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Papers

Organic production in the state of Bahia, Brazil: a spatio-temporal analysis of registrations and certification bodies (2014-2020)

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Abstract
Organic agriculture in Brazil has grown considerably in the last twenty years, mainly due to the creation of specific laws and regulations. This work spatially and temporally analyzed the growth in registrations of certified organic producers in the state of Bahia, between 2014 and 2020, considering data related to the identity territories (ITs) and to the nature of the certification process. Bibliographic consultations, data collection from the national register of organic producers and the elaboration of comparative maps based on the collected data were carried out. It was found that between 2015 and 2017 the annual average growth of newly registered producers was 43%. From 2018 to 2020, it fell to 4%, coinciding with a new political scenario, which is seen as a landmark in the scope of national agriculture, the end of federal departments responsible for agrarian development and the expansion and flexibilization of the pesticide market. The Litoral Sul and Baixo Sul ITs, in the south region, had the highest number of registered organic producers, with cocoa production. The ITs with the fewest registrations were the Bacia do Rio Grande, Velho Chico, Bacia do Rio Corrente and Bacia do Paramirim, in the extreme west, which is a region dominated by soybean and cotton farming. Organic producers certified by participatory assurance systems and social control organizations in direct sales represented 68% of the total registrations in 2018 and 2019. There is a need to strengthen the participatory assurance systems in environmental and territorial planning processes, and to improve the diagnosis and the availability of data on the areas of organic production in the state of Bahia. In addition, in most ITs in the state, there are gaps that generate a demand for actions of rural technical assistance and scientific research aimed at organic production.

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INTRODUCTION

Social movements that defend more ecological and sustainable agriculture began to organize themselves in Brazil in the 1980s (MEIRELES, 2020) and push for the creation of Law No. 10,831 of 2003, which covers organic agriculture, and its regulation, through Decree No. 6,323 of 2007. According to Bacoccina (2018), national organic agriculture reached an average growth of 25% per year, between 2009 and 2017. In 2012, the Política Nacional de Agroecologia e Produção Orgânica (PNAPO) and the Plano Nacional de Agroecologia e Produção Orgânica (PLANAPO), which are, respectively, the national policy and plan for agroecology and organic production, were launched, and made Brazil a pioneering nation in the implementation of public policies focused on agroecology (VILELA et al., 2019).

Under Law 10.831/03 (BRASIL, 2003), organic systems are called ecological, biodynamic, natural, regenerative, biological, agroecological, or permaculture systems among other denominations. Thus, the principles of organic agriculture should be a common basis among these other denominations. Abreu et al. (2012) point out that organic agriculture can predict the simple replacement of inputs and has been commonly practiced in the organizational logic of conventional agriculture, and it is possible to observe the occurrence of extensive organic monocultures. Differently, agroecological systems, according to Gliessman (2001) and Altieri (2002), focus on the redesigning of agroecosystems, with strong species diversification, optimization of energy flows and productivity, in addition to their social approach, related to the strengthening of campesino movements fighting for the land of Latin America.

According to the reports found in *"The World of Organic Agriculture Statistics and Emerging Trends"*, of 2017 and 2019, there was growth in the area of organic production worldwide, which went from 50.9 million hectares in 2015 to 69.8 million hectares in 2017. Latin America administered 8 million hectares, equivalent to 11% of the world's organic production area. Brazil represents 0.4%, totaling 1,136,857 hectares (FIBL; IFOAM, 2017; 2019).

Despite the legal provisions and the areas for Brazilian organic production mentioned in the FIBL report, there are no more detailed indicators available. This is then one of the challenges in studies in agricultural and environmental sciences, i.e., to obtain data on the scope of organic agriculture. This scenario, of a lack of information, is aggravated in Bahia, which does not yet have specific regulations, despite the fact that there is the proposal of Law 21.916/2016 for the creation of the state policy on agroecology and organic production, in addition to the local demands arising mainly from production chains associated with the sociobiodiversity in Bahia (BAHIA, 2017).

The only mechanism that provides information on organic production, at the municipal, state and national levels, is the Cadastro Nacional de Produtores Orgânicos (CNPO), the national register of organic producers, which, according to Vilela et al. (2019), was implemented in 2011, by the Ministério da Agricultura, Pecuária e Abastecimento (MAPA), the main federal department responsible for agriculture, livestock and supply. The CNPO is a list of all national and international organic producers certified by an entity accredited by MAPA – this registration is a mandatory procedure for the commercialization of organic products in Brazil.

The CNPO does not provide data such as total productive area, approach to the organic system, the size of production by crop or breeding, harvest and runoff. It is not clear whether this data does not exist or is simply not available. However, the CNPO does provide relevant information such as the nature of the certification process, the municipality of origin, and productive activities and their scope. In this sense, some studies have already been developed: Constanty and Darolt (2014), Vilela et al. (2019) and Siqueira et al. (2020), though none of them provide much detail about the state of Bahia.

As a planning unit, Bahia is divided into 27 regions known as identity territories (ITs) which, according to Flores (2016), was born out of the concept of "belonging" combined with the definition of "territory", disseminated by the Ministério do Desenvolvimento Agrário (MDA) (one of the main federal departments responsible for agrarian development, which was closed in 2016), which considers multidimensional criteria, such as the environment, the economy, society, culture, politics and institutions, and a population with relatively different social groups (MDA, 2003).

Considering that organic production adopts new production systems that can contribute greatly to the environmental planning of a given region, the objective herein was to analyze the spatial and temporal dynamics of the records organic producers and their certification bodies in Bahia, in the period from 2014 to 2020, using the state's ITs as a spatial division throughout the study.

METHODOLOGY

The research was carried out considering the number of registered organic producers in the state of Bahia, in the period from 2014 to 2020. For the development of geoprocessing and elaboration of maps, analysis of data obtained in bibliographic consultations, and requests to the MAPA for retroactive data from the CNPO were also made.

The bibliographic consultation considered legislation, websites of relevant institutions, reports from national and international public agencies, scientific papers, books and other available publications relevant to the theme of organic agriculture.

The retroactive data from the CNPO were requested via the Sistema Eletrônico de Informações ao Cidadão (e-SIC), an electronic citizen information system, and in response, via e-mail, the MAPA provided annual spreadsheets for the period from 2014 to 2018. The spreadsheets for the years 2019 and 2020 were obtained month by month, during the development of the research. It should be noted that the CNPO report does not accumulate records of producers, because the MAPA updates monthly; only farmers with current valid certification are listed.

The collected data was analyzed, computed and organized using Microsoft Excel. The geoprocessing was done in QGIS 3.4.11, in the geographic coordinate system with the Datum SIRGAS 2000, using vectors of Brazil and Bahia and of the continent, which were provided by the Instituto Brasileiro de Geografia e Estatística (IBGE) (the Brazilian Institute of Geography and Statistics) of 2017; and, vectors of the identity territories for the year 2017, which were provided by the Superintendência de Estudos Econômicos e Sociais da Bahia (SEI-BA), the superintendence of Economic and Social Studies of Bahia, in which the data compiled from the CNPO were inserted.

Two map compositions were elaborated via the "graduation" feature, and established integer classes with a custom color palette. The first presents the annual variation (from 2014 to 2020) of the total number of registrations and the second presents the annual variation (from 2014 to 2020) of the registrations for each certification mechanism, which can be per certifier hired, by the Organismo Participativo de Avaliação da Conformidade Orgânica (OPAC), a participatory organic conformity assessment body, or by the Organização de Controle Social (OCS), a social control organization.

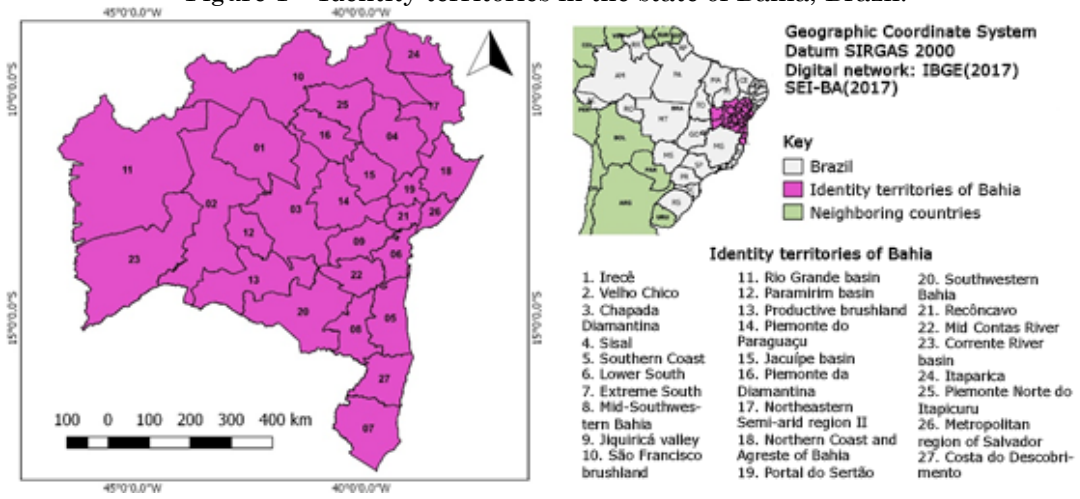
RESULTS AND DISCUSSION

General Aspects of the State of Bahia

The state of Bahia is located in the northeastern region of Brazil. It possess 417 municipalities and its population formation results from the process of miscegenation, with emphasis on the indigenous peoples and the populations of African nations that were enslaved in Brazil (IBGE Cidades, 2020).

The division of the state into ITs was instituted in 2007 (State Law No. 10,705/07), at the launch of the Plano Plurianual Participativo 2008-2011 (PPA), a participatory multiannual plan, which contemplated 26 ITs. There are currently 27 ITs (Figure 1). According to Flores (2016), the ITs are a development of Programa Nacional de Desenvolvimento Sustentável dos Territórios Rurais (PRONAT), the national sustainable development program, through the MDA and Secretaria de Desenvolvimento Territorial (SDT), the territorial development secretariat in partnership with Secretaria do Planejamento do Estado da Bahia (SEPLAN-BA), the department of planning of the state of Bahia and SEI-BA, aiming to broaden the focus of the territories and overcome the dichotomy between rural and urban areas.

Figure 1 – Identity territories in the state of Bahia, Brazil.

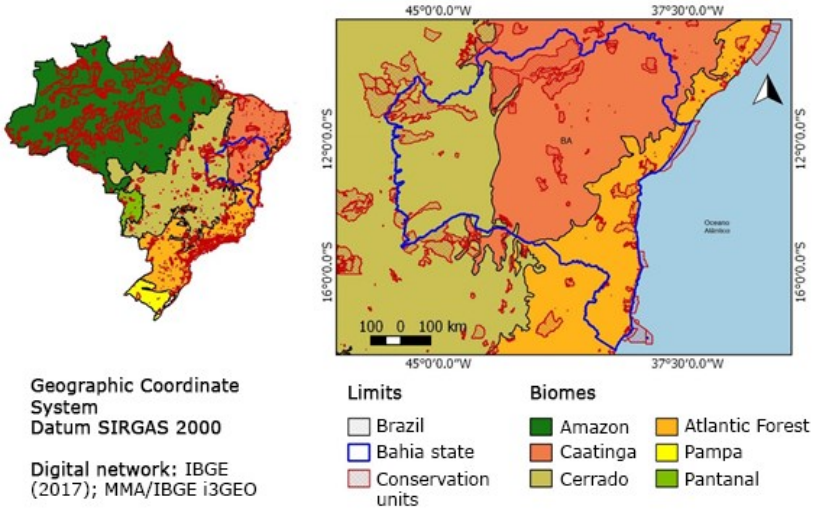


Data: SEI-BA (2017).

According to the most recent Agricultural Census in 2017 (IBGE/SIDRA, 2019), the agrarian structure of Bahia includes 762,848 establishments, which cover 28 million hectares (ha). Family farming represents about 593 thousand establishments and occupies 9 million ha of land, which is approximately 33% of the total area. Non-family farming, with 169 thousand establishments, is responsible for the greater land concentration and occupies 19 million ha or approximately 67% of the total area. Regarding agricultural production, sugarcane and soybeans are notable as temporary crops; and cocoa and coffee as permanent crops. With regard to livestock, chickens are the most produced, with 32 million head, followed by cattle, with 8.2 million head.

There are 239 conservation units (CUs) in the state of Bahia, according to data from Cadastro Nacional de Unidades de Conservação (CNUC), the national registry of conservation units, of the Ministério do Meio Ambiente (MMA, 2021), the main national environmental body and these CUs aim to conserve remnants of the Caatinga, Cerrado and Atlantic Forest biomes, which occur in the state (Figure 2).

Figure 2 – Biomes and conservation units of Bahia, Brazil.



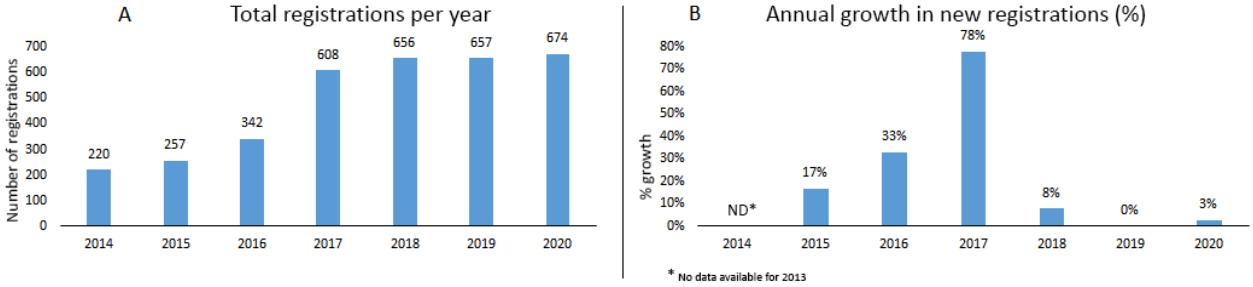
Elaborated by the authors; Data Source: CNUC (MMA, 2021).

The diversity of biomes gives unique characteristics to the territories of Bahia, and include a great diversity of species of interest to different populations, such as indigenous people, "quilombolas", fishers, campesinos and others, which, inserted in the context of protected areas, act in the production chains associated with sustainable management, generating self-subsistence and demand for territorialized environmental planning actions that consider such relationships and guarantee the integrity of the natural resources in the face of different external pressures (BAHIA, 2017).

The Register of Organic Producers in the State of Bahia

There were 454 new registrations between 2014 and 2020 (Figure 3a), and an average growth of new registrations of 43% per year between 2015 and 2017 (Figure 3b). In the subsequent years, 2018 to 2020, new registrations fell to an average growth of 4% per year (Figure 3b), denoting a stagnation in the insertion of new registrations of organic producers in Bahia.

Figure 3a. Total registrations in the CNPO for the state of Bahia, per year, from 2014 to 2020; 3b. Percentage annual growth in new registrations, from 2014 to 2020.

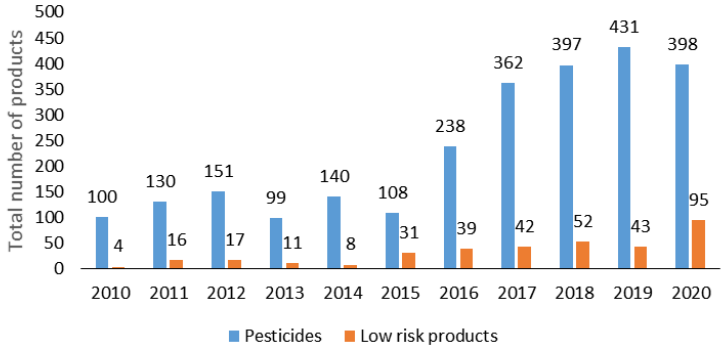


Data: CNPO (MAPA, 2014-2020).

The stagnation in new registrations in the CNPO may be related to the new political scenario established after the impeachment of President Dilma (2016) and the elections of 2018. These events marked the extinction of the MAD and the adoption of strategies that were very different from what had been implemented before in the country. In the 2000s until the mid-2010s, policies were created and programs and territorial actions were expanded that emphasized the concept of territory, such as the aforementioned PRONAT, the Programa Nacional de Fortalecimento da Agricultura Familiar (PRONAF), the national program for strengthening family agriculture, and PLANAPO itself, which prioritize participation in and access to social rights, as well as the protection of Brazilian natural resources.

The growth of new pesticide product registrations in Brazil (Figure 4) is also worrying. Between 2016 and 2020, there was an annual average of 365 new registrations; between 2010 and 2015, this average was 121 registrations per year. This indicates that current agricultural policy is more focused on expanding agricultural borders and feeding the agribusiness through the agricultural supply market.

Figure 4 - Total pesticide products and total low-risk products registered in Brazil from 2010 to 2020.



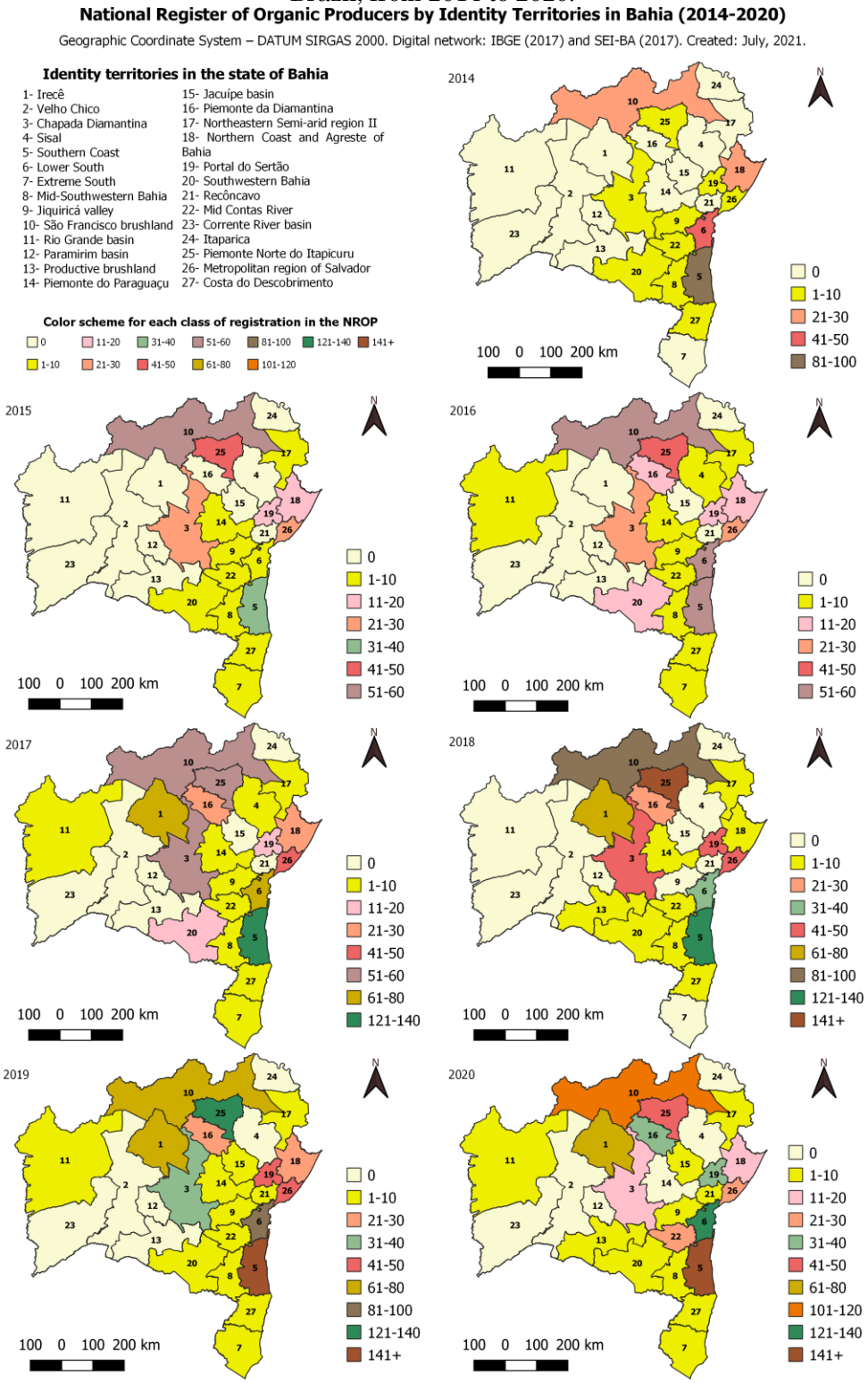
Data: obtained from MAPA (2021).

This problem persisted in 2020, even during the Covid-19 pandemic, which also favored the export sector to the detriment of the national supply – a fact observed in the high prices of basic products such as rice, beans and soybean oil that affected the Brazilian population and aggravated the problems of hunger and food insecurity, according to Schappo (2021).

Santarelli and collaborators (2017; 2019) and Schappo (2021) affirm that the actions practiced since 2016, with the extinction of the National Council for Food and Nutritional Security and funding reductions of the Food Acquisition Program and the National Supply Company, compromise the place that Brazil occupied as an international reference in policies aimed at

family agriculture and the eradication of hunger. This scenario ends up reverberating in all states of the federation and explains, in part, the stagnation in the insertion of new registrations of organic producers in the state of Bahia in the last three years. However, the growth of new registers of producers must still be observed in more detail. Therefore, considering the ITs of Bahia, maps were created that indicates the variation in the total number of CNPO registrations in the period from 2014 to 2020 (Figure 5).

Figure 5 - Spatio-temporal composition of the Cadastro Nacional de Produtores Orgânicos (database of Brazilian organic producers), according to identity territories of the state of Bahia, Brazil, from 2014 to 2020.



Data: obtained from CNPO (MAPA, 2014-2020).

The IT-5-Southern Coast and IT-6-Lower South, to the south, and the IT-10-São Francisco brushland, to the north can be highlighted, since they maintained more than 50 new registrations in almost every year of the analysis. The first two, which are in the Atlantic Forest biome, are renowned for their production of organic cocoa (MAPA, 2014-2020). The third, inserted in the Caatinga biome, has been promoting organic agriculture through fruit growing (MAPA, 2014-2020). In the latter region, CUs are highlighted, such as the National Park (PARNA) and the Boqueirão da Onça environmental protection area and the Ararinha-azul wildlife refuge (MMA, 2021).

In the northernmost central portion of the state, the IT-1-Irecê, IT-3-Chapada Diamantina, IT-16-Piemonte da Diamantina and IT-25-Piemonte Norte do Itapicuru, found in the semi-arid macroregion, presented over 20 new certified producers in almost every year of the analysis. These ITs are included in the proposal to create the Morro do Chapéu Geopark (CBPM, 2012), due to the geological aspects of interest for heritage education and geoconservation, although Brazil has not yet advanced greatly in this concept, and its only geopark is that of Araripe, in the Ceará state (ONARY-ALVES, 2015).

The IT-7-Extreme South, IT-8-Mid-Southwestern Bahia, IT-13-Productive brushland, IT-20-Southwestern Bahia and IT-27-Costa do Descobrimento added, in most years of the analysis, between 1 to 10 new producers. The IT-7-Extreme South and 27-Costa do Descobrimento, eucalyptus forestry is highlighted as one of the main economic activities, although they are relevant for conservation due to their remnants of Atlantic Forest (SEPLAN-BA, 2016). The IT-8-Mid Southwestern Bahia is part of the transition of the Cerrado/Atlantic Forest biome, and the IT-13-Productive brushland and IT-20-Southwestern Bahia are in the Cerrado, as observed in Figures 1 and 2.

In the western region, an expansion zone for soybean and cotton growing according to Secretaria de Agricultura, Pecuária, Irrigação, Pesca e Aquicultura da Bahia (SEAGRI-BA) (2018), the secretariat of agriculture, livestock, irrigation, fisheries and aquaculture of Bahia, we find the ITs that have the least additions of certified organic producers: IT-2-Velho Chico, IT-11-Rio Grande basin, 23-Corrente River basin and 12-Paramirim basin. The IT-11-Rio Grande basin supported up to two producers in the municipalities of Formosa do Rio Preto and Gameleira (MAPA, 2014-2020).

Type of Organic Certification and Participatory Assurance Systems

There are three organic quality control mechanisms: i) certification by a contracted certifying company, which performs audits on the property; ii) Sistemas Participativos de Garantia da Qualidade Orgânica (SPG), a participatory organic quality assurance systems, by OPAC, a participatory organic conformity assessment bodies; iii) social control, by OCS, a social control organization (BRASIL, 2007). The Associação de Agricultores Biológicos do Rio de Janeiro (ABIO, 2016), an association of organic farmers of Rio de Janeiro, indicates some differences between these mechanisms (Table 1):

The OPACs are formed by producers, consumers, technicians and researchers who carry out a self-certification process, and establish procedures for verifying organic production standards for producers that make up the OPAC. They need to be accredited by the MAPA, which oversees their work. The products receive the unique Brazilian seal, issued by Sistema Brasileiro de Avaliação da Conformidade Orgânica (SISOrg), the Brazilian organic conformity assessment system. The OCSs resemble the SPGs, but their organizational structure is composed of the group of farmers themselves and the sales are direct, and there can be no intermediaries between the producer and the consumer. The products do not receive the SISOrg seal, the organic guarantee is the social control itself, promoted through the right of access of the consumer to inspect the production unit, as well as the free access of supervisory bodies (ABIO, 2016).

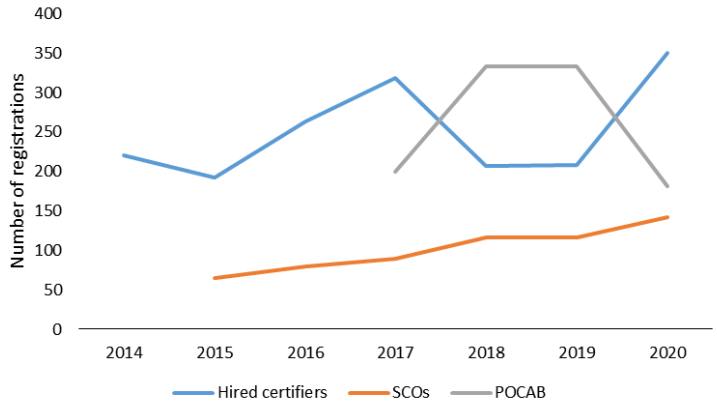
Table 1 – Comparison between control mechanisms.

Theme	Contracted certifier	SPG/OPAC	Social control/OCS
Assurance basis	Trust	Trust	Trust
Institution	Certifier	OPAC	-
Verification of conformity	Inspector / auditor	Group verification commission Group members	Defined by OCS Consumer visitation rights Free-access to supervisory bodies
Conformity decision	Certifier	Groups	Group CPOrg Queries
Services	Conformity assessment	Conformity assessment Support in the correction of non-conformities Technical assistance	Social control Support in the correction of non-conformities Technical assistance
Application	Isolated producers	Groups	Groups
Market	Direct sales National International	Direct sales National	Direct sales
SISOrg Seal	Yes	Yes	No
Responsibility for control	Sole	Collective	Collective
Final responsibility for organic product quality	Producer	Producer	Producer
Costs	Higher direct financial costs	Higher indirect costs (share)	Indirect costs only (share)

Note: Adapted from ABIO (2016).

Meirelles (2020) states that participatory certification began to be discussed within the Núcleo Técnico Agropecuário (NTA), an agricultural technical center, of the Cooperativa Ecológica Coolméia, an ecological cooperative, in southern Brazil, in 1992. Certification by hired certifiers was questioned by farming families, who found it incoherent to pay for a company to ensure that its products were environmentally friendly. Thus, according to the author, the creation of the PAS, supported by the regulation of Decree 6,323/07, is the result of the struggle of organizations that defend agriculture of a more ecological nature, while promoting the participation and inclusion of family farming in the organic sector. The influence of these organizations was analyzed in the variations of the CNPO of Bahia according to the nature of the organic certification process, from 2014 to 2020 (Figure 6).

Figure 6 – Annual variation of the type of organic certification in the CNPO registrations related to the state of Bahia (2014 to 2020).



Data: based on CNPO (MAPA, 2014-2020).

It should be noted that in 2014, the use of hired certifiers already occurred in the state, with a total of 220 registrations. Of these registrations, 133 came from cocoa production, and occurred in the IT-5-South Coast, IT-6-Lower South and IT-27-Costa do Descobrimento. It should be noted, as Collaço (2006) points out, that the Organic Cocoa project, started in 2001, gained more membership in 2006: "71 farms in southern Bahia, totaling more than 3700 ha, are gradually being certified by the Instituto Biodinâmico (IBD)" (the IBD is a hired certifier) (COLLAÇO, 2006, p. 54).

The records of the OCSs emerged in 2015, and the records of the OPACs emerged in 2017 (Figure 6). Both demonstrated prominence and enabled growth in the number of registrations in Bahia, and together represent more than 50% of CNPO registrations, from 2018 to 2020, and 68% in the years 2018 and 2019 (MAPA, 2018-2020). This occurred through the operations of fifteen organic quality control groups, twelve OCSs and three OPACs (Table 1).

The emergence of OCSs and OPACS in Bahia is recent compared to the southern and southeastern states of Brazil. According to Hirata (2020), the first OPACs in Brazil were organized in the 1980s and 1990s, and were accredited after the standardization and regulation of organic legislation, between 2007 and 2010, highlighting the work of the Associação de Agricultura Natural de Campinas e Região (ANC/SP), a natural agriculture association, the Associação Ecovida de Certificação Participativa (Ecovida/RS, PR, SC), an association for participatory certification, and ABIO/RJ.

There was a reduction in new registrations by SPGs in 2020 (Figure 6 and Table 1), which may have occurred due to the process of reassessment of certification. When certified farmers who do not correct non-conformities identified by their group, they end up leaving the relationship, only returning if they later comply and receive approval in a new process. In this sense, continuous and more in-depth monitoring of CNPO data is relevant.

The OCSs corresponded to 80% of the entities; however, the OPACs have more prominence in the amount of registrations, especially the Associação Povos da Mata, which acted in six ITs with a large amount of registrations, and the Assoc. Abc Organics, which acts mainly in the IT-25-Piedmonte Norte de Itapicuru (Table 1).

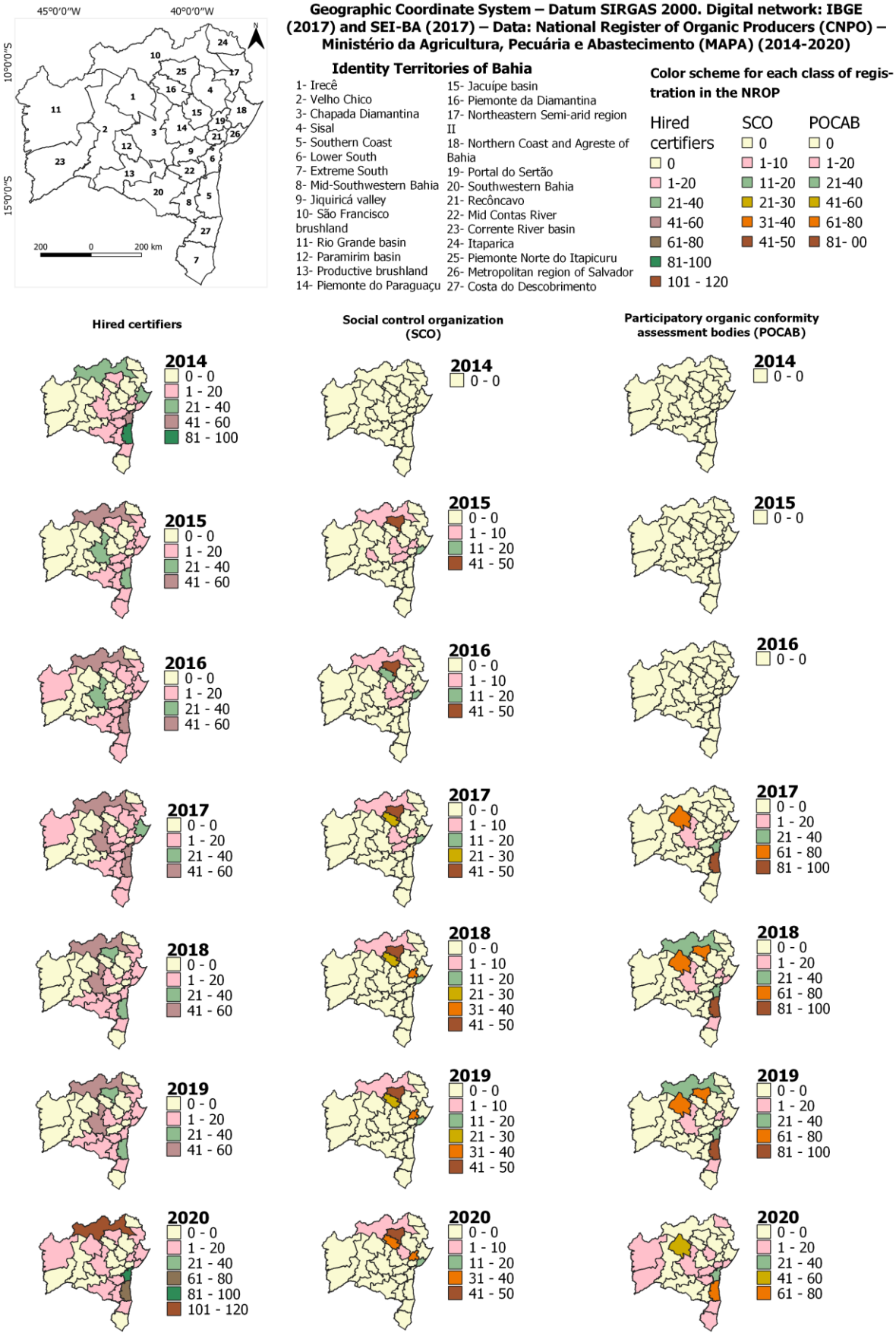
Table 1 – Relationship of OCS and OPACs that operated in the identity territories (ITs) of the state of Bahia and the number of registrations (NR) on the CNPO (2014-2020).

ENTITY NAME	NC	ITs	NR 2014	NR 2015	NR 2016	NR 2017	NR 2018	NR 2019	NR 2020
A.C.P.O.BA	OCS	14	0	4	4	4	0	0	0
Assoc. Com. BETE II - Revivência Quilombola-ACBRQ	OCS	19	0	0	0	0	31	31	32
Assoc. de Agricultores Familiares Orgânicos de Mata de São João (AFOMA)	OCS	26	0	13	13	13	13	13	13
Assoc. dos Moradores e Plantadores de F. e Hf. da Faz. Barroca de Cima e Adjacências	OCS	25	0	44	44	44	44	44	44
Assoc. dos Moradores e Plantadores de Frutas e Horti. da Faz. Barroca de Cima - Abc Orgânicos	OPAC	10; 19; 25; 26	0	0	0	0	112	112	0
Assoc. Ecovida de Certificação Participativa	OPAC	6	0	0	0	0	1	1	0
Associação Povos da Mata Atlântica do Sul da Bahia de Certificação Participativa	OPAC	1; 3; 5; 6; 26; 27	0	0	0	200	220	220	181
Conselho de Segurança da Agricultura Orgânica - Consea Orgânico	OCS	9; 10; 26	0	3	3	3	2	2	2
Grupo Luz do Sol	OCS	19	0	1	1	1	1	1	1
OCS Chão Verde	OCS	16	0	0	0	0	0	0	18
OCS Refas Campim Grosso	OCS	15	0	0	0	0	0	0	7
Refas Piemonte Caém	OCS	16	0	0	0	4	4	4	4
Refas Piemonte Jacobina	OCS	16	0	0	7	7	7	7	7
Refas Piemonte Mirangaba	OCS	16	0	0	7	7	7	7	7
Refas Piemonte Saúde	OCS	16; 26	0	0	0	7	7	7	7
Total	-	-	0	65	79	290	449	449	323

Note: NC-nature of the certification of the entity; IT- Identity territories involved; NR-number of records on the CNPO. Data: CNPO (MAPA, 2014-2020).

A spatialization of the number of registrations in the CNPO was carried out, based on the type of the certification process and distribution in the ITs of the state of Bahia, for the period from 2014 to 2020 (Figure 7).

Figure 7 – Spatio-temporal composition of the Cadastro Nacional de Produtores Orgânicos (database of Brazilian organic producers), according to certifying entities and by identity territories in the state of Bahia, Brazil (2014-2020).



Data: obtained from CNPO (MAPA, 2014-2020).

The IT-5-South Coast stands out for its thriving organic cocoa sales in the region, especially in the municipalities of Ilhéus and Itacaré. In the first two years of the analysis, producers were only certified by the company IBD Certifications. From 2017, with the creation of the OPAC Associação Povos da Mata, there was an increase in registrations of cocoa producers in the participatory mode. The municipalities of Arataca, Una and Uruçuca presented many registrations with a more varied scope of vegetable production (MAPA, 2014-2020).

In the IT-6-Lower South, the municipality of Taperoá stands out for its vegetable production and processing of guarana and, to a lesser extent, the production of cocoa, piassava (*Attalea funifera*), cassava, cloves, among other items, because of the seal from IBD Certifications. More recently, in the municipality of Ibirapitanga, the participatory certification of the association Povos da Mata provided an expressive production of "fradinho" beans, cassava, vegetables and a wide variety of other plant species (MAPA, 2014-2020).

In the IT-10-São Francisco Brushland, the municipalities of Curaçá, Uauá and Canudos can be highlighted for their production of Brazil plum (*Spondias tuberosa*), which has been consolidated for almost 20 years, as mentioned on the website of the Cooperativa Agropecuária Familiar de Canudos (COOPERCUC), a family agro-cooperative, which certifies most of its producers through the contract certification company Ecocert. The municipality of Sobradinho has a significant amount of producers, mainly cultivating acerola (*Malpighia emarginata*), which has been certified by IBD during the years of the analysis (MAPA, 2014-2020).

The IT-25-Piemonte Norte do Itapicuru is noted for the presence of the OCS Association of Residents and Planters of F. and HF. from the Baroque de Cima Farm and adjacencies - Abc organics, with registrations in the CNPO since 2015, mainly in the municipalities of Antônio Gonçalves, Campo Formoso, Jaguarari and Senhor do Bonfim, and with diversified vegetable crops. In the city of Caldeirão Grande, through audits of the certification company Ecocert, there is the organic sustainable extraction of Licuri palm (*Syagrus coronata*) (MAPA, 2014-2020). According to the SEAGRI-BA (2019) in 2019, there was an incentive for the state's Secretaria de Desenvolvimento Rural (SDR), the department of rural development, through the Companhia de Desenvolvimento e Ação Regional (CAR), a development and regional action company, which is committed to the signing of the agreements and the delivery of the beekeeping kits, amounting to US$ 266.798,00 thousand for the farmers of Campo Formoso, in addition to the approximately US$ 67.461,00 thousand for the organization of farmers for certified participation.

In the IT-3-Chapada Diamantina, with certifications in greater quantity by IBD certifications, there was the growth of coffee production, and also the production of honey and beeswax with greater prominence in 2017 in the city of Palmeiras. Participatory certification exists in the region through the OPAC association Povos da Mata, in the municipality Morro do Chapéu, with four organic producers that produce peanuts, pumpkin, peppers, tomatoes, eggplant, chayote and other items (MAPA, 2014-2020).

From 2017 onwards, the IT-1-Irecê has gained prominence in the participatory certification of the Povos da Mata association, through the Raízes do Sertão group. With a production of various plant species, such as corn, cassava, pumpkin, coriander, acerola and fradinho beans, the participatory certification is consolidated in the municipalities of Barra do Mendes, Barro Alto, Canarana, Central, Ibipeba, Ibititá, Irecê, João Dourado, Lapão and Presidente Dutra (MAPA, 2014-2020).

FINAL CONSIDERATIONS

The data on organic production shows great potential and a positive response, and the institution of the state policy of agroecology and organic production in the state of Bahia is noteworthy, as well as the creation of municipal laws of the same nature.

Despite the considerable growth of new organic producers in Bahia, especially with the work of the OCSs and OPACs, there is an absence of systematized data on the coverage of productive areas, which leaves a gap in the dynamics of land use and occupation. This requires articulated actions between government, research institutions and other social actors involved in territorial management and planning, which should seek to develop studies and monitor this sector.

It is recommended that the MAPA, through the CNPO or other mechanisms, publicize detailed and standardized information of the declared and certified organic production area, and that SEAGRI-BA carry out a monthly follow-up of the CNPO data, which is an activity that can be reproduced by the municipal

secretariats of Bahia, with a view to creating a database on organic production in Bahia.

In general, considering the organic production in the 27 ITs of the state of Bahia, there is a discrepancy in the registrations, which is revealed by their number/distribution and also in the performance of the OCSs and OPACs. It is observed that the ITs, such as IT-5-South Coast, IT-6-Lower South and IT-10-San Francisco brushlands, are moving towards a process of consolidation in organic production, which presents potential for diffusion to adjacent ITs. On the other hand, in the territories to the west of the state there is low number of registrations of organic production.

Regarding the performance of the OCSs and OPACS of Bahia, the state government should promote encouragement through the SDR and CAR, as in the case of Campo Formoso. Such entities can improve the development of Assistência Técnica e Extensão Rural (ATER), a technical assistance and rural extension policy, based on agroecology, thus strengthening increasingly sustainable practices in family farming, especially with populations inserted in the context of CUs, and boosting the certification process. In this sense, there is also a demand for research regarding the certification entities operating in the state of Bahia.

It should be stressed that it is necessary to generate broad knowledge about organic production in Bahia in order to aid decision-making related to the environmental planning and ecological economic zoning of the identity territories of Bahia.

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AUTHORS' CONTRIBUTION

Anna Raquel Nunes Sanchez conceived the study, collected, analyzed the data and wrote the text. Thyane Viana da Cruz helped guide the development of the study and revised the text. Gabriela Narezi collaborated in co-supervising the development of the study and revised the text. Maria Otávia Silva Crepaldi collaborated in co-supervising the development of the study and revised the text.