

The extreme north of Espírito Santo: an analysis of the municipalities with the highest concentrations of people in CadÚnico in the state

O extremo norte capixaba: uma análise dos municípios que estão entre as maiores concentrações de pessoas no CadÚnico no Espírito Santo

Ivair Segheto Junior¹ⁱ, Orcid: <https://orcid.org/0009-0009-9111-8699>; Leandro de Souza Lino²ⁱⁱ, Orcid: <https://orcid.org/0000-0002-5909-8028>; Carla Ferreira Soares Figueiredo³ⁱⁱⁱ, Orcid: <https://orcid.org/0009-0000-4641-2025>; Martius Vicente Rodriguez y Rodriguez^{4iv}, Orcid: <https://orcid.org/0000-0001-8270-7488>

1. Gestor da Unidade Regional Sul do SEBRAE – ES, Brasil. E-mail: ivair.segheto@es.sebrae.com.br

2. Consultor do Sebrae/ES – Brasil. E-mail: lsilino@gmail.com

3. Analista da Unidade do Ambiente de Negócio e Acesso ao Crédito do Sebrae/ES – Brasil. E-mail: carla.figueiredo@es.sebrae.com.br

4. Professor Titular em Administração na Universidade Federal Fluminense – Niterói – Fluminense, RJ, Brasil. E-mail: martiusyrodriquez@gmail.com

Abstract

This study aims to evaluate the economic performance and development of the municipalities of Montanha, Mucurici, and Ponto Belo, which had the highest proportional concentrations of people in CadÚnico in Espírito Santo between 2012 and 2021. These neighboring cities in the extreme north share common historical elements. Analyzing their performance in alignment with some Sustainable Development Goals, it is evident that they also have some of the highest proportions of pastureland in the state. Their soils have limited areas designated for forest cover and water surfaces. Dairy and beef cattle farming are among the activities with the highest number of formal establishments, while Public Administration is the largest employer. Suggestions for local development include actions aimed at preserving natural resources, maintaining incentives for economic diversification, and monitoring the population registered in CadÚnico.

Keywords: CadÚnico; performance; economy.

Resumo

Este trabalho visa avaliar o desempenho econômico e o desenvolvimento dos municípios de Montanha, Mucurici e Ponto Belo, que estiveram entre as maiores concentrações proporcionais de pessoas no CadÚnico, no Espírito Santo, entre 2012 e 2021. Trata-se de cidades vizinhas no extremo norte e que possuem elementos históricos em comum. Ao analisar seus desempenhos alinhados com alguns Objetivos do Desenvolvimento Sustentável, percebe-se que eles também estão entre os que apresentam as maiores proporções de áreas com pastagens do Estado. Seus solos possuem reduzidas áreas destinadas à cobertura florestal e a superfícies com água. A pecuária bovina de leite e de corte estão entre as atividades com maiores quantidades de estabelecimentos formais, e a Administração Pública, a que mais emprega. Entre as sugestões para o desenvolvimento local, estão ações voltadas à preservação dos recursos naturais e à manutenção de estímulos à diversificação econômica e de monitoramento do público inscrito no CadÚnico.

Palavras-chave: CadÚnico; desempenho; economia.

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1 Introduction

This study analyzes the performance and development of the municipalities of Montanha, Mucurici, and Ponto Belo, which have the highest proportional concentrations of people in the Unified Registry for Social Programs (CadÚnico) in Espírito Santo. This analysis is important because this trend persisted for almost the entire period from 2012 to 2021. Thus, it is possible to identify the reasons behind this situation in the three cities and encourage reflections on their economic performance, proposing suggestions to overcome these challenges.

Part of this time frame coincides with the COVID-19 pandemic, which began in Brazil in March 2020 and had prolonged effects until mid-2021. Despite this situation, the overall context of these three municipalities requires further investigation, as they have consistently ranked among those with the highest proportions of people in CadÚnico since 2012, regardless of the health crisis.

These three neighboring municipalities are located in the extreme north of the state and share the same historical background. They originated from the same territory following Mucurici's emancipation from the city of Conceição da Barra in 1953, marking a relatively recent administrative separation.

Therefore, this article is justified by its identification of possible factors that contributed to these municipalities' consistently high relative concentration of people in CadÚnico between 2012 and 2021. It also aims to analyze their economic performance and propose possible solutions to reverse this scenario based on the general characteristics of their territories.

This study is divided into three main sections, in addition to this introduction and the final considerations. The first section discusses the theoretical framework, addressing key concepts that help understand the issues at hand, such as sustainability, development, and the general characteristics of Brazilian social programs. The second section presents the methodology, focusing on the indicators used to analyze the economic performance of the three municipalities. The third section discusses the overall results, particularly by comparing the performance of the selected municipalities with the state's overall figures for the period. This analysis enables reflections on the possible consequences of these results, facilitating the identification of alternatives to reverse this scenario.

According to Segheto Junior (2010), understanding local realities is one of the first steps in implementing measures for regional development, which can be approached through Situational Strategic Planning (PES). In this regard, the author proposes identifying objectives to overcome the challenges observed by social actors. One of the key aspects of this methodology is establishing dialogues between politicians and technical experts involved in the territory, as a way to adopt necessary measures to address existing problems in different locations.

Segheto Junior (2010) outlines four stages for PES implementation: 1) explanatory, which seeks to justify current situations; 2) normative, which defines what can be done; 3) strategic, which assesses the feasibility of implementing planned operations; and 4) tactical-operational, which focuses on the day-to-day execution of initiatives. While the first three stages relate to the planner's accumulated knowledge, the last stage concerns the execution of actions themselves (Silva, 2001 apud Segheto Junior, 2010).

In this context, this study aims to conduct a situational diagnosis to understand the reality and identify elements that can help overcome the identified challenges. Thus, it is believed that it will be possible to propose policies aimed at reversing the dependence on social



programs through initiatives focused on job creation, income generation, and the promotion of social entrepreneurship, based on the municipalities' characteristics, potential, and opportunities.

2 Literature Review

In this section, topics related to the concepts of sustainability and development, as well as the foundations of national social programs that use CadÚnico, will be discussed. This discussion will be conducted in two stages: 1) a debate on the concepts of sustainable development; 2) an overview of social programs in general, with a focus on CadÚnico and its importance for the implementation of public policies in the country.

2.1 Sustainability and development

The terms sustainability and development have gained prominence in recent years, especially after the 1972 United Nations Conference in Stockholm, Sweden. This is due to the worsening environmental crisis in the 1970s, caused by factors such as the exploitation of natural resources, the damage from fossil fuel combustion, the decline in species numbers, and the increase in pollution. These issues placed environmental and development agendas at the center of global debates (Cannan, 2000, cited by Martins & Brando, 2023).

According to Viana and Elias (2007, p. 1766), development can be understood as “[...] a dynamic and virtuous process that simultaneously combines economic growth, fundamental changes in the productive structure, and an improvement in the population's standard of living.”

The term sustainability, according to the Sustainability Laboratory (LASSU) at the University of São Paulo (USP), originates from the Latin word *sustentare*, which means to sustain, support, preserve, or care for. Thus, this concept is related to the capacity to sustain or endure certain conditions presented by something or someone (Universidade de São Paulo [USP], n.d.).

In this context, it is important to highlight the year 1983, when the United Nations General Assembly established the World Commission on Environment and Development, chaired by Norwegian Prime Minister, Gro Harlem Brundtland. From this commission, the Brundtland Report was developed to present long-term strategies aimed at meeting the principles of sustainable development beyond the year 2000 (Lago, 2013, cited by Martins & Brando, 2023).

Thus, the concept of development became increasingly associated with sustainability, with both being linked to social, economic, and environmental aspects of society. Development, therefore, should be “[...] *socially inclusive, environmentally sustainable, and economically viable*” (Sachs, 2009, cited by Leal, Cani & Lino, 2021, p. 5).

According to Sandroni (1999, p. 170), sustainable development refers to a

Concept that belongs to the fields of ecology and administration, referring to the development of a company, industrial sector, region, or country, in which the process does not deplete the natural resources it consumes nor harm the environment in a way that would compromise the future development of that activity (Sandroni, 1999, p. 170).

For a better understanding of the term sustainable development, it is important to evaluate it through the integration of its three governing elements: social, economic, and



environmental. The interactions between these three factors led to the creation of the Triple Bottom Line concept (Curtis et al., 2021, p. 88).

Initially, the United Nations (UN) proposed eight major global challenges, known as the Millennium Development Goals (MDGs), aiming to eliminate poverty and hunger worldwide (Roma, 2019). As the deadline for these initiatives approached, the UN reformulated them, expanding the framework to a total of 17 Sustainable Development Goals (SDGs). With this revision, their scope was broadened, as they represented “[...] a global call to action to end poverty, protect the environment and climate, and ensure that people everywhere can enjoy peace and prosperity” (United Nations, n.d.). These goals can be seen in Figure 1. In Table 1, the SDGs related to the objectives of this study are listed.

Figure 1 – 17 Sustainable Development Goals in Brazil



Source: United Nations (n.d.).

Table 1 – List of SDGs aligned with the discussions in this study

SDG	Objective
1) No poverty	Eradicate poverty in all its forms and everywhere
2) Zero hunger and sustainable agriculture	Eradicate hunger, achieve food security, improve nutrition, and promote sustainable agriculture
8) Decent work and economic growth	Promote inclusive and sustainable economic growth, full and productive employment, and decent work for all
9) Industry, innovation and infrastructure	Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation
10) Reduced inequalities	Reduce inequalities within and among countries
11) Sustainable cities and communities	Make cities and communities more inclusive, safe, resilient, and sustainable
12) Responsible consumption and production	Ensure sustainable consumption and production patterns
14) Life below water	Conserve and sustainably use the oceans, seas, and marine resources for sustainable development
15) Life on land	Protect, restore, and promote the sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, stop and reverse land degradation, and stop biodiversity loss

Source: United Nations (n.d.). Adapted by the authors.

2.2 Social Programs and the Unified Registry for Social Programs – CadÚnico

The cities of Montanha, Mucurici, and Ponto Belo were chosen based on the proportional number of people registered in CadÚnico relative to the total population of municipalities in Espírito Santo.

CadÚnico identifies families with a monthly income of up to half the minimum wage per person or a total household income of up to three minimum wages, with the objective of planning public policies at the federal, state, and municipal levels. Families that exceed this income threshold can still be registered, provided that they are applying for a specific selection process or are being monitored under a federal, state, or municipal social program (CAIXA ECONÔMICA FEDERAL [CEF], **n.d.a**).

As such, CadÚnico consists of “[...] database, instruments, procedures, and electronic systems [...]” that allow for an analysis of the needs of registered families and aid in the formulation of public policies for this population in the country (INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA [IBGE], **n.d.a**).

According to the Brazilian Institute of Geography and Statistics (INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA [IBGE], **n.d.a**), CadÚnico was established by Decree No. 3,877 on July 24, 2001, and in 2003, its database was integrated into the Bolsa Escola Program. As a result, the data of families benefiting from this program were updated within CadÚnico.

Also in 2003, the Bolsa Família Program was created, using CadÚnico as its operational foundation. The most significant change occurred in 2005 when municipalities and states officially joined CadÚnico and the Bolsa Família Program, leading to a substantial increase in family registration updates. While in 2003, approximately 10 million families were registered in CadÚnico, today, there are around 19.5 million (INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA [IBGE], **n.d.a**).

It is the responsibility of municipalities to identify priority areas for registering low-income families. They then collect the necessary information and enter it into a dedicated application managed by the public institution Caixa Econômica Federal (CEF). Each individual from a registered family receives a Social Identification Number (NIS), which is “[...] unique, personal, and non-transferable” (INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA [IBGE], **n.d.a**).

Additionally, the data of families registered in CadÚnico are collected through a specific form, with key information related to aspects such as individual identification, household characteristics, and living conditions.

Among the main programs that use CadÚnico as a foundation for implementing public policies are: Bolsa Família Program, Social Electricity Tariff Program, Fee Exemption for Public Examinations, ID Jovem, Elderly ID Card, and Minha Casa Minha Vida Program (Brasil, 2023).

The primary objective of CadÚnico is to plan social public policies and projects implemented by all three levels of government across Brazilian municipalities. Moreover, although new families can be registered at any time, re-registration is mandatory every two years or whenever there is a change in family composition. Examples include situations such as birth, death, change of address or school for children, income increase or reduction, among others (Brasil, 2023).

In this regard, the data related to CadÚnico will help understand the factors that led Montanha, Mucurici, and Ponto Belo to rank as the top three municipalities in Espírito Santo



in terms of proportional numbers of registered individuals compared to their total populations, during nearly the entire period between 2012 and 2021.

3 Methodology

To assess the economy of the three municipalities discussed in this study, a descriptive methodology was initially adopted. This approach allowed for the exploration of key concepts such as development, sustainability, and CadÚnico itself, as well as its role in the implementation of public policies. These discussions provided an understanding of the broader factors that justify the development of this article.

Additionally, various secondary data sources (Table 2) were consulted to better understand the general contexts in which Montanha, Mucurici, and Ponto Belo are situated. Although the primary focus of this study is on the discussion of municipal economies, social and environmental information will also be considered due to the intersections between these three areas and their fundamental role in sustainable development. The results will also be discussed in alignment with the nine United Nations Sustainable Development Goals (SDGs) previously listed.

Table 2 – List of sources and data used in this study

Subject	Indicators	Alignment with SDG	Source	Database
Social	Population	1) No Poverty; 8) Decent Work and Economic Growth; 10) Reduced Inequalities	Brazilian Institute of Geography and Statistics (IBGE)	2010 and 2022 Demographic Censuses
	Formal Jobs	8) Decent Work and Economic Growth; 9) Industry, Innovation, and Infrastructure; 10) Reduced Inequalities; 12) Responsible Consumption and Production	Ministry of Labor and Employment	Annual List of Social Information (Rais)
	Individual Microentrepreneurs	8) Decent Work and Economic Growth; 10) Reduced Inequalities	Federal Revenue of Brazil	Entrepreneur Portal
	People in Families in Situations of Poverty and Extreme Poverty	1) No Poverty; 10) Reduced Inequalities	Ministry of Development and Social Assistance, Family, and Fight Against Hunger	Secretariat of Evaluation, Information Management, and Unified Registry / SAGICAD
	Wage Mass of Formal Jobs	8) Decent Work and Economic Growth; 10) Reduced Inequalities	Ministry of Labor and Employment	Rais
Economic	GDP	8) Decent Work and Economic Growth	Jones dos Santos Neves Institute (IJSN)	Municipal GDP
	GDP <i>per capita</i>	8) Decent Work and Economic Growth	IJSN and Brazilian Institute of Geography and Statistics (IBGE)	Municipal GDP and Demographic Censuses
	Added Values	2) Zero Hunger and Sustainable Agriculture; 8) Decent Work and Economic Growth; 9) Industry, Innovation, and Infrastructure; 12) Responsible Consumption and Production	Institute for Applied Economic Research (Ipea)	Ipeadata
	Formal Establishments	8) Decent Work and Economic Growth; 9) Industry, Innovation, and Infrastructure; 12) Responsible Consumption and Production	Ministry of Labor and Employment	Rais
	Areas with Agriculture and Livestock	2) Zero Hunger and Sustainable Agriculture; 8) Decent Work and Economic Growth; 12) Responsible Consumption and Production; 14) Life Below Water; 15) Life on Land	MapBiomass Brasil	MapBiomass Brasil
	Non-Vegetated Area	11) Sustainable Cities and Communities; 14) Life Below Water; 15) Life on Land	MapBiomass Brasil	MapBiomass Brasil
Environmental	Areas with Forests	11) Sustainable Cities and Communities; 15) Life on Land	MapBiomass Brasil	MapBiomass Brasil
	Areas with Non-Forest Natural Formation	11) Sustainable Cities and Communities; 15) Life on Land	MapBiomass Brasil	MapBiomass Brasil
	Areas with Bodies of Water	11) Sustainable Cities and Communities; 14) Life Below Water; 15) Life on Land	MapBiomass Brasil	MapBiomass Brasil

Source: Prepared by the authors.

Among the aforementioned sources, it is worth highlighting one of the features used for analyzing areas with different land uses: the mapping developed by MapBiomass Brasil. In this study, Collection 7.1 was adopted, which uses a spatial resolution of 30 meters and a mapping



of 27 classes (MapBiomas Brazil, n.d.). It is important to note that the data presented in the historical series from 2012 to 2021 will be evaluated using their Annual Geometric Growth Rates (GAGR), whose formula is:

$$TGCA = \left[\left(\sqrt[n]{\frac{P_{t+n}}{P_t}} \right) - 1 \right] \times 100$$

Where n is the number of years in the period; P_t is the initial data at the beginning of the period; and P_{t+n} is the final data at the end of the period. Next, the location of the three municipalities analyzed within the territory of Espírito Santo will be presented, along with their historical aspects and overall performance in the listed indicators from 2012 to 2021.

4 Results and discussion

Before discussing the general aspects of the economy of the region to be evaluated, it is important to present the data that supported the selection of the municipalities of Montanha, Mucurici, and Ponto Belo, as well as their historical aspects and respective locations within the territory of Espírito Santo.

4.1 Basic elements for the selection of the three municipalities and their historical aspects

The results that motivated the selection of the three municipalities can be observed in Table 3, Table 4, and, above all, Table 5. From these tables, the estimated performance of their populations, the number of people registered in CadÚnico, and their respective percentage shares of the total number of inhabitants can be observed.

It is important to highlight that, due to the absence of quantitative population surveys between 2012 and 2021, the estimates were based on the results of the IBGE Demographic Censuses conducted in 2010 and 2022.

That population estimate indicates that Montanha was the only municipality in the region that experienced growth during this period, although it was still lower than the overall growth observed in Espírito Santo. Thus, in general, despite the region experiencing slight growth between 2012 and 2021, registering a Geometric Annual Growth Rate (GAGR) of 0.10%, its percentage representation in the total population of the state declined.

Table 3 – Estimated population performance of the region between 2012 and 2021*

Municipalities	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	GAGR 2012-2021
Montanha	18,020	18,106	18,193	18,280	18,367	18,455	18,543	18,632	18,721	18,810	0.48%
Mucurici	5,623	5,607	5,591	5,575	5,560	5,544	5,528	5,513	5,497	5,482	-0.28%
Ponto Belo	6,896	6,855	6,814	6,774	6,734	6,694	6,654	6,614	6,575	6,536	-0.59%
Region	30,539	30,569	30,598	30,629	30,660	30,692	30,725	30,759	30,793	30,827	0.10%
Espírito Santo	3,563,935	3,589,018	3,614,505	3,640,402	3,666,715	3,693,450	3,720,616	3,748,217	3,776,262	3,804,758	0.73%
Region's Share in ES (%)	0.86	0.85	0.85	0.84	0.84	0.83	0.83	0.82	0.82	0.81	-

Source: IBGE (2010); IBGE (2022).

Note: Estimates calculated based on population performances observed in the 2010 and 2022 Demographic Censuses.

Although the population of Ponto Belo and Mucurici decreased during the evaluated period and the total had a GAGR of only 0.10%, all three municipalities analyzed showed an increase in the number of people registered in CadÚnico. However, since the growth rates of



registered individuals in the region were lower than those for the entire state, there was a decline in the proportion of registered people compared to Espírito Santo.

Table 4 – Number of people registered in CadÚnico between 2012 and 2021

Municipalities	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	GAGR 2012-2021
Montanha	1,378	1,498	1,605	1,252	1,356	1,255	1,348	1,412	1,526	1,596	1.65%
Mucurici	344	406	454	424	444	363	372	351	358	383	1.20%
Ponto Belo	499	561	605	321	398	384	436	492	539	582	1.72%
Region	2,221	2,465	2,664	1,997	2,198	2,002	2,156	2,255	2,423	2,561	1.60%
Espírito Santo	51,175	61,817	73,129	69,350	78,006	70,363	82,300	96,033	109,384	120,889	10.02%
Region's Share in ES (%)	4.34	3.99	3.64	2.88	2.82	2.85	2.62	2.35	2.22	2.12	-

Source: Brasil (2024).

Even though the growth rates of people registered in CadÚnico in the three municipalities were lower than the overall state rates, they still remained relatively prominent in proportional terms, as shown in Table 5. In other words, Montanha, Mucurici, and Ponto Belo maintained the highest proportions of people registered in CadÚnico throughout almost the entire period from 2012 to 2021, except in 2015, when Apiacá ranked third.

Table 5 – Percentage of people registered in CadÚnico in relation to the total population, between 2012 and 2021

Municipalities	2012	2013	2014	2015*	2016	2017	2018	2019	2020	2021
Montanha	7.65	8.27	8.82	6.85	7.38	6.80	7.27	7.58	8.15	8.48
Mucurici	6.12	7.24	8.12	7.60	7.99	6.55	6.73	6.37	6.51	6.99
Ponto Belo	7.24	8.18	8.88	4.74	5.91	5.74	6.55	7.44	8.20	8.90
Region	7.27	8.06	8.71	6.52	7.17	6.52	7.02	7.33	7.87	8.31
Espírito Santo	1.44	1.72	2.02	1.91	2.13	1.91	2.21	2.56	2.90	3.18

Source: IBGE (2010); IBGE (2022); Brasil (2024).

Note: *2015 was the only year in which Apiacá surpassed one of the three evaluated municipalities in terms of the percentage of people registered in CadÚnico relative to the total population, as it reached 4.84%, exceeding the 4.74% recorded in Ponto Belo. This led Ponto Belo to rank 4th place.

In this context, it is important to present the historical factors related to the three municipalities and their location within the territory of Espírito Santo. The region comprising these municipalities has a relatively recent history and is linked to the late expansion of settlement in the state, which occurred from south to north due to the advance of coffee farming by producers from states such as Minas Gerais and Rio de Janeiro, as well as European immigrants, especially from the early 19th century onward. Additionally, the northern part of the Doce River was only occupied after the construction of the Florentino Avidos Bridge in Colatina in 1928 (Lino, 2023).

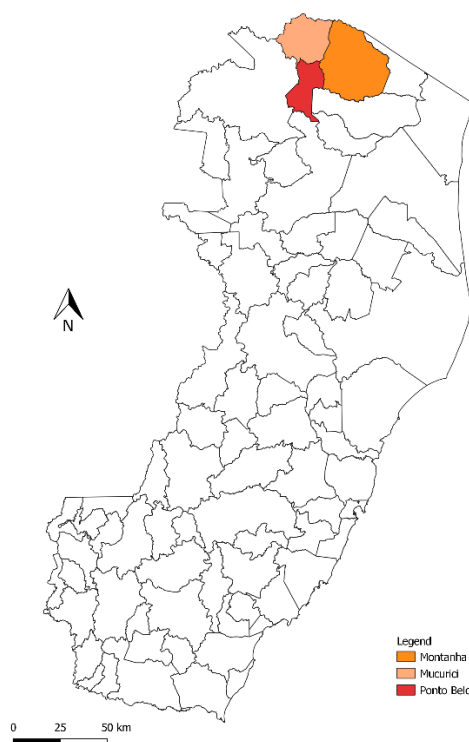
The settlement of the region began in the early 20th century, and Mucurici only achieved emancipation in 1953. Montanha and Ponto Belo had their territories formed as part of the original composition of Mucurici, along with part of Conceição da Barra, as in the case of Vinhático, one of Montanha's districts. In this context, Montanha became an independent municipality in 1963, while Ponto Belo followed in 1994 (IBGE, **n.d.b**).

Although Montanha, Ponto Belo, and Mucurici were influenced by the expansion of coffee farming, their productive bases were initially limited mainly to the extraction of native wood and later to cattle ranching. This is because the context in which they were settled and integrated into the state's economy differs from other areas of Espírito Santo, as it was marked by the international coffee market crisis and the federal government's coffee plantation eradication policy, implemented to control product prices, particularly in 1962 (IBGE, **n.d.b**; Lino, 2021).



In addition to the historical aspects and the ranking of these three municipalities among those with the highest numbers of people registered in CadÚnico in the state, their geographical proximity is also noteworthy, as they are neighboring municipalities located in the extreme north of Espírito Santo, as shown in Figure 2.

Figure 2 – The location of the municipalities of Montanha, Mucurici, and Ponto Belo in the territory of Espírito Santo



Source: Prepared by the authors.

These elements highlight the importance of this study, as the three municipalities, in addition to being geographically close and sharing a historical connection, have a concentration of people registered in CadÚnico that proportionally surpasses the rest of the state. This becomes even more significant considering that this situation persisted between 2012 and 2021. In this regard, it is important to note that registration is carried out by a family representative, monitored by municipal administrations, and must be updated every two years (Brasil, 2023).

Given this scenario, it is relevant to understand other factors related to the region's economy during this period, which will be analyzed below to reflect on the reasons behind the high concentration of residents in CadÚnico. From this, the objective is to assess whether there are sufficient elements to support a discussion on the necessary indicators for overcoming this situation.

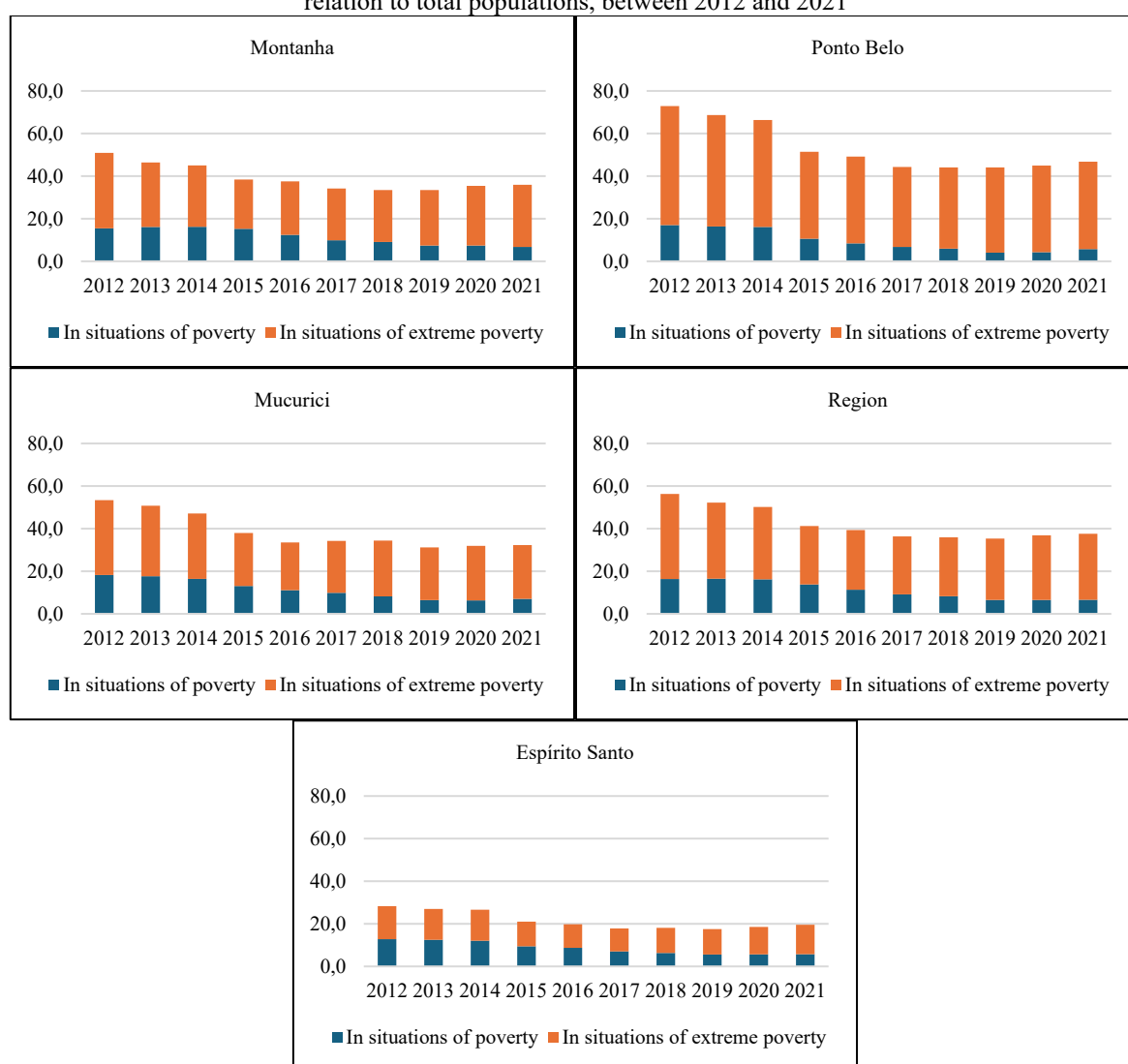
4.2 The general performance of the region and its alignment with the SDGs

CadÚnico contains additional information, particularly regarding income distribution, which provides a better understanding of the territory. One such data point refers to the number of people in situations of poverty and extreme poverty. Graph 1 presents these values for each of the three municipalities, as well as for the totals of the region and the state.

These results show that, although the region had relatively better performance than the overall figures for Espírito Santo, all three municipalities experienced reductions in the total number of people in poverty and extreme poverty between 2012 and 2021.

Despite this improvement, the three municipalities still have a high proportion of people in these conditions relative to their total populations, as illustrated in Graph 1. While the overall state figures are not shown, Ponto Belo ranked first in Espírito Santo for the highest number of people in poverty and extreme poverty in both 2012 and 2021. Mucurici ranked 8th in 2012 and 15th in 2021, while Montanha ranked 12th and 9th, respectively.

Graph 1 – Percentage of people registered in CadÚnico in situations of poverty and extreme poverty in relation to total populations, between 2012 and 2021



Source: IBGE (2010); IBGE (2022); Brasil (2024).

Table 6 presents the performance of the municipalities, as well as the totals for the region and the state, concerning GDP and GDP *per capita* in real values during the period of analysis. These are some of the main indicators for measuring a given territory's economy, as they refer to the total sum of final goods and services produced in a year (Sandroni, 1999).

Regarding GDP results among the municipalities in the region, only Mucurici experienced a decline between 2012 and 2021. As for GDP *per capita*, both Mucurici and Montanha saw reductions during the analyzed period. It is worth noting that these results may be associated with the effects of the COVID-19 pandemic, which began in March 2020 in Brazil and lasted until part of 2021. Regardless of this situation, overall, the region showed growth in both GDP and GDP *per capita*, although both had lower annual growth rates compared to Espírito Santo over the same period.

Table 6 – GDP Performance (in millions of R\$) and GDP *per Capita* (in R\$), at Real Prices*, between 2012 and 2021

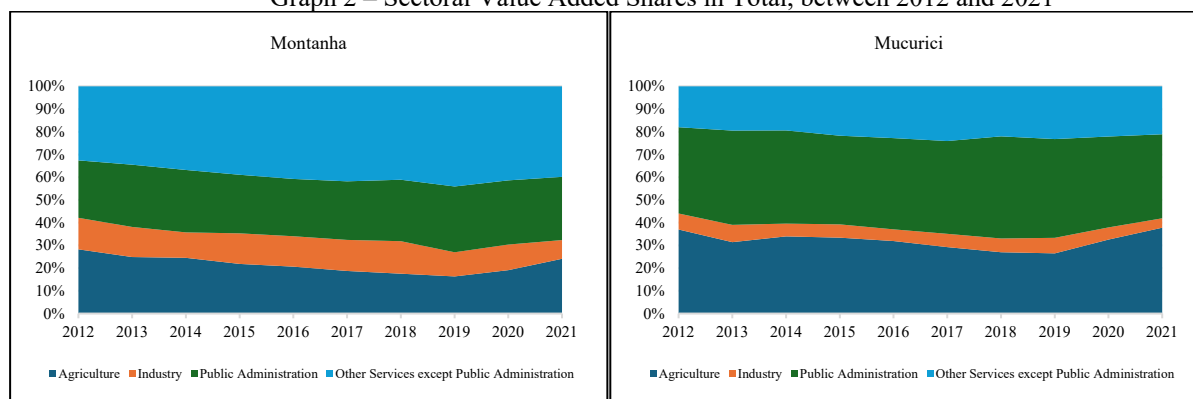
Indicator	Municipalities	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	GAGR 2012-2021
GDP (in millions of R\$ - at real prices ¹)	Montanha	497,3	478,5	476,6	499,5	505,2	482,1	465,7	450,5	471,9	499,2	0,04%
	Mucurici	119,4	113,2	110,5	114,2	112,8	101,4	93,5	103,5	112,3	117,7	-0,16%
	Ponto Belo	117,6	127,3	124,1	124,4	122,2	114,2	109,1	112,8	120,4	130,8	1,19%
	Region Total	734,2	719,0	711,2	738,2	740,2	697,7	668,2	666,7	704,6	747,7	0,20%
	Espírito Santo	209.680,7	201.125,8	211.199,9	187.950,3	162.348,2	159.303,4	187.454,2	181.727,9	177.335,5	226.617,9	0,87%
Region's Share in ES (%)		0,35	0,36	0,34	0,39	0,46	0,44	0,36	0,37	0,40	0,33	
GDP <i>per Capita</i> (in R\$ - at real prices ¹)	Montanha	25.718,8	28.523,7	27.597,9	26.425,9	26.195,8	27.325,1	27.507,1	26.124,3	25.113,6	24.178,5	-0,68%
	Mucurici	22.406,5	23.129,9	21.228,5	20.186,0	19.767,2	20.488,6	20.285,5	18.292,8	16.904,3	18.768,2	-1,95%
	Ponto Belo	16.580,6	18.922,2	17.047,6	18.576,8	18.207,1	18.371,7	18.150,2	17.053,9	16.391,5	17.052,0	0,31%
	Region Total	24.042,7	23.521,1	23.241,9	24.100,5	24.142,6	22.731,5	21.747,7	21.676,4	22.882,4	24.254,6	0,10%
	Espírito Santo	47.615,5	56.202,4	58.797,1	55.991,7	58.372,4	51.572,1	44.226,0	43.083,8	50.331,8	48.442,6	0,19%

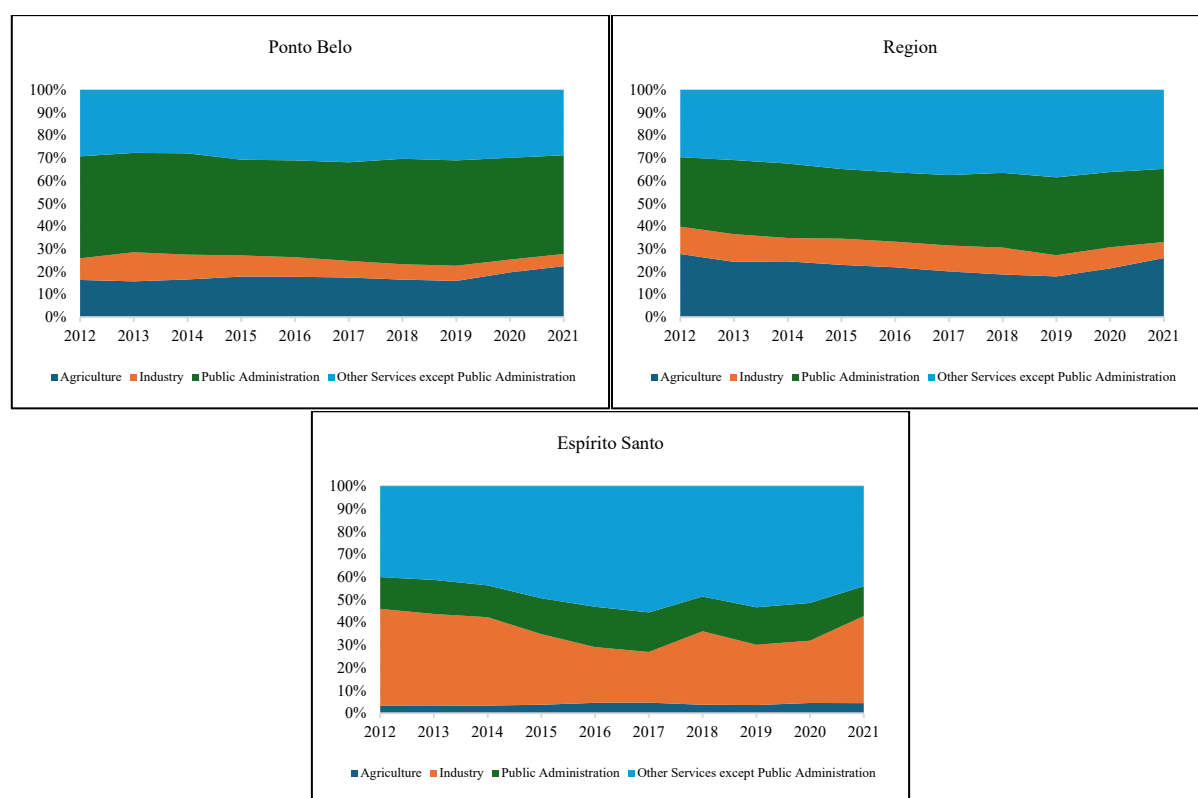
Source: Jones dos Santos Neves Institute – IJSN (2024).

Note: *Deflated by the implicit GDP deflator, at 2022 average prices (IBGE, n.d.c).

The performance of economic sectors in the Value Added of the three municipalities, as well as the region and the state, is illustrated in Graph 2. During the analyzed period, Mucurici and Ponto Belo had Public Administration as the most significant contributor to their Value Added composition, while Montanha had a stronger presence in Other Service Activities.

Graph 2 – Sectoral Value Added Shares in Total, between 2012 and 2021





Source: Jones dos Santos Neves Institute – IJSN (n.d.).

Individual Microentrepreneurs (MEIs) also increased in number across the region during the period. However, this growth was lower than the total growth rate in Espírito Santo, despite Montanha's growth rate being relatively close to the state's rate for the period (Table 7).

Table 7 – Number of Individual Microentrepreneurs (MEIs), 2012-2021

Municipalities	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	TGCA 2012-2021
Montanha	281	400	533	630	733	858	888	1,026	1,197	1,350	19.05%
Mucurici	112	144	213	269	306	335	304	339	357	406	15.38%
Ponto Belo	169	206	235	289	325	370	345	343	378	409	10.32%
Region	562	750	981	1,188	1,364	1,563	1,537	1,708	1,932	2,165	16.17%
Espírito Santo	68,806	95,023	121,839	148,740	174,250	201,470	203,212	242,409	290,342	337,150	19.31%
Region's Share in ES (%)	0.82	0.79	0.81	0.80	0.78	0.78	0.76	0.70	0.67	0.64	-

Source: Federal Revenue of Brazil (n.d.a).

The results for other labor market indicators, including the number of jobs, businesses, and total payroll, are shown in Table 8. Notably, the region experienced a decline in the number of businesses during the analyzed period, while the number of jobs and total payroll mass increased.

When analyzing the labor market by municipality between 2012 and 2021, the only cases of decline occurred in the number of formal establishments in Mucurici and Montanha.

Additionally, there were increases in the total payroll mass of formal employees across all municipalities in the region between 2012 and 2021, with annual growth rates exceeding 1% in all cases. This trend contrasts with the total performance in Espírito Santo, where the payroll mass of formal employees declined at an annual rate of -1.70%.

Table 8 – Performance of Formal Jobs and Establishments, as well as Total Payroll (in Thousand R\$*) in the Formal Labor Market, 2012-2021

Indicators	Municipalities	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	GAGR 2012- 2021
Formal Establishments	Montanha	856	852	873	837	888	897	895	837	805	839	-0,22%
	Mucurici	293	262	267	275	270	252	254	247	225	234	-2,47%
	Ponto Belo	245	233	227	289	276	250	246	222	232	250	0,22%
	Region	1.394	1.347	1.367	1.401	1.434	1.399	1.395	1.306	1.262	1.323	-0,58%
	Espírito Santo	154.213	158.961	160.850	163.254	161.692	161.000	157.703	158.011	161.701	167.157	0,90%
	Region's Share in ES (%)	0,90	0,85	0,85	0,86	0,89	0,87	0,88	0,83	0,78	0,79	
Formal Jobs	Montanha	4.552	4.819	4.750	4.534	4.287	4.386	4.906	4.794	4.206	4.676	0,30%
	Mucurici	1.075	1.198	1.135	1.242	1.163	1.061	1.132	1.146	1.091	1.247	1,66%
	Ponto Belo	1.086	1.176	1.134	1.289	1.154	1.104	1.048	1.056	1.030	1.237	1,46%
	Region	6.713	7.193	7.019	7.065	6.604	6.551	7.086	6.996	6.327	7.160	0,72%
	Espírito Santo	1.495.547	1.550.742	1.544.502	1.454.537	1.322.034	1.276.867	1.297.862	1.323.992	1.325.708	1.419.766	-0,58%
	Region's Share in ES (%)	0,45	0,46	0,45	0,49	0,50	0,51	0,55	0,53	0,48	0,50	
Total Payroll (in Thousand R\$)	Montanha	8.367,7	9.230,3	9.638,0	9.450,6	9.098,1	9.576,3	10.654,4	10.204,3	8.642,0	9.390,3	1,29%
	Mucurici	1.986,6	2.279,4	2.211,9	2.398,2	2.339,0	2.091,6	2.229,2	2.253,1	2.197,9	2.227,4	1,28%
	Ponto Belo	1.964,9	2.220,2	2.172,5	2.266,9	2.067,1	2.000,9	2.055,0	2.041,7	1.927,7	2.198,7	1,26%
	Region	12.319,2	13.729,8	14.022,4	14.115,7	13.504,2	13.668,7	14.938,6	14.499,1	12.767,5	13.816,4	1,28%
	Espírito Santo	4.351.473,8	4.653.833,0	4.674.282,4	4.414.242,9	3.976.090,2	3.955.925,9	3.932.278,6	3.882.119,2	3.807.130,2	3.730.370,3	-1,70%
	Region's Share in ES (%)	0,28	0,30	0,30	0,32	0,34	0,35	0,38	0,37	0,34	0,37	

Source: Ministry of Labor and Employment (n.d.).

Note: *Deflated by IPCA, at 2023 average prices.

Table 9 provides a general overview of the municipalities regarding the sectoral composition of MEIs, jobs, establishments, total payroll, and GDP. Notably, Mucurici and Ponto Belo had over 50% of their formal jobs and payroll mass concentrated in Public Administration, particularly in 2021.

When analyzing the municipalities further, agriculture was the largest employing sector in Montanha in both 2012 and 2021. In Mucurici, agriculture was the second-largest employer in 2021, behind only Public Administration. In Ponto Belo, the three largest employers in 2021 were Public Administration, Retail, and Agriculture.

Table 9 – Percentage Shares of Economic Sectors in MEIs, Jobs, Establishments, Formal Labor Market Payroll, and GDP, in 2012 and 2021

(To be continued)

Municipality	Indicator	2012						2021					
		Agric	Ind	Const Industry	Retail	Serv	Public Admin	Agric	Ind	Const Industry	Retail	Serv	Public Admin
Montanha	MEI ¹	0.00	6.67	0.00	50.00	43.33		1.42	11.63	9.60	34.55	42.80	
	Jobs ²	29.50	13.80	9.01	16.41	8.33	22.96	27.27	11.70	0.88	19.63	14.39	26.13
	Establishments ²	25.23	5.49	8.88	37.15	22.55	0.70	25.15	6.44	1.91	36.23	29.80	0.48
	Total Payroll ²	23.12	13.64	8.20	13.96	12.03	29.05	19.64	14.12	0.74	15.61	20.49	29.39
	GDP ³	28.27	13.88		32.59		25.27	24.08	8.24		39.83		27.85
Mucurici	MEI ¹	0.00	12.50	0.00	37.50	50.00		1.38	12.84	12.61	35.09	38.07	
	Jobs ²	45.21	2.05	3.26	4.84	2.98	41.67	32.48	3.05	0.56	6.17	3.93	53.81
	Establishments ²	47.44	4.78	3.75	19.80	23.21	1.02	46.15	4.70	1.71	17.52	28.21	1.71
	Total Payroll ²	35.53	1.73	2.82	3.85	3.85	52.21	31.14	2.92	0.41	5.06	4.99	55.48
	GDP ³	37.02	7.03		17.97		37.98	37.80	4.12		21.06		37.03
Ponto Belo	MEI ¹	0.00	6.67	6.67	46.67	40.00		0.42	13.03	8.61	43.28	34.66	
	Jobs ²	18.05	3.68	7.83	12.25	2.12	56.08	13.26	3.64	0.89	17.46	10.19	54.57
	Establishments ²	24.08	5.31	4.90	40.41	23.67	1.63	23.60	3.60	5.60	38.00	27.60	1.60
	Total Payroll ²	15.51	4.09	6.61	10.12	3.93	59.73	10.77	4.62	0.77	13.68	11.81	58.36
	GDP ³	16.35	9.58		29.25		44.83	22.45	5.36		28.71		43.48
Region	MEI ¹	0.00	7.55	1.89	47.17	43.40		1.21	12.13	9.95	36.39	40.32	
	Jobs ²	30.17	10.28	7.90	13.88	6.47	31.31	25.75	8.80	0.82	16.91	11.84	35.87
	Establishments ²	29.70	5.31	7.10	34.07	22.88	0.93	28.57	5.59	2.57	33.26	29.10	0.91
	Total Payroll ²	23.91	10.20	7.08	11.71	9.42	37.68	20.08	10.80	0.69	13.60	16.61	38.21
	GDP ³	27.80	12.03		29.60		30.57	26.04	7.04		34.75		32.17

(Conclusion)



Municipality	Indicator	2012						2021					
		Agric	Ind	Const Industry	Retail	Serv	Public Admin	Agric	Ind	Const Industry	Retail	Serv	Public Admin
Espírito Santo	MEI ¹	0.21	9.60	4.90	44.95	40.34		0.51	11.33	10.44	26.71	51.01	
	Jobs ²	4.46	15.65	9.38	21.67	32.27	16.57	3.94	15.41	6.36	21.73	36.21	16.35
	Establishments ²	5.53	9.84	4.79	39.09	40.48	0.27	4.58	8.78	4.40	33.64	48.32	0.29
	Total Payroll ²	2.41	17.59	7.99	15.16	31.63	25.21	2.37	16.83	5.12	15.83	36.79	23.07
	GDP ³	3.31	42.67		40.06		13.97	4.51	38.32		44.03		13.15

Sources: ¹Federal Revenue of Brazil (**n.d.b**); ² Ministry of Labor and Employment (**n.d.**); ³Jones dos Santos Neves Institute – IJSN (**n.d.**).

In the sectoral analysis, Tables 10 and 11 present the activities with the highest results related to MEIs (Microentrepreneurs) in the first case and those related to establishments, jobs, and payroll in the second, for the year 2021.

The MEI activities with the highest concentrations include clothing and accessories retail, masonry work, minimarkets, and hairdressing services.

Table 10 – Ranking of Activities with the Highest Number of MEIs in 2021

N	Montanha		Mucurici		Ponto Belo		Region	
	Activities	MEIs	Activities	MEIs	Activities	MEIs	Activities	MEIs
1	Clothing and accessories retail	128	Masonry work	40	Clothing and accessories retail	48	Clothing and accessories retail	206
2	Masonry work	93	General merchandise retail with a predominance of food products (minimarkets, grocery stores, and warehouses)	30	General merchandise retail with a predominance of food products (minimarkets, grocery stores, and warehouses)	47	Masonry work	157
3	Hairdressers, manicurists, and pedicurists	88	Clothing and accessories retail	30	Hairdressers, manicurists, and pedicurists	31	General merchandise retail with a predominance of food products (minimarkets, grocery stores, and warehouses)	153
4	General merchandise retail with a predominance of food products (minimarkets, grocery stores, and warehouses)	76	Hairdressers, manicurists, and pedicurists	21	Masonry work	24	Hairdressers, manicurists, and pedicurists	140
	Subtotal	385	Subtotal	121	Subtotal	150	Subtotal	656
	Total	1,350	Total	406	Total	409	Total	1,350

Source: Federal Revenue of Brazil (**n.d.b**).

Among the highlights regarding the number of formal establishments, cattle farming for beef and dairy production stands out, being present in nearly all municipalities. This activity also ranked among the top employers in Mucurici.

Public administration was the sector with the highest number of formal employees in all cases across the three municipalities. Regarding average monthly income, commercial banks had the highest average monthly salaries in almost all cases, except in Montanha, where public banks (Caixas Econômicas) ranked first, pushing commercial banks to second place.

Table 11 – Ranking of Activities with the Highest Number of Establishments, Jobs, and Average Monthly Income in 2021

Montanha		
N	Ranking by Number of Establishments	Ranking by Number of Jobs
		Ranking by Average Monthly Income



O extremo norte capixaba: uma análise dos municípios que estão entre as maiores concentrações de pessoas no CadÚnico no Espírito Santo
The extreme north of Espírito Santo: an analysis of the municipalities that are among the largest concentrations of people in CadÚnico in the state

	Activities	Estab.	Jobs	Avg. monthly income*	Activities	Estab.	Jobs	Avg. monthly income*	Activities	Estab.	Jobs	Avg. monthly income*
1	Beef Cattle farming	65	231	1,773.82	Public administration in general	4	1,222	2,258.45	Caixas Econômicas (public bank)	1	10	11,912.80
2	Dairy Cattle farming	46	100	1,444.29	Coffee cultivation	32	372	1,286.67	Commercial banks	3	32	8,013.23
3	General merchandise retail with a predominance of food products (minimarkets, grocery stores, and warehouses)	45	78	1,364.86	Papaya cultivation	19	337	1,518.47	Technical education	2	93	7,312.11
4	Coffee cultivation	32	372	1,286.67	Dairy products manufacturing	1	335	2,722.05	Water supply, treatment, and distribution	1	11	6,364.68
	Subtotal	188	781	1,458.75	Subtotal	56	2,266	2,057.40	Subtotal	7	146	7,709.51
	Total	839	4,676	2,008.25	Total	839	4,676	2,008.25	Total	839	4,676	2,008.25
Mucurici												
N	Ranking by Number of Establishments				Ranking by Number of Jobs				Ranking by Average Monthly Income			
	Activities	Estab.	Jobs	Avg. monthly income*	Activities	Estab.	Jobs	Avg. monthly income*	Activities	Estab.	Jobs	Avg. monthly income*
1	Beef Cattle farming	82	357	1,744.79	Public administration in general	4	671	1,841.72	Commercial banks	1	4	9,179.66
2	Dairy Cattle farming	19	33	1,394.35	Beef Cattle farming	82	357	1,744.79	National postal services	1	3	4,841.52
3	General merchandise retail with a predominance of food products (minimarkets, grocery stores, and warehouses)	9	7	1,437.55	Dairy Cattle farming	19	33	1,394.35	Water supply, treatment, and distribution	1	4	4,838.43
4	Social rights defense associations	7	14	1,319.59	Cassava flour manufacturing	2	25	1,322.45	Papaya cultivation	1	2	2,616.33
	Subtotal	117	411	1,696.94	Subtotal	107	1,086	1,784.31	Subtotal	4	13	5,833.04
	Total	234	1,247	1,786.28	Total	234	1,247	1,786.28	Total	234	1,247	1,786.28
Ponto Belo												
N	Ranking by Number of Establishments				Ranking by Number of Jobs				Ranking by Average Monthly Income			
	Activities	Estab.	Jobs	Avg. monthly income*	Activities	Estab.	Jobs	Avg. monthly income*	Activities	Estab.	Jobs	Avg. monthly income*
1	Beef Cattle farming	31	68	1,651.41	Public administration in general	4	675	1,909.92	Commercial banks	1	6	9,603.83
2	General merchandise retail with a predominance of food products (minimarkets, grocery stores, and warehouses)	16	31	1,444.98	Beef Cattle farming	31	68	1,651.41	Water supply, treatment, and distribution	1	7	6,883.03
3	Social rights defense associations	13	0		Engineering services	2	44	1,595.74	National postal services	1	4	3,757.38
4	Dairy Cattle farming	11	18	1,336.05	Cassava flour manufacturing	3	31	1,390.12	Freight transport (non-hazardous and non-moving goods, intercity, interstate, and international)	3	4	2,718.28
	Subtotal	71	117	1,548.20	Subtotal	40	818	1,844.40	Subtotal	6	21	6,271.75
	Total	250	1,237	1,777.36	Total	250	1,237	1,777.36	Total	250	1,237	1,777.36
Region												
N	Ranking by Number of Establishments				Ranking by Number of Jobs				Ranking by Average Monthly Income			
	Activities	Estab.	Jobs	Avg. monthly income*	Activities	Estab.	Jobs	Avg. monthly income*	Activities	Estab.	Jobs	Avg. monthly income*
1	Beef Cattle farming	178	656	1,745.36	Public administration in general	12	2,568	2,055.57	Caixas Econômicas (public bank)	1	10	11,912.80
2	Dairy Cattle farming	76	151	1,420.41	Beef Cattle farming	178	656	1,745.36	Commercial banks	5	42	8,351.55
3	General merchandise retail with a predominance of food products (minimarkets, grocery stores, and warehouses)	70	116	1,390.69	Coffee cultivation	37	383	1,288.85	Technical education	2	93	7,312.11
4	Coffee cultivation	37	383	1,288.85	Papaya cultivation	23	358	1,509.33	Water supply, treatment, and distribution	3	22	6,252.09
	Subtotal	361	1,306	1,542.41	Subtotal	250	3,965	1,880.86	Subtotal	11	167	7,709.37
	Total	1,323	7,160	1,929.61	Total	1,323	7,160	1,929.61	Total	1,323	7,160	1,929.61
Espírito Santo												
N	Ranking by Number of Establishments				Ranking by Number of Jobs				Ranking by Average Monthly Income			
	Activities	Estab.	Jobs	Avg. monthly income*	Activities	Estab.	Jobs	Avg. monthly income*	Activities	Estab.	Jobs	Avg. monthly income*
1	Clothing and accessories retail	6,431	22,971	1,621.67	Public administration in general	415	215,724	3,410.02	Securities and financial assets distributors	1	3	33,229.77
2	Building management (condominiums)	4,510	14,833	1,783.88	General merchandise retail (supermarkets)	1,064	50,945	1,563.80	Savings and loan associations	2	4	22,051.68
3	Religious organizations	4,230	3,544	1,719.30	Freight transport (non-hazardous, intercity, interstate, and international)	2,906	36,637	2,379.77	Oil and natural gas extraction	45	3,137	21,706.09
4	Social rights defense associations	3,298	8,888	2,436.73	Hospital care (excluding emergency and urgent care units)	419	30,354	2,604.00	Judiciary	13	1,474	19,942.57
	Subtotal	18,469	50,236	1,820.66	Subtotal	4,804	333,660	2,941.68	Subtotal	61	4,618	21,150.98
	Total	167,157	1,419,766	2,627.45	Total	167,157	1,419,766	2,627.45	Total	167,157	1,419,766	2,627.45

Source: Ministry of Labor and Employment (n.d.).

Note: *Deflated by the IPCA, at average 2023 prices.

Based on the presented results, particularly regarding the concentration of public administration in GDP, employment levels, and wage mass, it becomes evident that one of the necessary steps to improve the performance of the local economy is economic diversification. Thus, by implementing policies aimed at diversification, municipalities could address SDG 8, which focuses on "decent work and economic growth."

MapBiomass Brasil conducted a survey on the performance of municipalities concerning land use, as shown in Table 12. In this regard, the three municipalities had pasturelands as the predominant land use in their areas.



A low proportion of water surface area in the region is observed (0.2% in 2012 and 0.4% in 2021) when compared to the state's figures (1.0% and 1.1%, respectively). Additionally, the increase in water surface area recorded in the region, mainly in Montanha, may be linked to the State Dam Construction Program, established by the Espírito Santo government in 2017 as a means to mitigate the effects of the water crisis that affected the state at that time (Lino; Fasolo, 2023).

Another characteristic of the region's land types concerns the level of forest cover, which stood at 3.0% in 2021—significantly lower than the state's total of 22.3%—despite both registering a slight increase between 2012 and 2021.

Table 12 – Percentage Participation of Major Land Use Types in 2012 and 2021

Information	Montanha		Mucurici		Ponto Belo		Region		Espírito Santo	
	2012	2021	2012	2021	2012	2021	2012	2021	2012	2021
1. Forest	3.1	3.7	1.8	2.5	1.2	1.8	2.4	3.0	22.2	22.3
Forest Formations	3.1	3.7	1.8	2.5	1.2	1.8	2.4	3.0	21.6	21.7
Other Forest Formations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
2. Natural Non-Forest Formations	0.1	0.3	0.1	0.3	1.2	1.5	0.3	0.5	2.7	3.0
Rock Outcrops	0.1	0.1	0.1	0.1	1.2	1.5	0.3	0.4	1.4	1.4
Wetlands	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.2	0.8	1.0
Other Natural Non-Forest Formations	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.6	0.6
3. Agriculture	96.3	95.1	97.6	96.5	96.8	95.9	96.7	95.6	72.7	72.0
Agriculture	0.5	2.2	0.6	0.9	0.0	0.2	0.4	1.5	3.8	5.4
Planted Forests	3.1	7.9	2.5	7.7	0.0	0.0	2.4	6.4	3.5	3.9
Mosaic of Agriculture and Pasturelands	10.6	12.8	5.2	8.0	3.4	5.3	7.8	10.1	18.3	19.0
Pasturelands	82.1	72.3	89.3	79.9	93.4	90.4	86.1	77.6	47.0	43.8
4. Non-Vegetated Areas	0.3	0.3	0.3	0.3	0.5	0.5	0.3	0.3	1.4	1.6
Urban Infrastructures	0.2	0.3	0.3	0.3	0.4	0.5	0.3	0.3	1.2	1.3
Other Non-Vegetated Areas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
5. Water	0.2	0.5	0.2	0.3	0.3	0.4	0.2	0.4	1.0	1.1
River, Lake and Ocean	0.2	0.5	0.2	0.3	0.3	0.4	0.2	0.4	1.0	1.1
Aquaculture	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6. Not observed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total – percentage	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total – absolute values (in hectares)	109,908	109,908	54,053	54,053	36,010	36,010	199,971	199,971	4,605,943	4,605,943

Source: MapBiomass Brasil (n.d.).

The results on land use in the region highlight the need for initiatives aimed at economic diversification, as the land is primarily used for pasture. By engaging in activities that promote this diversification, the region could address SDG 2, related to “Zero Hunger and Sustainable Agriculture,” and SDG 12, which focuses on “Responsible Consumption and Production”. Initiatives for economic diversification can be implemented through measures that promote social entrepreneurship. This is because the term

[...] refers to a recent approach whose main objective is to carry out activities (through products and services) that have a social impact, meaning they contribute to development, improve people's quality of life, and are aligned with sustainability (Magul; Pasqualetto, 2024, p. 209).

Thus, as this region proportionally concentrates the highest number of people registered in CadÚnico within the total population, implementing measures aimed at job creation and income generation for other sectors beyond those currently represented is likely to contribute to an improved quality of life for the local population.

It is also worth mentioning that regional development initiatives can be implemented by mapping the different actors in the region and structuring them in a network format. In this regard, Castells (1999, p. 499) states that

Networks are open structures capable of expanding indefinitely, integrating new nodes as long as they can communicate within the network, that is, as long as they share the same communication codes (e.g., values or performance objectives). A network-based social structure is a highly dynamic open system, susceptible to innovation without threatening its balance (Castells, 1999, p. 499).



In this sense, a social network enables the mapping of knowledge interactions presented by an individual or group within the organizational structure. Furthermore, due to their characteristics and flexibility, networks facilitate the implementation of measures focused on local development, provided they are properly mapped and incorporated into a context designed for this purpose. That is, for development to be sustained and promoted by the public, private, and non-governmental sectors, all must work together to achieve common goals.

It should be noted that the region has no history of foreign trade activities, with the only recorded instance occurring between 2012 and 2021—an export by Montanha in the final year of the period, valued at USD 1,130. The exported product was "Footwear, gaiters, and similar articles; their parts," which was shipped to the United States (Ministry of Development, Industry, Trade, and Services [MDIC], *n.d.*). Moreover, the region lacks significant transport infrastructure to facilitate international trade activities (Lino; Nigriello, 2023).

Because it is located in an inland region, the development of export infrastructure is hindered. However, the region can implement collective actions aimed at adding value to local production. Such initiatives could align with the goals outlined in SDG 9, which focuses on "industry, innovation, and infrastructure".

5 Final considerations

The direct alignment of this study with nine of the 17 Sustainable Development Goals (SDGs) is evident in the assessment of various indicators used to measure the economic performance of the three analyzed municipalities and reflect on their development.

In this context, it is observed that, in addition to Montanha, Mucurici, and Ponto Belo having the highest proportions of people registered in CadÚnico relative to their total populations, Ponto Belo also had the highest percentage of inhabitants living in poverty and extreme poverty in the state.

Regarding local agriculture, a high concentration of land dedicated to pastures was identified in all three municipalities.

As for the labor market, the Public Administration is the leading employer in all three cases, highlighting the need for economic diversification.

An analysis of various local economic indicators suggests that this diversification could occur in any economic sector. Even within the formal labor market, cattle farming for meat and dairy production stands out as one of the sectors with the highest number of establishments.

Despite the slight proportional increase in areas covered by water surfaces in the region, this may be linked to the State Dam Construction Policy, implemented between 2017 and 2018 in response to the water crisis that affected Espírito Santo at the time. Given that these three municipalities are located in the northern part of the state, a historically low-precipitation area, implementing an environmental policy focused on reforestation, native forest preservation, and natural resource conservation could serve as a new driver of local economic development.

Reforestation, preservation, and natural resource conservation efforts are important not only for their potential to generate employment and income—due to their supply chains—but also, and more importantly, because they are crucial for maintaining local water conditions, as the region has a long history of water scarcity.

Among the possible actions to be implemented, a key priority is to analyze in greater detail the demographic characteristics of CadÚnico beneficiaries in these three municipalities



and adopt measures for monitoring and follow-up. This approach would enable the implementation of targeted actions based on different population profiles.

In this regard, initiatives focused on mapping and encouraging network-based work execution take into account the profiles and characteristics of the main stakeholders in the public, private, and non-governmental sectors. Thus, the high number of people registered in CadÚnico could be reduced by leveraging opportunities and potential benefits arising from the implementation of collective actions in favor of local development.

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ⁱ Mestrado Profissional em Sistemas de Gestão - Universidade Federal Fluminense – Niterói – RJ – Brasil.

ⁱⁱ Mestrado em Ciências (Economia Aplicada) pela Universidade de São Paulo USP – SP - Brasil e doutorado em Planejamento Urbano e Regional pela Universidade de São Paulo USP – SP – Brasil.

ⁱⁱⁱ Mestrado em Planejamento Regional e Gestão de Cidades pela Universidade Cândido Mendes – UCAM.

^{iv} Pós-doutorado pela Universidade Federal do Rio de Janeiro (2005) e Doutorado em Engenharia Civil - Computação de Alta Performance pela Universidade Federal do Rio de Janeiro (2000). Mestrado em Administração pela Universidade Federal do Rio de Janeiro (1999), Mestrado em Engenharia Civil - Cálculo Estrutural (1988).

