties: logistics- and infrastructure-related difficulties, and unorganized production and acquisition.

Nolting[6] studied school food in Italy and found that technical procedures, such as food distribution frequency, are related to logistics, and that family farmers suggested better transportation, the need of meeting demand, lowering price, and solving supply problems.

Almeida *et al.*[31] analyzed organizational problems in family farms of *Araraquara* (SP) for PNAE and found that a specific logistic structure is necessary, as follows: farmer registration; knowledge of product, production technology, amount, delivery time and location; screening upon reception; and cook training.

Suggestions related to "Management of school food production" included amount harvested, low organic food diversity, and lack of

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certification. Nielsen *et al.*[5], Conner *et al.*[12], and Duval & Moy[13] warn of the difficulties that must be overcome to create school menus, such as ways of reducing the impact of seasonality. The menu should consider food composition, nutritional balance, sustainability, flavor, and student preference.

The Brazilian Ministry for Agrarian Development proposes strategies to strengthen the dialogue between the social actors responsible for menu creation (dieticians) and food production (family farmers and organizations), to hopefully guarantee a stable supply of organic foods to schools. Two such strategies are mapping local family farm products and respecting family farm product diversity and seasonality[32]. This coordination is essential because organic food supply will suffer if farmers do not participate in menu planning and plan their production accordingly[33].

The sanitary norms for the production of homemade foods, family farm products, and community products are excessively bureaucratic for small producers, preventing certification of organic products. Souza[34] stated that certification is yet a problem in the state of *São Paulo*.

Some study limitations are the lack of regional data analysis, which could help to explain the different challenges faced by each region, and researcher database analysis instead of interviews, which limited the researcher's perception of participants' subjectivity during the interview and/or while filling out the questionnaire.

CONCLUSIONS

The perspective of PNAE - related social actors from 52 municipalities of *Santa Catarina* to facilitate the use of organic foods in schools includes the education of social actors involved with school meals, technical support for farmers, educational projects and strategies conducted at school, and raising community awareness. Challenges associated with the production of organic foods and their use in schools, such as coordination between supply and demand, good production management, and especially the lack of certification of small farmer products, are obstacles that need to be overcome. Once acquisition from preferably organic family farms is guaranteed through a compulsory minimum percentage, government managers and school food counselors, as representatives of the school community for the social control of the program, should consider this guideline a requisite for expanding PNAE's objectives. We suggest the execution of similar studies in other Brazilian states to assess the advantages of increasing the amount of organic family farm products in school meals and the compliance and effectiveness of PNAE's guidelines.

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CONTRIBUTORS

GA SILVERIO and AA SOUSA conceived and designed the study, analyzed the data, and wrote and reviewed the manuscript.

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