

# Strategic evaluation of the Food and Nutrition Security Plan of the State of *Santa Catarina*, Brazil

## *Avaliação Estratégica do Plano de Segurança Alimentar e Nutricional de Santa Catarina*

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### ABSTRACT

#### Objective

A strategic analysis was carried out in order to verify the relevance of the Food and Nutrition Security Plan of the state of *Santa Catarina* to the Brazilian concept of Food and Nutrition Security.

#### Methods

A matrix containing 7 dimensions, 16 sub-dimensions and 35 indicators was used for the evaluation, which were evaluated as poor, regular, good and excellent for each component.

#### Results

The Plan was evaluated as being of good relevance to its objective. However, it was only relevant to 53% of the analyzed dimensions, and the dimension of promoting universal access to adequate food had the worst result. The dimensions of developing permanent processes of education, research and training, and of evaluation and

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monitoring, obtained the best results, with the Plan being evaluated as of good relevance to these dimensions. Still, for half of the sub-dimensions and for 60% of the analyzed indicators, the Plan was evaluated as poor or regular.

### **Conclusion**

It is hoped that the results of this research can qualify the Plan researched, as well as stimulate reflections for the construction of Plans in the other Brazilian states.

**Keywords:** Evaluation Studies. Food and Nutrition Security. Public Policy.

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## **RESUMO**

### **Objetivo**

*Realizou-se pesquisa avaliativa, do tipo análise estratégica, para verificar a pertinência do Plano de Segurança Alimentar e Nutricional de Santa Catarina ao conceito brasileiro de Segurança Alimentar e Nutricional.*

### **Métodos**

*Para a avaliação, foi utilizada uma matriz contendo 7 dimensões, 16 subdimensões e 35 indicadores, avaliados segundo os juízos de valor ruim, regular, bom e ótimo para cada componente.*

### **Resultados**

*O Plano foi avaliado como de boa pertinência ao seu objetivo. No entanto, apresentou pertinência apenas regular para 53% das dimensões analisadas, sendo que a dimensão de promoção do acesso universal à alimentação adequada obteve o pior resultado. As dimensões de instituição de processos permanentes de educação, pesquisa e formação, e de avaliação e monitoramento, obtiveram os melhores resultados, sendo o Plano avaliado como de boa pertinência a estas dimensões. Ainda, para metade das subdimensões e 60% dos indicadores analisados, o Plano obteve avaliação ruim ou regular.*

### **Conclusão**

*Espera-se que os resultados desta pesquisa possam qualificar o Plano pesquisado, bem como estimular reflexões para construção de Planos nos demais estados brasileiros.*

**Palavras-chave:** Estudos de Avaliação. Segurança Alimentar e Nutricional. Política Pública.

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## **INTRODUCTION**

The multidimensionality of the concept of Food and Nutrition Security adopted by Brazil imposes challenges for the implementation of an inherently intersectoral public policy. In addition, it exposes the necessity to think of evaluative strategies that can respond by their amplitude, through indicators and by methodologies and instruments of comprehensive and systemic information collection [1].

The concept of Food and Nutrition Security in Brazil incorporates dimensions related to quantity and quality, including the right of access to food, guaranteed food production with sustainable practices, conservation and control of the genetic basis of the agri-food system, agricultural supply, sanitary and nutritional quality, citizenship and

human rights [2-7]. In this perspective, efforts have been applied to systematize dimensions and list indicators capable of responding to the concept in question, considering that reducing nutrition to its nutritional dimension means limiting the human being to its biologicity, while considering only the economic condition or food availability means subjecting the whole food process to market laws [8].

In spite of this, there have been many studies that evaluate Food and Nutrition Security in Brazil, essentially at the individual or family level and usually involving few dimensions. At the same time, there are few evaluative studies on the aspects of management and execution of the *Política Nacional de Segurança Alimentar e Nutrição* (PNSAN, National Policy on Food and

Nutrition Security) and the *Sistema Nacional de Segurança Alimentar e Nutricional* (SISAN, National System of Food and Nutrition Security).

Food and Nutrition Security Plans (PlanSAN) are the main planning, management and implementation tools of the National Policy for Food and Nutrition Security [9], and express management commitments agreed with civil society. They must be prepared by all states and municipalities that have adhered to the National System of Food and Nutrition Security, and organized starting from a set of objectives, goals and actions that seek to guarantee Food and Nutrition Security and allow the public authority to fulfill its duty in guaranteeing the right of all human beings to have proper food intake [9,10].

Although all states have, since 2014, already been members of the National System of Food and Nutrition Security, at the time of this survey only *Santa Catarina*, *Bahia* and *Paraíba* had a plan in action [1]. Of these, the Plan of *Santa Catarina* (State of *Santa Catarina* Food and Nutrition Security Plans), published in 2014 and valid until 2019, was the best evaluated in relation to the normative aspects [1]. Considering the importance of carrying out other evaluations to ensure that the Plans meet their objective in the National Policy for Food and Nutrition Security, this article carries out a strategic evaluation to analyze the degree to which the State of *Santa Catarina* Food and Nutrition Security Plans is accountable for Food and Nutrition Security, subsidizing reflections and orientations about the National Policy for Food And Nutrition Security management.

## METHODS

This research was performed between the September 2016 and April 2017. It is an evaluative research of strategic analysis that seeks to verify the pertinence of an intervention in confronting a given problem or situation [11]. Relevance is understood here as “the ability of an intervention to provide answers to the problems

faced by decision-makers” [12]. In the present study, it is assumed that the State of *Santa Catarina* Food and Nutrition Security Plan is the instrument of the National Policy on Food and Nutrition Security in the state of *Santa Catarina* that gathers the answers to face the problems related to Food and Nutrition Security in this territory. The option for the specific evaluation of the Plan of *Santa Catarina* occurred because it is the Plan with the best evaluation in relation to the normative aspects, among the three plans performed in the study period [1].

Through a literature and document review, considering the legal frameworks of the National Policy for Food and Nutrition Security, a proposal was prepared for an evaluation matrix of the State Food and Nutrition Security Plans, composed of dimensions, sub-dimensions, indicators and measures that, at first, was agreed upon in two consensus workshops with the research group. The internally agreed matrix was sent to a group of external experts, using the Delphi method, which seeks a collective consensus on certain issues, without face-to-face contact and guaranteeing the anonymity of the participants [13]. Among the participants there were 8 specialists, whose contributions were used to adjust the final version of the matrix, composed of 7 dimensions, 16 sub-dimensions, 35 indicators and 99 measures (Table 1).

Documentary data collection regarding the State of *Santa Catarina* Food and Nutrition Security Plan was performed during the month of February, 2017. With a detailed reading of the document, paying special attention to the goals and actions, it was possible to verify if the State of *Santa Catarina* Food and Nutrition Security Plans met each of the measures. For this analysis, a possible set of answers was elaborated for each measure, allowing the evaluation of whether the goals and actions of the State of *Santa Catarina* Food and Nutrition Security Plans were completely fulfilled (grade given: 10-ten) or not (grade given: 0-zero). The measures partially met received a decimal

**Table 1.** Summary table of the evaluative matrix of State Plans of Food and Nutrition Security. *Santa Catarina* (SC), Brazil, 2017.

Dimensions	Sub-dimensions	Indicators	n° of measures	
Promotion of universal access to adequate food	Prioritization of populations in situations of social vulnerability	Flow of attention to populations in social vulnerability	3	
	Income	Generation of employment and income	5	
	Tax adjustment	Tax incentive in the production/consumption of adequate food	3	
	Distribution of food and meals		Execution of programs for distributing food and meals	4
			Availability of Food and Nutrition Security public equipment	2
Structuring agroecological production systems and sustainable food supply	Access to land	Landholding and land regularization	2	
		Agrarian reform	1	
	Production Incentive		Qualification and Technical Support	2
			Access to financial resources	2
	Distribution and supply		Incentives to production practices	3
			Institutional purchasing guarantee mechanisms	2
			Agility in distribution / supply chain	3
		Approximation between production and consumption	1	
Development of permanent processes of education, research and training in Food and Nutrition Security	Food and nutrition education	Valuing regional and traditional food culture	2	
		Environmental Sustainability	2	
		Encouraging healthy eating habits	3	
	Research and training		Advertising	3
			Promotion of research	2
	Public education system		Permanent education	3
Food and nutrition actions at all levels of health care	Basic care	Food and nutrition surveillance	3	
		Promotion of adequate and healthy eating habits	4	
		Prevention and control of health problems	3	
	Medium complexity		Sanitary and Environmental Surveillance	3
			System for non-communicable diseases care	3
			Access to special dietary needs	3
			High complexity	Hospital food assistance
Promotion of universal access to water	Structuring of basic sanitation systems	Programs of access to basic sanitation	5	
		Promoting the rational use of water resources	3	
		Conservation and Management of Water Resources	5	
Traditional peoples and communities	Prioritization of traditional peoples and communities	Prioritization of traditional peoples and communities in all dimensions	3	
Evaluation and monitoring	Evaluation and monitoring of Food and Nutrition Security Plans	Mapping of socially vulnerable families	2	
		Follow-up on Food and Nutrition Security indicators	3	
		Monitoring the actions of the plan	3	
		Reporting channels	2	

between 0.5 and 9.5. In this way, each measure received a score between zero and ten.

From the definition of the grades given for each measure, the other components of the

evaluative matrix were calculated. The result of the indicator was obtained through the average of the grades given to the measures. The average of the results of the indicators generated the result of each corresponding sub-dimension, being the same procedure adopted in the analysis of the dimensions and in the Plan.

According to Figure 1, a value judgment was given for each component of the matrix, according to the result obtained. If the result was less than five, the component would be considered as bad. If the result was equal or superior to five and less than seven, it would be considered as regular. A score greater than or equal to seven and less than eight and a half would be considered as good and, if the result was equal or superior to eight and a half, it would be considered as excellent.

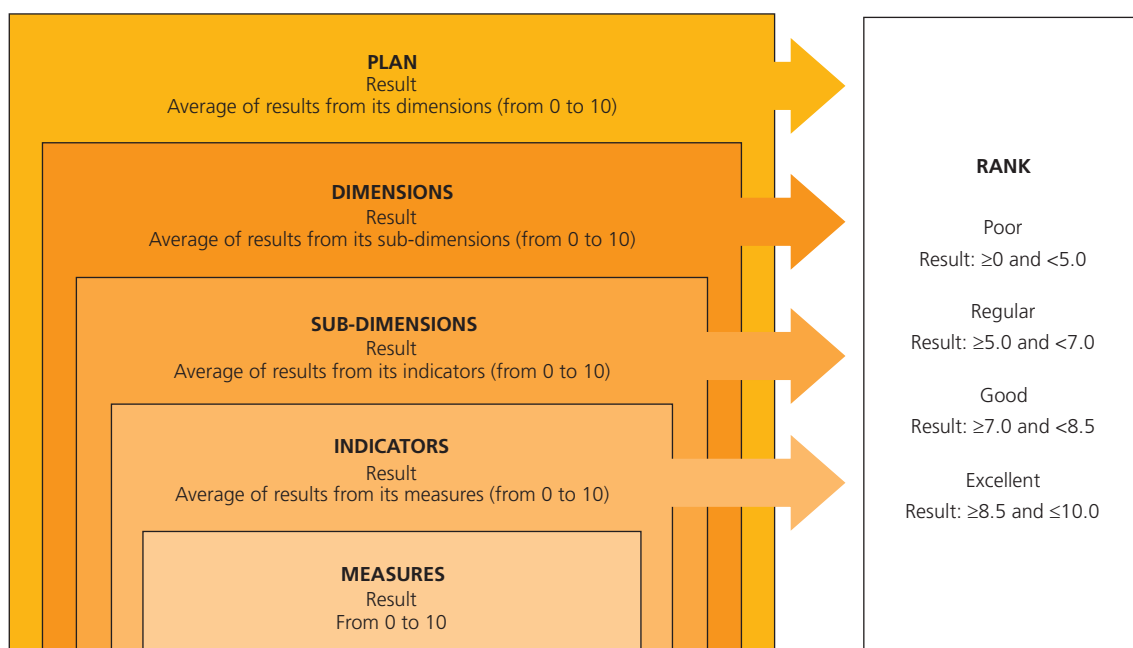
Data were analyzed using an automated spreadsheet which was made using Microsoft Office Excel® (Microsoft Corp., Redmond, Washington, DC, United States) software, and

the results presented in the form of tables indicating the value judgment for each of the matrix components.

## RESULTS

The State of *Santa Catarina* Food and Nutrition Security Plan had 146 goals and 212 actions, distributed in 43 objectives and 8 guidelines [14] that responded to the Food and Nutrition Security guidelines of the National Policy for Food And Nutrition Security [10]. It was prepared by the state *Câmara Intersectorial de Segurança Alimentar e Nutricional* (CAISAN, Intersectorial Chamber for Food and Nutrition Security) between 2013 and 2014, with the support of an external consultancy, and considered the actions already foreseen in the Pluriannual Plan of the State in force at the time and the proposals from the IV Food and Nutrition Security State Conference held in 2011 [1,14].

The State of *Santa Catarina* Food and Nutrition Security Plan was evaluated as of



**Figure 1.** Results and rank of the indicators, sub-dimensions, dimensions of the evaluation model of the State Plans of Food and Nutrition Security. *Santa Catarina* (SC), Brazil, 2017.

good relevance to the concept of Food and Nutrition Security adopted in Brazil (Table 2). Of the total dimensions analyzed (n=7), the Plan was considered of good relevance to 57% (n=4) of them and of regular relevance to 43% (n=3). It presented good relevance to the dimensions of developing permanent processes of education, research and training in Food and Nutrition Security; evaluation and monitoring; structuring agro-ecological production systems

and sustainable food supply; and promotion of universal access to water. On the other hand, it had a regular relevance to the dimensions of food and nutrition actions at all levels of health care; traditional peoples and communities; and promotion of universal access to adequate food (Table 2).

As to the sub-dimensions, 19% (n=3) showed excellent relevance, 31% (n=5) good

**Table 2.** Result of the evaluation of pertinence of the State Plan of Food and Nutrition Security, according to sub-dimensions and dimensions. *Santa Catarina* (SC), Brazil, 2017.

Dimensions and Sub-dimensions	Result	Rank
<i>Dimension – Promotion of universal access to adequate eating habits</i>	6.1	<i>Regular</i>
Sub-dimension - Prioritization of populations in situations of social vulnerability	8.9	Excellent
Sub-dimension – Income	7.7	Good
Sub-dimension – Tax adjustment	3.3	Poor
Sub-dimension – Distribution of food and meals	4.6	Poor
<i>Dimension - Structuring of agroecological production systems and sustainable food supply</i>	7.3	<i>Good</i>
Sub-dimension – Access to land	8.3	Good
Sub-dimension – Incentive to production	5.6	Regular
Sub-dimension – Distribution and supply	8.1	Good
<i>Dimension - Development of permanent processes of education, research and training in Food and Nutrition Security</i>	7.4	<i>Good</i>
Sub-dimension – Food and nutrition education	6.8	Regular
Sub-dimension – Research and training	6.7	Regular
Sub-dimension – Public education system	8.9	Excellent
<i>Dimension - Food and nutrition actions at all levels of health care</i>	6.8	<i>Regular</i>
Sub-dimension – Basic care	6.8	Regular
Sub-dimension – Medium complexity	4.2	Poor
Sub-dimension – High complexity	9.3	Excellent
<i>Dimension - Promoting universal access to water</i>	7.0	<i>Good</i>
Sub-dimension – Structuring of basic sanitation systems	7.0	Good
<i>Dimension – Traditional peoples and communities</i>	6.7	<i>Regular</i>
Sub-dimension – Prioritization of traditional peoples and communities	6.7	Regular
<i>Dimension – Evaluation and monitoring</i>	7.4	<i>Good</i>
Sub-dimension – Evaluation and monitoring of the Food and Nutrition Security Plans	7.4	Good
<i>Pertinence of the Plan</i>	7.0	<i>Good</i>

relevance, 31% (n=5) regular relevance and 19% (n=3) poor relevance. The Plan presented great relevance to the sub-dimensions of the high complexity of food and nutrition actions in Brazil's Unified Public Health System; prioritization of populations in situations of social vulnerability and the public education system. It was evaluated as poor for the sub-dimensions of tax adjustment; medium complexity of food and nutrition actions in Brazil's Unified Public Health System; and distribution of food and meals (Table 2).

The data presented in Table 3 indicate that the State of Santa Catarina Food and Nutrition Security Plan had an excellent relevance to 26% (n=9) of the analyzed indicators, good for 14% (n=5), regular for 46% (n=16) and poor for 14% (n=5).

Agrarian reform; approximation between production and consumption; environmental sustainability were the three indicators to obtain maximum score, demonstrating that the Plan contained goals or actions that fully covered all measures of these indicators (Table 3).

Of the nine indicators whose Plan was of great relevance, three were of the structuring dimension of agroecological production systems and sustainable food supply and two of the development of permanent processes of education, research and training in Food and Nutrition Security. The dimensions of promoting universal access to adequate food; food and nutrition actions at all levels of health care; promotion of universal access to water; and evaluation and monitoring, each had only one indicator, evaluated as of excellent relevance (Table 3).

The State of *Santa Catarina* Food and Nutrition Security Plans showed poor grades for indicators of access to special dietary needs; fiscal incentives in the production/purchase of adequate food; implementation of food and meal distribution programs; health and environmental surveillance; and promotion of rational use of water resources. Of these

indicators, two were related to the promotion of universal access to adequate food, two to food and nutrition at all levels of public health care, and one to universal access to water (Table 3).

The Plan did not describe goals or actions that would, to any degree, meet the guidelines regarding the development of clinical care protocols for special nutritional needs; the distribution of dairy and food formulas according to the health need of the individual; the surtaxation of industrialized foods which are harmful to health; the adaptation of basic food baskets used in social care and civil defense, among other agencies, regarding quality, quantity and food culture; the adequacy of state sanitary legislation to the reality of local production, industrialization and commercialization of foods, giving priority to homegrown and family-produced foods; and monitoring the consumption and volume of water available (Table 3).

## DISCUSSION

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This research performed a strategic evaluation to analyze to what degree the State of *Santa Catarina* Food and Nutrition Security Plan is pertinent to the concept of Food and Nutrition Security adopted in Brazil. The evaluation of social policies and programs gained momentum in the country after the process of re-democratization and, in general, end results were the focus of the interventions. However, while the analysis of the final results of Food and Nutrition Security programs is important, it does not appear to be enough to guide the conduct of the policy and to correct problems. Thus, it is suggested to advance in the traditionally used evaluative strategies, constructing approaches and methodologies that answer for the complexity of the actions involved in the National Policy for Food And Nutrition Security [15].

Among the possibilities of evaluative research, strategic analysis occupies an increasingly

**Table 3.** Result of the evaluation of relevance of the State Plan of Food and Nutrition Security according to indicators. *Santa Catarina* (SC), Brazil, 2017.

1 of 2

Indicator	n° of measures	Result	Rank
Dimension - Promoting universal access to adequate food			
<i>Sub-dimension - Prioritization of populations in situations of social vulnerability</i>			
Indicator - Flow of attention to populations in social vulnerability	3	8.9	Excellent
<i>Sub-dimension - Income</i>			
Indicator - Generation of employment and income	5	7.7	Good
<i>Sub-dimension - Tax adjustment</i>			
Indicator - Tax incentive in the production/purchase of adequate food	3	3.3	Poor
<i>Sub-dimension - Distribution of food and meals</i>			
Indicator - Implementation of food and meal distribution programs	4	4.1	Poor
Indicator - Availability of public equipment related to Food and Nutrition Security	2	5.0	Regular
Dimension - Structuring of agroecological production systems and sustainable food supply			
<i>Sub-dimension - Access to land</i>			
Indicator - Landholding and land regulation	2	6.7	Regular
Indicator - Agrarian reform	1	10.0	Excellent
<i>Sub-dimension - Incentive to production</i>			
Indicator - Qualification and Technical Support	2	5.0	Regular
Indicator - Access to financial resources	2	6.7	Regular
Indicator - Incentives for production practices	3	5.0	Regular
<i>Sub-dimension - Distribution and supply</i>			
Indicator - Institutional purchasing guarantee mechanisms	2	5.0	Regular
Indicator - Agility in distribution/supply chain	3	9.2	Excellent
Indicator - Approximation between production and consumption	1	10.0	Excellent
Dimension - Development of permanent processes of education, research and training in Food and Nutrition Security			
<i>Sub-dimension 3.1 - Food and nutritional education</i>			
Indicator - Valuation of regional and traditional food culture	2	5.0	Regular
Indicator - Environmental Sustainability	2	10.0	Excellent
Indicator - Stimulating healthy eating habits	3	5.5	Regular
Indicator - Advertising	3	6.7	Regular
<i>Sub-dimension - Research and training</i>			
Indicator - Promotion of research	2	6.7	Regular
Indicator - Permanent education	3	6.7	Regular
<i>Sub-dimension - Public education system</i>			
Indicator of Food and Nutrition Security in Political-Pedagogical Projects	3	8.9	Excellent
Dimension 4 - Food and nutrition actions at all levels of health care			
<i>Sub-dimension - Basic care</i>			
Indicator - Food and nutrition surveillance	3	7.5	Good
Indicator - Promotion of adequate and healthy nutrition habits	4	8.3	Good
Indicator - Prevention and control of health problems	3	6.9	Regular
Indicator - Health and environmental surveillance	3	4.4	Poor



**Table 3.** Result of the evaluation of relevance of the State Plan of Food and Nutrition Security according to indicators. *Santa Catarina* (SC), Brazil, 2017.

2 of 2

Indicator	n° of measures	Result	Rank
<i>Sub-dimension – Medium complexity</i>			
Indicator – Organization of non-communicable diseases care	3	6.7	Regular
Indicator - Access to special food needs	3	1.7	Poor
<i>Sub-dimension – High complexity</i>			
Indicator - Hospital food assistance	3	9.3	Excellent
Dimension - Promoting universal access to water			
<i>Sub-dimension - Structuring of basic sanitation systems</i>			
Indicator - Access programs to basic sanitation	5	7.3	Good
Indicator - Promotion of rational use of water resources	3	4.4	Poor
Indicator - Conservation and Management of Water Resources	5	9.3	Excellent
Dimension – Traditional peoples and communities			
<i>Sub-dimension - Prioritization of traditional peoples and communities</i>			
6.1.1 Prioritization of traditional peoples and communities in all dimensions	3	6.7	Regular
Dimension – Evaluation and monitoring			
<i>Sub-dimension - Evaluation and monitoring of Food and Nutrition Security plans</i>			
7.1.1 Mapping of socially vulnerable families	2	6.3	Regular
7.1.2 Monitoring of Food and Nutrition Security indicators	3	7.8	Good
7.1.3 Monitoring the actions of the plan	3	6.7	Regular
7.1.4 Reporting channels	2	8.8	Excellent

important place, for it returns to the planning stage, verifying if any actions were taken regarding the most pertinent factors, considering the importance of these on the matter [11].

The Food and Nutrition Security Plans gather objectives, goals, and actions of the intervention proposed by the management to address Food and Nutrition Security issues. In this context, Food and Nutrition Security Plans evaluated as being of good relevance to the Food and Nutrition Security concept point to a greater possibility that, if their goals and actions are properly implemented, they can improve the situation of Food and Nutrition Security in the state.

However, in the case of the researched Plan, the fact that the analyzed dimensions presented

differences in the evaluation demonstrates a limit to overcome the sectorization of public management, which constitutes a challenge in the face of the complexity of a concept that involves innumerable dimensions related to quantity, but mainly to the quality of food consumed [16]. Given the inherently intersectoral nature of the National System of Food and Nutrition Security [17], being able to diagnose the demands of Food and Nutrition Security in the territory, as well as thinking strategies to overcome them, presupposes a collective effort of several sectors of society and government [18]. Thus, the construction of an intersectoral action depends on a sharing of knowledge from several sectors and, consequently, on the involvement of countless individuals in this process [19].

The evaluation and monitoring dimensions and the development of permanent processes of education, research and training in Food and Nutrition Security, were highlighted as the ones that obtained the best result. The former concerns monitoring the execution of the Plan, as well as the processes that allow an evaluation of the value of the results from this action. In addition to its logical importance, this dimension also has a normative relevance, since the legislation of the National System of Food and Nutrition Security determines that the Food and Nutrition Security Plan should describe the ways of monitoring and evaluating the execution of their actions, compliance with goals and monitoring of results [9]. Thus monitoring and evaluation procedures should be put in place for the plan, but also for Food And Nutrition Security. The State of *Santa Catarina* Food and Nutrition Security Plans contemplated goals and actions for indicators related to the establishment of channels for reporting violations of the Human Right to Adequate Food, strengthening information systems and monitoring the implementation of the Plan. Even so, it is possible to qualify this dimension from its inclusion in the Plan of actions and goals responsible for mapping families in situation of social vulnerability. By prioritizing resources to address inequities, it is expected a more efficient management tool, and committed to ensuring the right to food for the population groups that need it the most [20].

The other dimension with a good score refers to the guarantee of universal access to education, to permanent processes of food and nutrition education, and to value research and training in Food and Nutrition Security. Universal access to education, based on a democratic ideology, is fundamental to attenuate the historically established differences in a class-divided society, thus allowing everyone to enjoy, without distinction, social rights [21]. In the context of the Human Right to Adequate Food, food and nutrition education aims to promote the

autonomous and voluntary practice of healthy eating habits [22] and is an important strategy to address health, food and nutrition challenges [23]. In addition, strengthening the strategies for guaranteeing the Human Right to Adequate Food and formulating and implementing policies of Food And Nutrition Security depends on the continuous qualification of technical and scientific knowledge, with training of different social actors [24,25].

Despite the good relevance to the precepts of this dimension, the indicator of valuing regional and traditional food culture, belonging to the sub-dimension of “food and nutrition education”, was evaluated as regular. The process of globalization of food and homogenization of food standards tends to undermine food sovereignty and reduce people’s autonomy to produce and consume food, as well as to preserve their food history and tradition [26,27]. Such aspects are among the main causes of food and nutritional insecurity and, therefore, strategies for overcoming them are a priority [28].

The structuring of agroecological production systems and sustainable food supply was the third dimension with the best result. It concerns the first stage of the human food chain, involving issues related to access to land, production and distribution of food [29,30].

Until the end of the nineteenth century, hunger was understood as a natural phenomenon, a result of population growth, higher than the capacity for food production. With the strengthening of the capitalist economy and industrialization in the mid-nineteenth century, this conception was used to justify public and private investment in actions that resulted in an increase in agricultural production. Environmentally predatory production methods, supported by latifundia, monoculture, extensive use of agricultural poisons, mechanization of crop production, and rural exodus became hegemonic [31,32]. However, in the last decades, the debate over production forms

that were able to meet the food demand of the population in a healthy way and which were environmentally, economically and socially sustainable has expanded, assuming that the agroecological production model meets these conditions. Within an agroecological production system, organic production by family farmers, supported by solidarity economy mechanisms, takes a leading role [33,34].

The State of *Santa Catarina* Food and Nutrition Security Plans were evaluated as good or excellent in the indicators related to landholding and land regularization, agrarian reform, access to financial resources, agility in the supply chain/distribution, and the approximation of production and consumption. However, the indicators of qualification and technical support, incentive to production practices and mechanisms that guarantee institutional purchases were evaluated as regular, indicating the need to qualify the goals and actions related to these topics.

The fourth dimension that was best evaluated was the promotion of universal access to water, which refers to the proper quality and quantity to meet the daily dietary needs and food production. The lack of goals and actions in the State of *Santa Catarina* Food and Nutrition Security Plan regarding the promotion of the rational use of water resources was determining to prevent this dimension from being evaluated as excellent. Culturally, huge volumes of water are wasted throughout the food production and consumption chain. Only in situations of severe drought and water insecurity strategies for waste reduction are discussed [35]. In this sense, Food and Nutrition Security Plans need to encourage educational actions regarding the rational use of water resources, as well as develop preventive actions in the distribution network.

The dimension of food and nutrition actions at all levels of health care was among the top three worst performing. It involves the relation of promotion, prevention and assistance strategies in the three levels of care in Brazil's Unified Public

Health System. In an epidemiological context of high prevalence of obesity and chronic diseases associated with malnutrition, coexisting with micronutrient deficiency diseases and persistent cases of malnutrition [36], food and nutrition actions in the health sector should be strengthened [37]. The state of *Santa Catarina* Food and Nutrition Security Plans presented the goals and actions of hospital food assistance and promotion of adequate and healthy food as potentialities. However, it has shown fragility in relation to sanitary and environmental surveillance, and especially in guaranteeing access to special dietary needs. An expressive portion of the Brazilian population demands special dietary needs, however, they remain invisible and/or secondary in the health care agenda. The construction and the guarantee of qualified care to people with these necessities must be assumed as fundamental for the construction of fairness in health care [38].

The dimension of traditional peoples and communities was the second worst evaluated, showing fragility in the prioritization of these in all other dimensions of the Plan. The National System of Food and Nutrition Security legislation states that Food and Nutrition Security Plans should incorporate strategies with attention to the various population groups in situations of vulnerability, and food and nutrition insecurity, prioritizing traditional peoples and communities. This prioritization occurs due to a historical marginalization and denial, in public policies, of their traditions and food practices. In addition, a lack of land tenure, a lack of income, a substantial increase of diseases, marginality, illiteracy and lack of infrastructure are factors that characterize food insecurity for these peoples [39].

The worst-performing dimension was the promotion of universal access to adequate food. Among the main weaknesses were the availability of public Food and Nutrition Security tools, the implementation of food and meal distribution programs, and tax incentives to the production/consumption of adequate food. This

dimension deserves to be highlighted in the Food and Nutrition Security concept, since hunger as a result of the impossibility of access to food is still the main problem, being responsible for inserting other issues in the agenda [40]. It is accepted that the Brazilian nutritional transition justifies a greater concern in the development of strategies to overcome problems related to inadequate eating habits, but this movement should not deny the worrying existence of populations who are still suffering from poverty and hunger. In addition, reducing the incidence and prevalence of chronic diseases associated with food is also dependent on actions that ensure and expand access to adequate and healthy food [41,42]. This context reinforces the importance of Food and Nutrition Security Plans to broaden or qualify their goals and actions to this dimension.

## CONCLUSION

This research identified a good relevance of the State of *Santa Catarina* Food and Nutrition Security Plan to the concept of Food and Nutrition Security adopted in Brazil. The results found for the dimensions of developing of permanent processes of education, research and training in Food and Nutrition Security; evaluation and monitoring; structuring agro-ecological production systems and sustainable food supply, and promoting universal access to water were positively highlighted. The dimension of promotion of universal access to adequate food achieved the worst result, stressing the need to build or qualify goals and actions that respond to the availability of public service Food and Nutrition Security tools, the execution of food and meal distribution programs, and tax incentives to the production/consumption of adequate food.

This research represents the reality of the Food and Nutrition Security Plan of a state in Brazil. Nevertheless, considering that all the states have adhered to the National System of Food

and Nutrition Security and, therefore, have gone or will go through the process of construction and evaluation of their Food and Nutrition Security Plan, it is believed that the results and the proposed reflections can stimulate actions in different contexts. It is hoped that the results may guide the construction and qualification of other state plans and, consequently, qualify the National Policy for Food and Nutrition Security, enhancing its results. Still, given the need to deepen the evaluations on the structure, process and result of the public policies of Food and Nutrition Security, it is suggested to carry out complementary researches to evaluate the efficiency and the effectiveness of the interventions in Food and Nutrition Security.

## CONTRIBUTORS

ML MACHADO participated in the idealization and design of the study, and the analysis and interpretation of the data. CG GABRIEL participated in the idealization and design of the study. All authors participated in the review and final approval of the article.

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