



La extensión rural y los desafíos para la seguridad alimentaria *Rural extension and food security challenges*

Marcio Caetano de Azevedo-Lopes

Instituto Federal de Educación, Ciencia y Tecnología Baiano; Serrinha, Bahia, Brasil.

Correo electrónico:

mrcaetano@yahoo.com.br

ORCID: <https://orcid.org/0000-0001-8302-9359>

Recibido: 20 de diciembre de 2021

Aceptado: 13 de febrero de 2022

Resumen

Teniendo en cuenta que parte de la agricultura familiar en el estado de Bahía, Brasil, depende de las políticas de extensión rural para desarrollar actividades en el campo, este artículo tiene como objetivo discutir el papel de la extensión rural para la seguridad alimentaria en el estado de Bahía, Brasil. Para ello, se utilizó como fuente principal datos del Instituto Brasileiro de Geografia e Estatística y literatura especializada sobre extensión rural y seguridad alimentaria. La extensión rural se muestra como un instrumento importante para las propiedades rurales familiares en el estado.

Palabras clave: Seguridad alimentaria; Extensión rural; Políticas Públicas; Bahía; Brasil.

Abstract

Considering that part of family farming in the state of Bahia, Brazil, depends on rural extension policies to develop activities in the field, this article aims to discuss the role of rural extension for food security in the state of Bahia, Brazil. For this purpose, data from the Brazilian Institute of Geography and Statistics and specialized literature on rural extension and food security were used as the main source. Rural extension is shown to be an important instrument for rural family farms in the state.

Keywords: Food security; Rural extension; Public policies; Bahia; Brazil.

Introduction

The transformations that took place in rural areas, driven by the modernization of national agriculture, affected family-based agriculture which, to a large extent, did not benefit from this process. The effects of "technological packages" marginalized many family farmers, causing rural poverty and, consequently, rural exodus in Brazil, although many agro-industrial rural properties have developed complex commercial structures aimed at the production of grains, such as soybeans and corn for the foreign market.

Most family rural properties have been productively limited and depend on technical guidance to develop "social technologies" adapted to the biome and, above all, to the profile of these farmers. In general, family farms have demonstrated the need for interventions promoted by rural extension, not necessarily to produce more, but to diversify their production, produce quality food and strengthen strategies aimed at rural succession.

In the state of Bahia, just over 7% of farms benefit from rural extension actions, considering that the state has the largest number of family farms in the country, with 593,411 rural family properties (Brazilian Institute of Geography and Statistics (IBGE, 2017). It is still important to highlight that only 0.05% produce organically and more than 16% of the total number of family producers in the state have already used some type of pesticide (IBGE, 2017).

Therefore, considering that family farming in the country is responsible for most of the food that goes to the tables of Brazilians every day, it is essential to promote actions around not only the transition to more sustainable food systems, but fundamentally, that the transition projects are consistent and contribute to overcoming the social, environmental and economic challenges of men and women who depend on activities on the ground for a living.

This article aims to discuss the role of technical assistance and rural extension for food security in the state of Bahia, proposing a general reflection involving multiple perspectives on the subject. For this purpose, data from the Brazilian Institute of Geography and Statistics (IBGE) and specialized literature on rural extension and food security were used as main sources. To meet the objectives, the article was structured in three sections. The first one analyzes the action of rural extension in rural properties, the second one food security in the state of Bahia and, finally, final considerations are made.

Development

The role of rural extension for sustainable rural development

The representativeness of family farming for regional and local economies and, fundamentally due to the unique importance of the category for the production of food for domestic consumption, requires the need to establish political-institutional guidelines aimed at sustainable rural development that are based on regionalization and the role played by social, political and organizational networks at the endogenous level.

The strategic design that aims to support family farming in living conditions at more balanced social levels, has been based on technical assistance, because it is "through the action of rural extension that the transmission, dissemination and mediation of new knowledge and techniques related to agricultural production materializes" (Santos & Delgrossi, 2018, p. 202), respecting traditional and local knowledge. In addition, it corresponds to rural extension to develop projects for groups in situations of socioeconomic and environmental vulnerability with the objective of promoting a series of actions compatible with the realities of families and local dynamics, supporting productive innovation, social technologies and socioeconomic, environmental and food sustainability.

Rural extension is a process based on educational and technical principles that arises from the need to promote advice to family farmers in order to promote the teachings on agriculture, livestock, management, use of social technologies, among others. Thus, Lopes, Souza, Souza, Rocha, and Bezerra (2019), state that public policies for family farming in the state of Bahia should prioritize technical assistance and rural extension considering that these actions may include a greater focus on sustainable production and "alternative" markets. In turn, Uzêda and Cruz (2020), point out that the modernization of hegemony has devastated ecosystems and proposes the need for new technical assistance that has an impact on the design of sustainable rural development. It is worth noting that in the state of Bahia the promotion of rural extension occurs mainly through public initiatives.

Brazil has the sad condition of being one of the world's largest consumers of pesticides and this has directly implicated the lives of the Brazilian population and, above all, the environment which is under pressure. The hegemonic food systems have increasingly dominated the food spaces of the country, causing not only the concentration of wealth and social inequalities, but have also

contributed to increase the likelihood of non-communicable diseases such as diabetes, cancer, hypertension, among others.

In this sense, in order for family farming to assume the leading role in the country's food supply and strengthen its social reproduction strategies, it is essential to rearticulate important elements, which we highlight:

1. Increasing social participation in the public sphere, in order to strengthen rural and urban communities and the natural environment with the intention of overcoming inequalities.
2. Bringing sustainable forms of production closer to the markets, for the strengthening of local relationships and the valorization of regional foods, promoting cultural interaction, income and multidimensional sustainability of multiple actors.
3. Incorporate family farming into a national public agenda, acting from local strategies, but with a global vision, driven by the Sustainable Development Goals (SDGs).

Rural extension actions are more than an instrument for promoting development. In the state of Bahia, technical assistance and rural extension is a right based on Law 13.272/2011 which deals with the State Policy of Technical Assistance and Rural Extension (PEATER), for Family Farming. The Law has as its main guidelines the adoption of agroecological principles that stimulate economic initiatives from supply to local markets aimed at social and food security of rural and urban communities (Bahia, 2011).

In addition to stimulating sustainable production, rural extension also enables strategies for producers to commercialize their production in local markets through distribution channels that consist of "the systemic grouping of agents in order to bring a particular product or service into the possession of the final consumer" (Vilas Boas & Pimenta, 2011, p. 70).

Attempts to insert family-based agriculture into more competitive markets have failed, mainly because most family structures in the northeast region, where the state of Bahia is located, have infrastructure and distribution limitations, even in the spaces they occupy. In addition, many of these properties have difficulties in achieving short-term solutions and results due to the high degree of complexity existing in these markets.

Some examples of distribution channels commonly used by families are local fairs or other alternative channels such as production and marketing cooperatives. These channels are necessary for the flow of production and to make food available to consumers.

Thus, the practices developed by extensionist, based on experience and know-how, can mobilize the entire production cycle of rural property, in order to stimulate sustainable production, based on agroecological principles. For example, in a way that is integrated into the socioeconomic context of the farmers. However, it is important for rural extension to realize the importance of acting with the communities around the property by visualizing the perspectives that encompass a proposal for sustainable rural development aiming at (new) possibilities for food, social and economic security of families.

Food security: an analysis of the state of Bahia

In Brazil, the National Sample Survey of Households (PNAD), by IBGE, revealed a 25% decrease in severe food insecurity in the period (FAO, 2015). Another complicating factor is the low levels of human development in many Brazilian rural areas, especially in Bahia, which has implied significant limitations for many rural communities. Poverty, which is currently present in most rural areas of the state of Bahia, caused the departure from the countryside, especially among young people, to urban spaces.

The challenges encountered in rural development public policies for the rural population and the limited technical assistance and rural extension are some of the relevant factors that have caused some restrictions in the quality and food production levels of many rural properties in the state. In terms of quality, we can cite as an example the use of chemical pesticides due to the lack of agroecological knowledge on crops. With respect to production, Bahia's farmers have found it difficult to organize themselves productively and commercially.

Therefore, the difficulties are increasing as the availability of material and natural resources, which are already scarce, decreases. This also compromises subsistence agriculture, providing food insecurity for the farmer himself and his family.

In many cases, diversifying production, inserting technologies adapted to the realities of farmers or even producing in a more sustainable way (organic), depending on how family farming accompanies climate change and the needs to insert new strategies in production. The State itself offers alternatives for financing many of the strategies aimed at sustainable rural development or even food and nutritional security. Such is the case of the National Program for Strengthening Family Agriculture (PRONAF), which offers rural credit to "ensure the family's supply and

generate production surpluses, so that they can be traded on the market, guaranteeing food security and the well-being of farmers" (Santos, 2007, p. 122).

In addition to PRONAF, in Brazil, family farmers may also have access to the National School Feeding Program (PNAE), or the Food Acquisition Program (PAA). The programs are aimed at food and nutritional security and supplying the most vulnerable populations, respectively.

However, the difficulties in accessing programs such as PRONAF, PNAE and PAA, due to the high degree of bureaucracy embedded in these policies, are complicated, as there is a disarticulation in the social and structural bases on the part of farmers. There are some formal requirements, such as guarantees or projects, which are imposed by the institutions that allow rural credit when applying for it and, often, these family farmers do not have the technical condition to carry out these projects. It is worth remembering that the number of illiterate people among family farmers in the state of Bahia is just over 25% of the total number of family farmers (IBGE, 2017), which demonstrates the challenges for many farmers to develop projects and access public policies.

The National Institute of Geography and Statistics (IBGE), conducted the National Household Sample Survey (PNAD), on Food Security. The data came from a survey conducted in 2013, in accordance with Table 1. The research was prepared by sample in private households in security situation and by type of food insecurity and we analyzed with the three states that concentrate not only the highest number of capitals provided by PRONAF, but also the highest percentages of access to rural extension.

State	Distribution of private households (%) (%)	
	Food secure	Food insecure Moderate or severe
Bahia	62,2%	15,9%
Rio Grande do Sul	84,1%	4,7%
Santa Catarina	88,9%	3,6%
Paraná	83,9%	4,5%

Table 1: Distribution of private households, by food security status and type of food insecurity by states in 2013.

Source: Own elaboration, adapted from Brazilian Institute of Geography and Statistics (2013).

The three states in the southern region of the country have a more organized and articulated family agriculture in relation to Bahia. The purpose of elevating the states of the southern region in this paper is to compare some issues that are inserted in this arrangement. The three states of the southern region mentioned above, have productive structures and availability of technical assistance and rural extension in most of the properties. The total number of farmers in the states of Paraná, Santa Catarina and Rio Grande do Sul accessing rural extension is 44%, 54% and 50%, respectively. While together, they still access most of all PRONAF credits destined to the country, considering that, together, the three states present just over 10% of the total number of establishments in the state of Bahia (IBGE, 2017).

We are not here to point out that the results observed in Table 1, are effects of the absence of public policies for the rural environment, because there are numerous variables necessary to consider in this analysis. However, we are reinforcing the idea that public policies are capable of mitigating food security problems.

Credit policies are not enough in the face of these uncertainty scenarios, it is necessary to promote public investments in technical assistance and rural extension, taking into account that the objective of strengthening the relationship of farmers and their families with more sustainable production practices and, above all, bringing consumers closer to healthy food in local markets, rural extension policies have the responsibility to include strategic and more sustainable food projects based on an integrated agenda for local institutions in municipalities through a more localized governance, as advocated by Morgan and Sonnino (2010).

Thus, rural development policies play a key role in stimulating the capacities of the local social fabric and the markets that are "immersed" in the territories. In this field, it is necessary to perceive "food production as a result of human action and to understand the incentives that influence people's decisions and actions" (Sen, 2000, p. 240). Constraints to food security are detected, to some extent, not only by the level of income and/or access to food of individuals, but also by the availability of sufficient food for the entire population.

The absence of certain policies, especially for family farmers who depend on these policies, can lead to situations in which the production system of a family property is limited, interfering with the quantity and quality of food available to the family and the final consumer. It is known that to a large extent this directly interferes with family incomes.

It is important that public policies aimed at rural development stimulate the improvement of the food security framework of the state population, through family farming, considering that they are the largest food producers in the state. Public policies have been shown to be potential tools to advance this transition, although in the case of Brazil, the political-institutional coalitions of food markets are presented in fields of different controversies. Some public instruments, such as the PAA, the PNAE and national and state policies for technical assistance and rural extension, seek to foster the reduction of the problems of micro- and macroeconomic instabilities that greatly affect family-based agriculture, stimulating connections among production and markets.

On the other hand, in Brazil, the financing of stimulated agriculture, partly by tenant farmers, further intensifies the concentration of wealth and food distribution, further increasing inequality in rural areas. It is utopian to think that the dominant food systems will succumb and give way to more sustainable systems, although the current models must be (re)thought on the bias of the depletion of natural resources still available. Undoubtedly, the coexistence of systems is a reality and, therefore, it is worth reflecting on what are the public, institutional and social artifacts capable of creating coalitions for a food transition that walks from an economy centered on bio economy and local strategies.

Public food security policies can be improved through integrated actions between ministries and federal agencies, expansion of partnerships with productive sectors, civil society entities and social movements (National Council for Food and Nutritional Security (CONSEA, 2015). In times of constant transformations in global agriculture, constant training and technical guidance mean the generation of possibilities to awaken the agricultural capacity of a state that has 27.9% of a potentially rural population for sustainable food production.

Conclusions

The analysis presented allows us to perceive the important relationship between rural extension and the family farmer in the state of Bahia, in the challenges that afflict many family properties (illiteracy, poverty, scarcity of natural resources, among others), and the important role that rural extension can play in changing this reality. With a vital trajectory in rural areas, many farmers have faced the challenges of climate change and the transformations that have occurred in contemporary society. The challenge is not to change or insert them into a single knowledge pathway in these spaces, but fundamentally, to associate traditional/ancestral knowledge with multiple strategic possibilities to promote a transition to more sustainable food systems, focusing

on the use and allocation of resources in a conscious and sustainable manner. Perceived adversities in agriculture, influenced by economic openness and globalization, such as risks, complexities and uncertainties, have stimulated the importance of bridging gaps in rural areas, especially on family farms. It is observed that technically oriented farmers will be able to achieve better results with respect to the conscious use of resources, the decision-making process, as well as the distribution of food production to local markets through alternative and institutional markets. Policies are essential tools to mobilize these transformations.

Bibliographic references

- Bahia. *Política Estadual de Assistência Técnica e Extensão Rural para la Agricultura Familiar (PEATER)*. Recuperado de <http://www.legislabahia-ba.gov.br/documentos/lei-no-12372-de-23-de-dezembro-de-2011>.
- Conselho Nacional para a Segurança Alimentar e Nutricional (CONSEA (2015). *Relatório de Pesquisa*. Recuperado de https://www.ipea.gov.br/participacao/images/pdfs/relatoriosconselhos-/120409_relatorio_seguranca_alimentar.pdf.
- Instituto Brasileiro De Geografia e Estatística IBGE]. (2017). *Censo agropecuário 2017*. Recuperado de <https://sidra.ibge.gov.br/pesquisa/censo-agropecuario/censo-agropecuario-2017>.
- _____. (2013). *Pesquisa Nacional por Amostra de Domicílios 2013*. Recuperado de <https://biblioteca.ibge.gov.br/visualizacao/livros/liv94414.pdf>.
- Lopes, M. R. C. A., Souza, I. H. S., Souza, S. S., Rocha, M. F. W., & Bezerra, M. G. (2019). Perspectivas para a (re)produção da agricultura familiar à luz do desenvolvimento rural: possibilidades para o espaço rural do estado da Bahia. In J. G. Aguilera A. M. Zuffo (Orgs.), *A dinâmica produtiva da agricultura sustentável*. Ponta Grossa, PR: AtenaEditora.
- Organização das Nações Unidas para Alimentação e Agricultura [FAO] (2015). *The State of Food Security and Nutrition in The World 2015*. Recuperado de https://www.fao.org.br/download/SOFI_p.pdf.
- Santos, J. A. L. (2007). *Implicações do Pronaf na produção do espaço rural do município de Feira de Santana-BA (1999/2006)*. (Dissertação de Mestrado). Universidade Federal da Bahia, Salvador, BA, Brasil.
- Santos, S. M., & Delgrossi, M. E. (2018). A relevância dos serviços de ATER na execução do PRONAF no município de Unaí - MG. *Estudos, Sociedade e Agricultura*, 26, 199-224.
- Sen, A. (2000). *Desenvolvimento como liberdade*. São Paulo: Companhia das Letras.
- Morgan, K. J., Sonnino, R. (2010). The urban foodscape: World cities and the new food equation. *Cambridge Journal of Regions Economy and Society*, 3(2):209-224.
- Uzêda, L. F. F., Cruz, D. U. (2020). *Extensão Rural no Brasil: percursos, metodologias e desafios*. Camaçari: Pinaúna.

Marcio C. de Azevedo: La extensión rural y los desafíos para la seguridad alimentaria.

Vilas Boas, L. H. B., & Pimenta, M. L. (2011). Características de canais de distribuição de hortaliças: algumas opções de distribuição sob o foco do produtor. *Revista Brasileira de Gestão e Engenharia*, 68-93.