

A stylized, dark blue silhouette of the map of Paraguay is centered in the upper half of the cover. The background consists of light blue, wavy, abstract shapes that resemble hills or water, creating a sense of movement and depth.

ENHANCING PARA'S AGRICULTURE SUPPORT: POLICIES FOR A COMPETITIVE, GREEN, AND INCLUSIVE AGRIFOOD SECTOR.

Marie Paviot, Hector Peña, Mauro del Grossi,
Elena Mora Lopez, Beatriz Garcia
2026



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ACRONYMS

AAGR

Average Annual Growth Rate

CAR

Rural Environmental Registry -
Cadastro Ambiental Rural

CSE

Consumer Support Estimate

EMATER

Technical Assistance and Rural
Extension Company of the State of
Pará - Empresa de Assistência Técnica
e Extensão Rural do Estado do Pará

FAO

Food and Agriculture Organization
of the United Nations

GDP

Gross Domestic Product

GSSE

General Services Support Estimate

GVA

Gross Value Added

IBGE

Brazilian Institute of Geography
and Statistics - Instituto Brasileiro
de Geografia e Estatística

IDB

Inter-American Development Bank

IDEFLOR-Bio

Institute of Forestry Development
and Biodiversity of the State of
Pará - Instituto de Desenvolvimento
Florestal e da Biodiversidade do Pará

IFPRI

International Food and Policy
Research Institute

ITERPA

Land Institute of Pará -
Instituto de Terras do Pará

LDO

Budget Guidelines Act - Lei de
Diretrizes Orçamentárias

LOA

Annual Budget Act - Lei
Orçamentária Anual

MAPA

Ministry of Agriculture and Livestock
– Ministério de Agricultura e Pecuária

NGOs

Non-Governmental Organizations

OC

Climate Observatory –
Observatório do Clima

OECD

Organization for Economic
Cooperation and Development

PAA

Food Acquisition Program - Programa
de Aquisição de Alimentos

PEAA

Amazon Now State Plan - Plano
Estadual Amazônia Agora

PEMC

State Policy on Climate Change
of Pará - Política Estadual sobre
Mudanças Climáticas do Pará

PES

Payment for Environmental Services

PNAE

National School Feeding
Program - Programa Nacional
de Alimentação Escolar

PPA

Multiannual Plan – Plano Plurianual

PSE

Producer Support Estimate

SDGs

Sustainable Development Goals

SEAF

Secretariat of Family Farming of
the State of Pará - Secretaria de
Estado da Agricultura Familiar

SEDAP

Secretariat of Agricultural Development
and Fisheries of the State of Pará -
Secretaria de Estado de Desenvolvimento
Agropecuária e da Pesca

SEEG

Greenhouse Gas Emissions and
Removals Estimation System -
Sistema de Estimativas de Emissões e
Remoções de Gases de Efeito Estufa

SEMAS

State Secretariat of Environment and
Sustainability - Secretaria de Estado
de Meio Ambiente e Sustentabilidade

SIAFEM

Financial Administration of States
and Municipalities of Pará - Sistema
Integrado de Administração
Financeira para o Estado do Pará

SigPLAN

Integrated Planning System
of the State of Pará - Sistema
Integrado de Planejamento do
Governo do Estado do Pará

TCC

Transfers to Taxpayers Consumers

TSE

Total Support Estimate

UC

Conservation Units – Unidades
de Conservação

WB

The World Bank

WTO

World Trade Organization

EXECUTIVE SUMMARY

The agrifood sector in Pará plays a central role in the state's economy and labor market. Agriculture accounts for approximately 10 percent of the state's GDP, with agricultural GDP reaching R\$24,052 million in 2022¹ and an average annual growth of 8 percent in the value of production between 2000 and 2024², an outstanding performance and nearly double the growth rate for the state economy as a whole. The sector is also a significant employer, generating 13.1 percent of state employment, well above the national average of 8.8 percent³. Pará contributes R\$27,623 million to national gross agricultural output, equivalent to 2.5 percent of the national total and ranking tenth among Brazilian states⁴. Seven products (açaí, soybeans, cassava, cacao, banana, corn, and cattle) accounted for 93 percent of total state agricultural production value between 2018 and 2023⁵, with cattle and açaí leading growth. While most agricultural land remains devoted to pastures and forests (88 percent), crops, particularly soybeans, occupy a growing share of harvested areas⁶. Pará is also a significant exporter, ranking sixth among Brazilian states with US\$22,285 million in agricultural exports, equivalent to 6.6 percent of the national total⁷.

Despite its economic significance, the agrifood sector in Pará faces substantial structural challenges. Logistics and infrastructure deficiencies represent one of the most critical bottlenecks, with heavy dependence on inadequate road networks, driving up transportation costs and limiting the sector's

-
- 1 Fapespa, 2024.
 - 2 Fapespa, 2025.
 - 3 IBGE, PNAD Contínua. 2018-2013.
 - 4 MAPA, 2023.
 - 5 Ibid.
 - 6 IBGE, 2017.
 - 7 AGROSTAT, MAPA.

competitiveness. Compounding this, a significant deficit in storage capacity raises concern among producers, particularly as production continues to grow. Access to technology and rural credit remains limited, with the high cost of sustainable practices and bureaucratic hurdles restricting modernization efforts, while low integration across the productive chain leaves the sector vulnerable to input supply disruptions, particularly for fertilizers. Poor rural connectivity further hinders the adoption of digital technologies. Gaps in technical assistance and professional training, especially among family farmers, impede the diffusion of advanced technologies and sustainable production methods. Persistent land tenure insecurity and environmental regularization challenges continue to limit access to credit and public support programs. At the same time, the sector faces intensifying pressure to balance agricultural expansion with environmental conservation and climate resilience, as production systems remain highly vulnerable to increasingly frequent and severe climatic events, threatening productivity, livelihoods, and the long-term sustainability of Pará's agrifood economy.

This report analyzes agrifood public support policies in Pará, considering the sector's potential and the challenges that need to be addressed to make it more inclusive, sustainable, resilient, and competitive. The report examines the impact of agrifood public support on food prices, long-term productivity, climate change adaptation and mitigation, infrastructure, and rural development in the State of Pará.

The OECD Producer Support Estimate (PSE) methodology is employed to measure and analyze the structure of agrifood public support policies in Brazil at national and subnational levels. Established in the mid-1980s, the PSE methodology calculates the annual monetary value of gross transfers from consumers and taxpayers to agrifood producers due to policy measures. This methodology and its related indicators provide a common basis for policy dialogue, evaluating agrifood policies in 54 countries. The report analyzes agrifood public support policies to producers, consumers, and public goods and services, using a standard set of indicators for cross-country comparison and policy evaluation⁸.

Brazil's significant reduction in public support to agrifood producers is reflected in Pará's public support indicators. Total support to the entire Brazilian agrifood sector decreased from 0.7 percent of GDP in 2000-2002 to 0.5 percent in 2020-2022, which is below the OECD average. Over the past decade, Brazil's producer support has been below 5 percent of gross farm receipts, compared to the OECD average of 10 percent. This reduction was largely driven by the increase in domestic prices for certain agrifood commodities.

8 The definitions of the indicators used in this report—Total Support Estimate (TSE), Producer Support Estimate (PSE), General Services Support Estimate (GSSE), and Consumer Support Estimate (CSE)—are further explained in the Box 2.

Between 2018 and 2023, the Producer Support Estimate (PSE) in Pará averaged 0.11 percent of producers' gross income, peaking at 0.23 percent in 2022 before declining to 0.08 percent in 2023. These low levels reflect a sector predominantly oriented towards market conditions, including exports, where competitiveness and responsiveness to market signals are key drivers of income. Compared to other Brazilian states, Pará's PSE sits above São Paulo (0.10 percent) and Santa Catarina (0.05 percent), but below Bahia (0.20 percent) and Mato Grosso do Sul (0.14 percent).

The summarized recommendations for the Federal Government and States are as follows:

TABLE 1.
**Summary of Policy Recommendations for Agrifood
 Support Policies and Programs - National**⁹

Focus Area	Recommended Policies	Goals	Timeline
Direct Support to Producers			
Access to finance	Enhanced scope and targeting criteria of existing subsidized loans to promote sustainability and inclusion of agrifood public support	Increased financial inclusion of family farmers.	Short-term
		Increased adoption of agroecological and climate-smart agriculture practices.	
Access to finance	Expand the producer support toolkit at federal level, for example through matching grants, partial credit guarantees and payments for environmental services.	Reduce financial barriers for producers, particularly family farmers and vulnerable groups.	Medium-term
		Incentivize conservation efforts, biodiversity protection, and climate-smart agriculture.	
		Attract private sector participation and improve the overall efficiency of agrifood support programs.	

9 For more information, see the WB Report [Enhancing Brazil's Agriculture Support: Policies for a Competitive, Green, and Inclusive Agrifood Sector](#).

Focus Area	Recommended Policies	Goals	Timeline
Direct Support to Producers			
Agrifood risk management	Updating the Agroclimatic Risk Zoning (ZARC) to incorporate emerging agrifood risks and broaden coverage to include a wider range of production systems.	Strengthening resilience to climate shocks; and improving access to finance	Short-term
Agrifood risk management	Shift part of agrifood public subsidies from rural subsidized credit towards risk management instruments and tools e.g. Insurance Premium Subsidy Program (PSR)	Strengthening resilience to climate shocks; reducing financial losses due to production shortfalls.	Medium-term
Public Goods and Services			
Driving sectoral growth	Increase the proportion of public support allocated to public goods and services (e.g. R&D, agriculture extension services, etc.), with a particular focus on those that advance climate-smart agriculture.	Increasing agrifood productivity, reducing environmental impact, and enhancing resilience to climate change, fostering technological advancement and knowledge dissemination, and driving long-term sectoral growth and sustainability.	Short-term

TABLE 2.
Summary of Policy Recommendations for Agrifood Support Policies and Programs – Pará

Focus Area	Recommended Policies	Goals	Timeline
Climate-smart agriculture	<p>Expand the use of producer direct support tools that integrate environmental criteria.</p> <p>Integrating climate-smart agriculture technologies and practices into the farmers' input support incentives</p>	Enhance agrifood resilience and productivity while minimizing environmental impacts.	Medium-term
Public Support	Expand support allocated to agrifood public goods and services.	Increasing agrifood productivity, reducing environmental impact, and enhancing resilience to climate change, fostering technological advancement and knowledge dissemination, and driving long-term sectoral growth and sustainability.	Medium-term
Consumer subsidy programs	<p>Promote well-targeted consumer subsidy initiatives, with an emphasis on prioritizing support for vulnerable populations and enhancing nutritional outcomes. Alongside continued improvements to federal food procurement programs in the state, other commercial channels for family farmers should also be strengthened.</p>	<p>Enhancing food and nutrition security for the most vulnerable.</p> <p>Expanding market access for family farmers.</p>	Medium-term

1. INTRODUCTION

There are various efforts to conduct comprehensive assessments of agricultural policies in countries around the world. With the use of various methodologies, the work of international bodies such as the Food and Agriculture Organization of the United Nations (FAO), the World Trade Organization (WTO), the International Food and Policy Research Institute (IFPRI), and the Organization for Economic Cooperation and Development (OECD) have carried out several efforts towards this goal.

In the case of the OECD, its methodology (designed in the 1970s and first applied in the 1980s) has been adapted and consolidated as an effective tool for policy monitoring and evaluation. In practical terms, it has frequently been used as a reference for establishing a dialogue at the national and international levels. Its standard character allows comparisons between countries, economies or over time, highlighting the impact of policies on the gross income of both consumers and producers.

Importantly, the OECD methodology estimates the value of monetary transfers made by taxpayers and consumers to agricultural producers. In its definition, the transfers generated as a result of the implementation of agricultural policies are considered. Based on this, it is possible to observe, as part of its indicators, the importance of these transfers in the total gross income of producers.

The methodology considers four basic indicators to determine the amount of transfers to the agricultural sector and to the consumer of agricultural products:

- a. Total Support Estimates (TSE).** Quantifies, in monetary terms, the impact of all policies and the sector as a whole.
- b. Producer Support Estimates (PSE):** Quantifies the total transfers to the producer resulting from the implementation of agricultural policies aimed at a specific product or group of products.
- c. Producer Support Estimates as a percentage of gross income (PSE%):** Estimates the impact of estimated transfers as a proportion of the gross income of the producer under analysis.
- d. Consumer Support Estimates (CSE):** Quantifies the impact of agricultural policies on domestic consumers or on a particular product.

One of the objectives of this analysis is to quantify the impact of the agricultural policies of the state of Pará on producers, consumers, and the sector as a whole, based on the transfers that these policies generate, thus, in this analysis the result obtained will only reflect the transfers derived from the implementation of agricultural policies of the government of the state of Pará. In this sense, the transfers derived from the implementation of national policies are not considered in this exercise and, in any case, both could be considered as complementary and measure their total impact on the income of the State producer. During the analysis, the amount of these transfers is estimated, as well as their importance within the producer's gross income, which facilitates comparisons over time and with other economies.¹⁰

The analysis considers the period 2018-2023, which is relevant considering the various events that affected the sector during that period, such as the presence of the global pandemic and a food price crisis. Based on the results obtained, recommendations for repurposing public policies and programs to foster a competitive, green and resilient growth of the sector have been formulated in the final section.

The state of Pará hosted the COP30 meeting and has emphasized environmental preservation as a strategy to guarantee food security and generate income in the sector, particularly family farming, which is at the center of its strategy and for which, since 2023, the state government has created a Secretariat of Family Farming, with objectives towards this segment, whose efforts are largely supported by coordination with Municipalities, especially those related to technical assistance for sustainable production.

=====

¹⁰ The OECD annually estimates the transfers derived from the implementation of national government policies, considering Brazil as a non-member country. Its results are published on the Organization's website.

During the period analyzed the existence of any measure carried out by the state government that intervened in the market price level (considered a highly distorting, inequitable and inefficient policy) was not appreciated, which has allowed the producer to generate income guided by market signals and not in the search for rents. On the other hand, although the incentives have been generated through subsidies to inputs (considered a priori, a distorting and potentially harmful instrument to the environment), it should be noted that, in their design, the State programs have included the pro-environmental stimuli described above, which must be considered when analyzing agricultural policy from a qualitative perspective.

The State has significantly increased public investment in services and goods, with over 60 percent of its support directed towards public goods and services, particularly in inspection, health, research, and knowledge. This reflects a strategic focus on reducing the carbon footprint and enhancing productivity sustainably over the medium and long term. Looking ahead, the challenge for public policy is to further boost investment in public goods and address market failures, especially those affecting small producers and vulnerable groups. This involves developing new policy instruments to meet emerging needs and challenges, including risk management and systems for monitoring and evaluating outcomes.

Technical Considerations of the Support Estimation Process

In December 2024, a World Bank mission was carried out, which allowed interviews to be conducted with various state officials (Secretary of State for Family Farming, the Secretary of State for Agricultural Development and Fisheries, officials of the Secretary of State for Environment and Sustainability, and directors of decentralized agencies). It also included visits to the authorities of the municipality of Benevides, as well as to beneficiaries of various programs, providing a broader, more practical and comprehensive vision of the sectoral policy in the state and a perspective of the beneficiaries.

The selection of products analyzed was made considering their relative importance in the state production value, including in the criteria, the differentiation of net import and export products. The total number of selected products represented, on average, 93 percent of the value of the state's agricultural production, which makes this sample statistically significant, in line with the conditions of the methodology.

It is worth mentioning that this analysis is part of the effort that the World Bank and the Inter-American Development Bank (IDB) have been carrying out jointly since 2022, to monitor and evaluate agricultural policies in various states of Brazil.



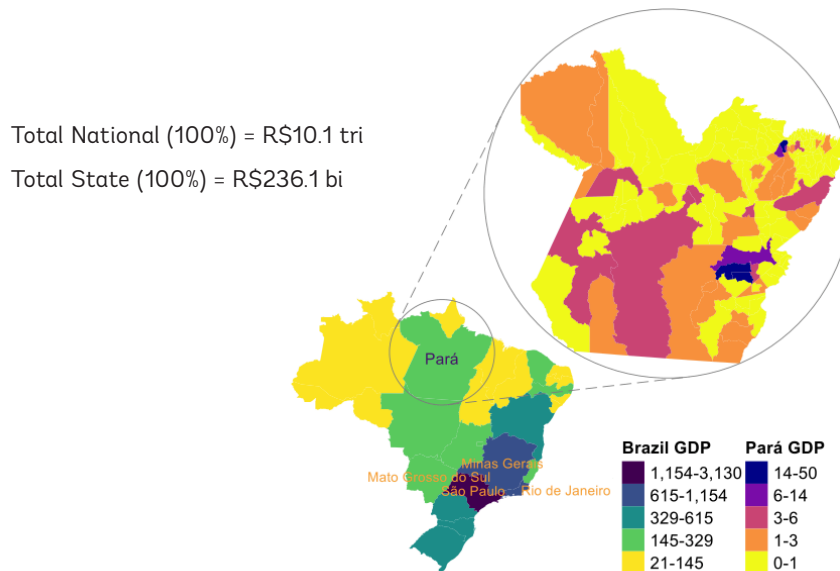
2. ECONOMIC PERFORMANCE OF THE AGRICULTURAL SECTOR IN PARÁ

2.1 State Gross Domestic Product

In 2022, Pará's Gross Domestic Product (GDP) was R\$ 236.1 billion, the highest in the North region and where it contributes 41.1 percent of it, driven by the mining, agricultural and export sectors. The State ranks 12th out of 27 federal units according to the ranking of contribution to the national Gross Domestic Product (GDP). According to data from the Brazilian Institute of Geography and Statistics (IBGE), in 2022 the State's GDP represented 2.3 percent of Brazil's total GDP (see figure 1).

FIGURE 1.

Gross Domestic Product of Brazil 2022 and in the municipalities of Pará, 2021

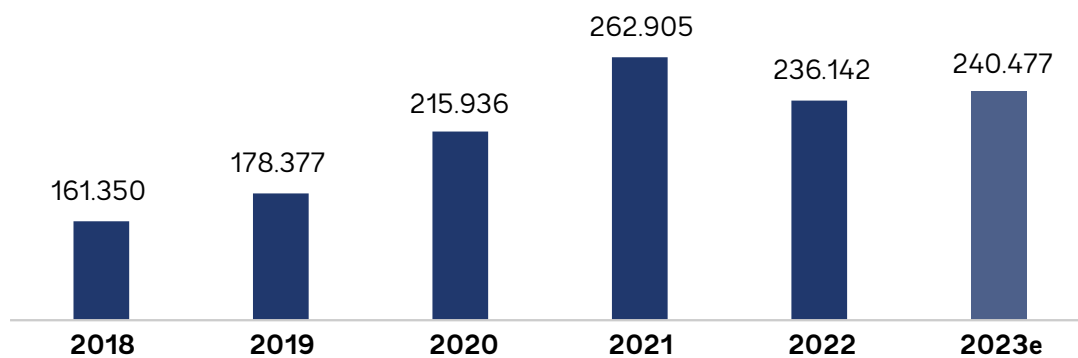


Note: Estimations for 2023.

Source: Prepared by the author with IBGE data.

FIGURE 2.

Pará GDP, 2018-2023* (R\$ millions)

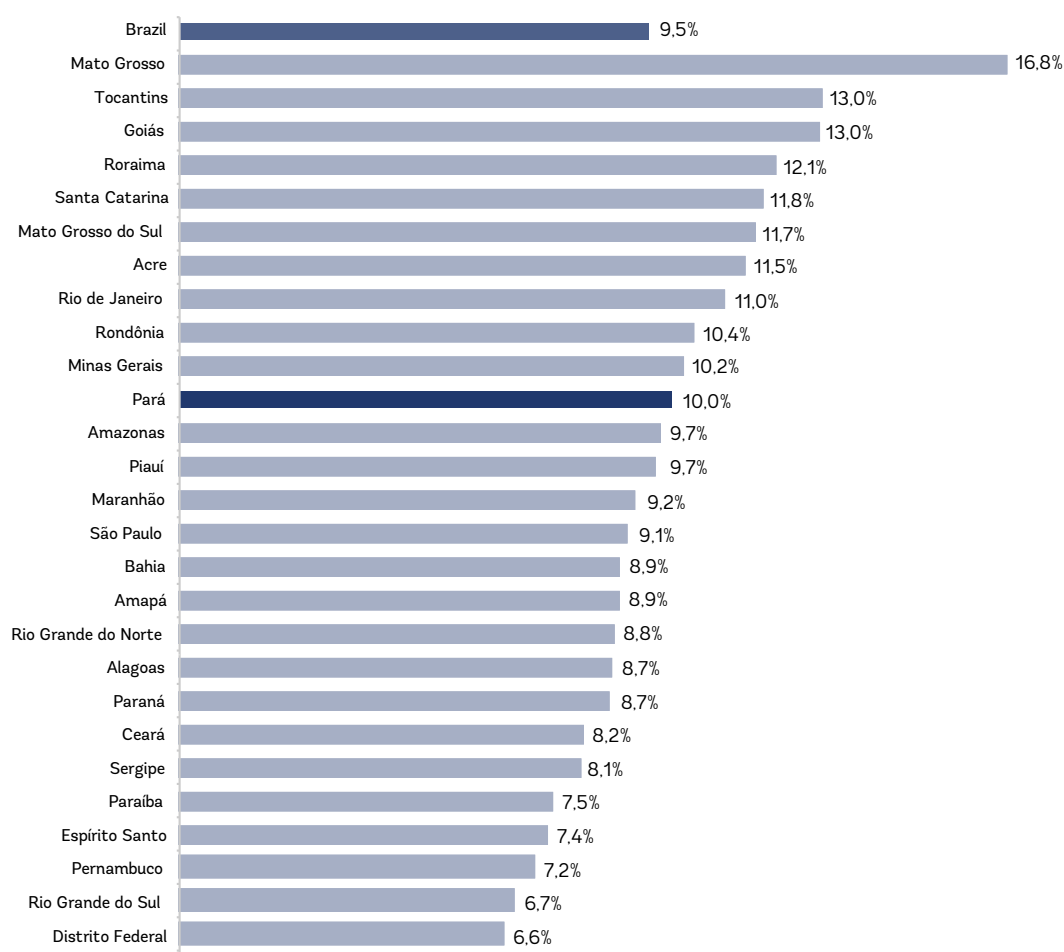


The data obtained from IBGE reveals that, in the period analyzed (2018-2022), Pará's economy has shown solid growth, higher than the growth at the national level and even above the growth of other states such as São Paulo. This significant growth rate is reflected in an Average Annual Growth Rate (AAGR) of GDP of 10 percent, higher than the national benchmark (9.5 percent) and higher than the 9.1 percent of São Paulo, the state with the highest GDP in Brazil (see figure 2). Despite this dynamic, Pará registered a strong annual

contraction of 10.2 percent in 2022, in contrast to the considerable annual growth of 21.1 percent in 2020 and 21.8 percent in 2021 and even in this same year (see figure 3). According to the estimates made in this document, a recovery in 2023 of 1.8 percent is expected compared to 2022, yielding an AAGR of 8.3 percent for the period 2018 to 2023.

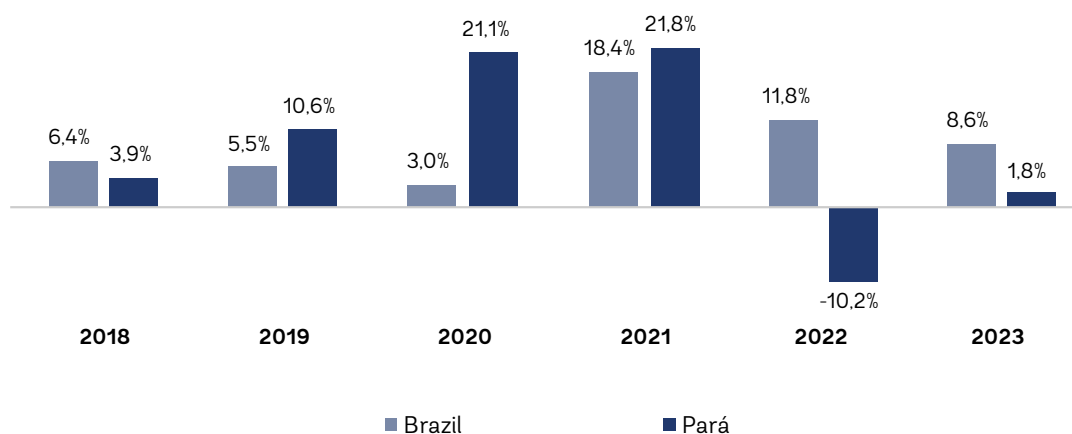
FIGURE 3.

Average Annual Growth Rate (AAGR) of the Gross Domestic Product (current values): 2018-2022



Source: Prepared by the author with IBGE data.

FIGURE 4.
GDP Annual Growth Variation (current values)



Note: Estimations for 2023

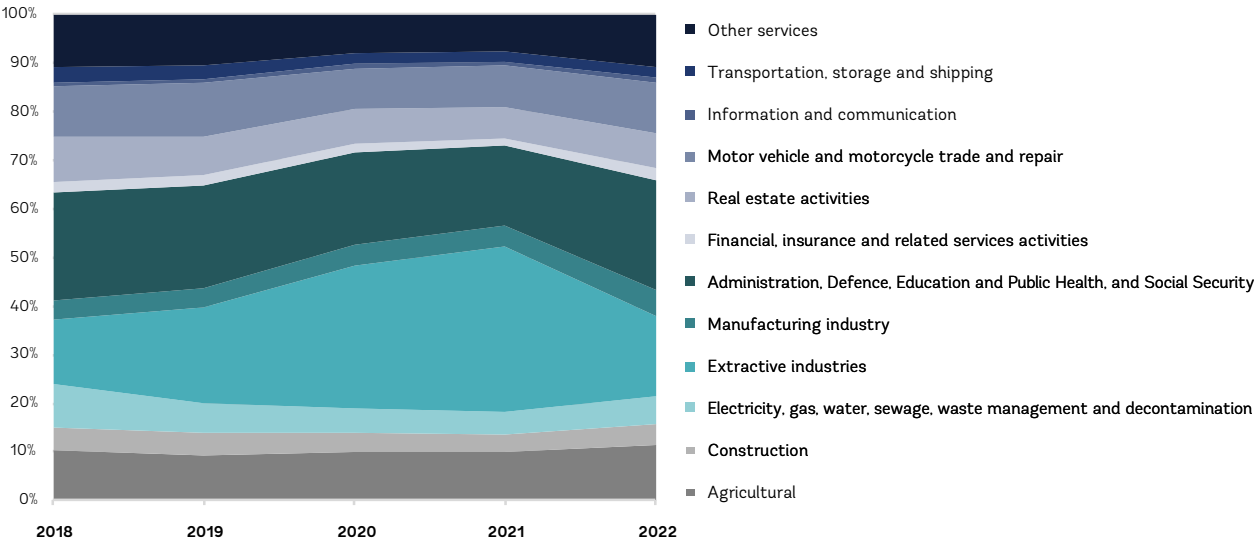
Source: Prepared by the author with IBGE data

2.2 Growth and Contribution to GDP by Economic Sector

The agricultural sector represents almost 10 percent of the state's GDP. The following graph shows the behavior of the Gross Value Added (GVA) of the different sectors in Pará during the period from 2018 to 2022. It shows that the extractive industries sector occupies an important place within the contribution to the total GVA of Pará, which contributes on average for the period 2018-2022 with 23 percent of the state GVA. For its part, the agricultural sector represents around 10 percent of the state's GDP during the period of analysis.

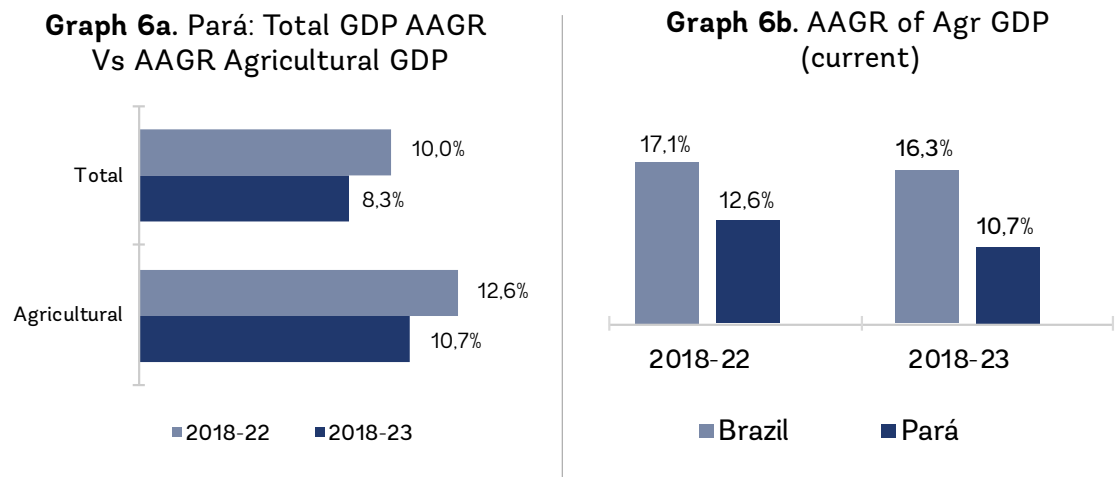
During the period 2018-2022, agricultural GDP in Pará grew at an average annual nominal rate higher than that of the rest of the state economy (12.6 percent), but lower than that observed in the sector at the national level (17.1 percent). According to IBGE data, in 2018, the agricultural sector contributed 9.3 percent of the state's GDP. In 2022, this level increased to 10.2 percent and a slight increase in its importance over state GDP is expected to 10.3 percent in 2023 (see figure 6).

FIGURE 5.
Structure of Pará's Gross Value Added, 2018-2022



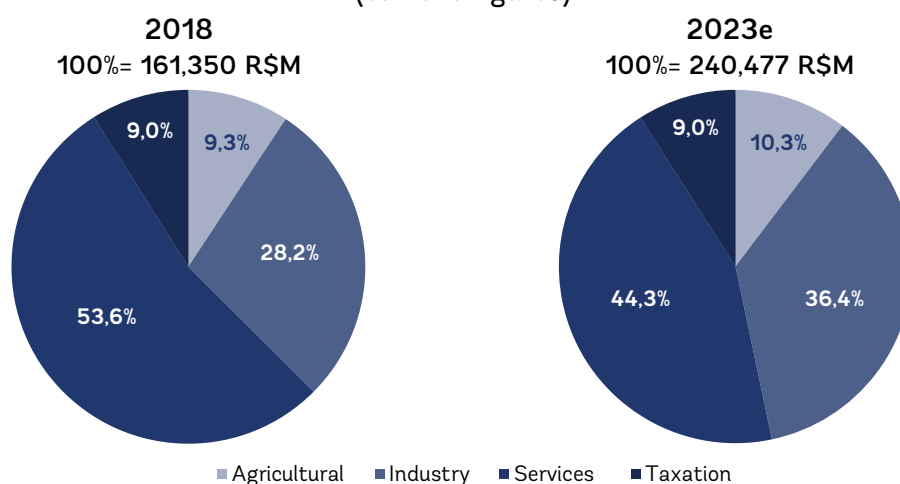
Note: Estimated figure for 2023.
Source: Authors' elaboration with IBGE data.

FIGURE 6.
Dynamic and Composition of GDP of Pará: 2018-2023



Note: estimated figure for 2023
Source: Authors' elaboration with data from IBGE.

Graph 6c. Pará: Pará GDP Composition
(current figures)

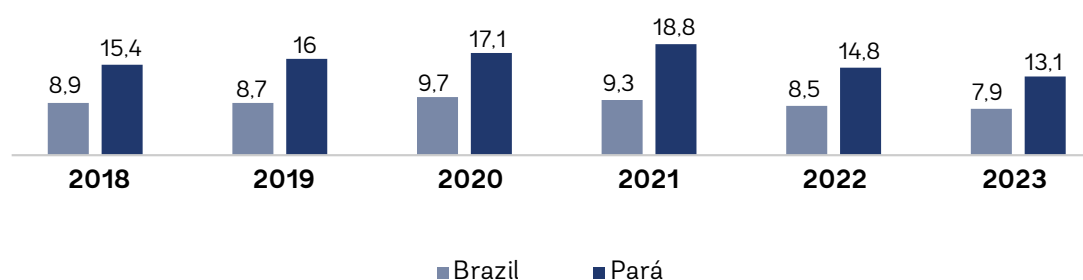


2.3 Contribution of the agricultural sector to employment

The agricultural sector is an important generator of jobs in Pará. According to IBGE data, in the fourth quarter of 2023, the sector generated 13.1 percent of state employment, a percentage higher than that registered at the national level (see figure 7). On average for the period from 2018 to 2023, this sector generated 15.9 percent of total employment at the state level, while at the national level it was 8.8 percent.

FIGURE 7.

14 year old or more people employed in agriculture, fishing, forestry (percentage): 2018-2023



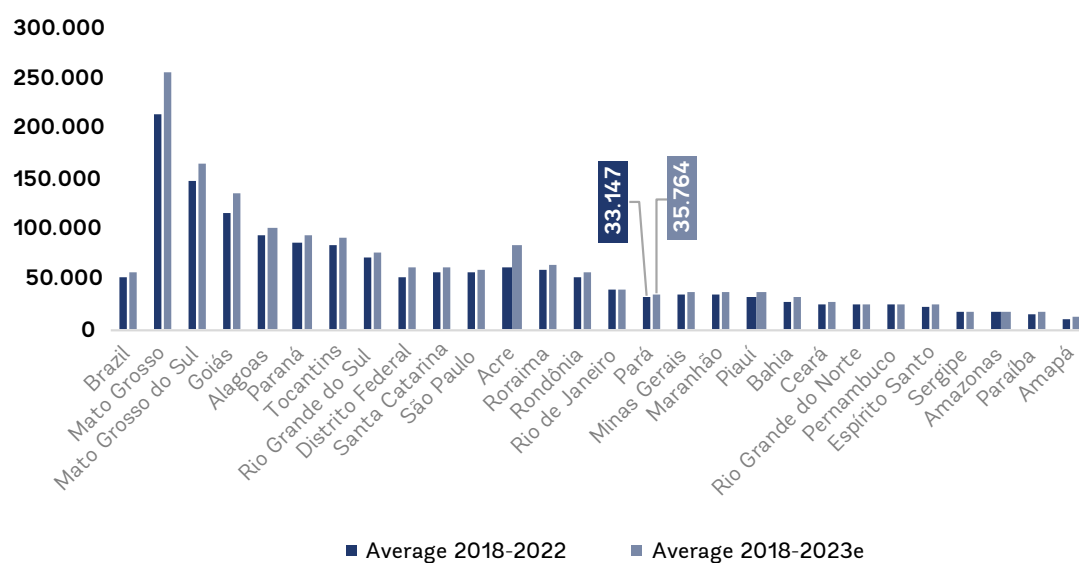
Source: Pesquisa Nacional por Amostra de Domicílios *Contínua*. 4th quarter of each year, IBGE.

2.4 Average employment productivity in the agricultural sector

Pará has an average agricultural productivity higher than the national average. According to the calculation made from IBGE information, the State Agricultural Gross Value Added by the personnel employed in the sector was R\$ 33,147 on average for the period 2018-2022 and R\$ 35,764 on average for the period 2018-2023 with GDP figures estimated by the authors for 2023. This figure is above the national average of R\$52,112 (2018-2022) and the estimated level of R\$57,183 (2018-2023), placing Pará in 15th place in the national ranking (see figure 8).

FIGURE 8.

Average Employment Productivity in Agriculture. Current figures (R\$): Average 2018-2022 and 2018-2023*

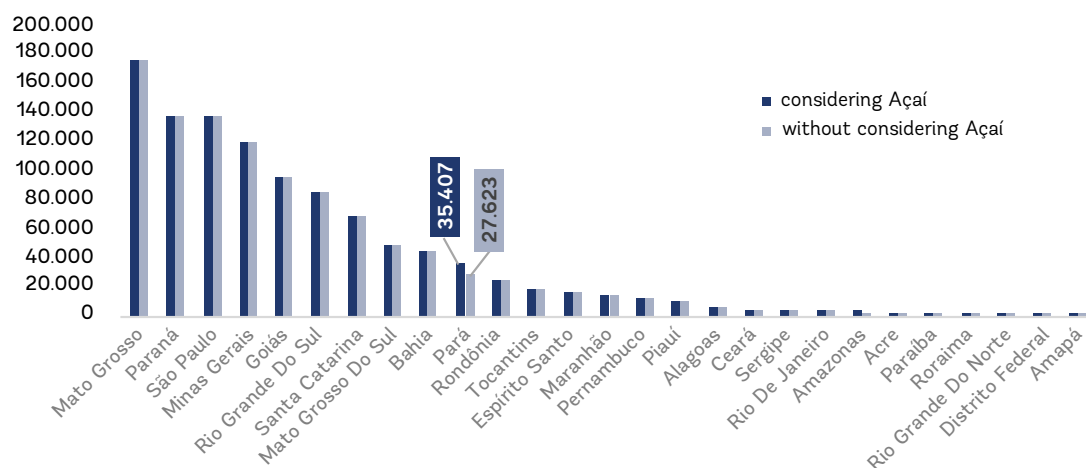


Source: Pesquisa Nacional por Amostra de Domicílios Contínua. 4th quarter of each year, IBGE.

2.5 Value, Composition, and Area of Agricultural Production in Pará

The State's agricultural sector makes an important contribution to national agriculture. According to data from the Ministry of Agriculture and Livestock (MAPA), agricultural production in the State of Pará amounted to R\$ 27,623 million in nominal terms in 2023, representing 2.5 percent of national production and placing Pará in tenth position in the national ranking. It should be noted that MAPA's calculations do not include açai; when this product is incorporated, the value of Pará's production rises to R\$ 35,407 in nominal terms and its share of national production increases to 3.1 percent, while maintaining its tenth-place position in the country (Figure 9).

FIGURE 9.
Agricultural Production Value in Brazil and States, (current value in R\$ million): 2023*

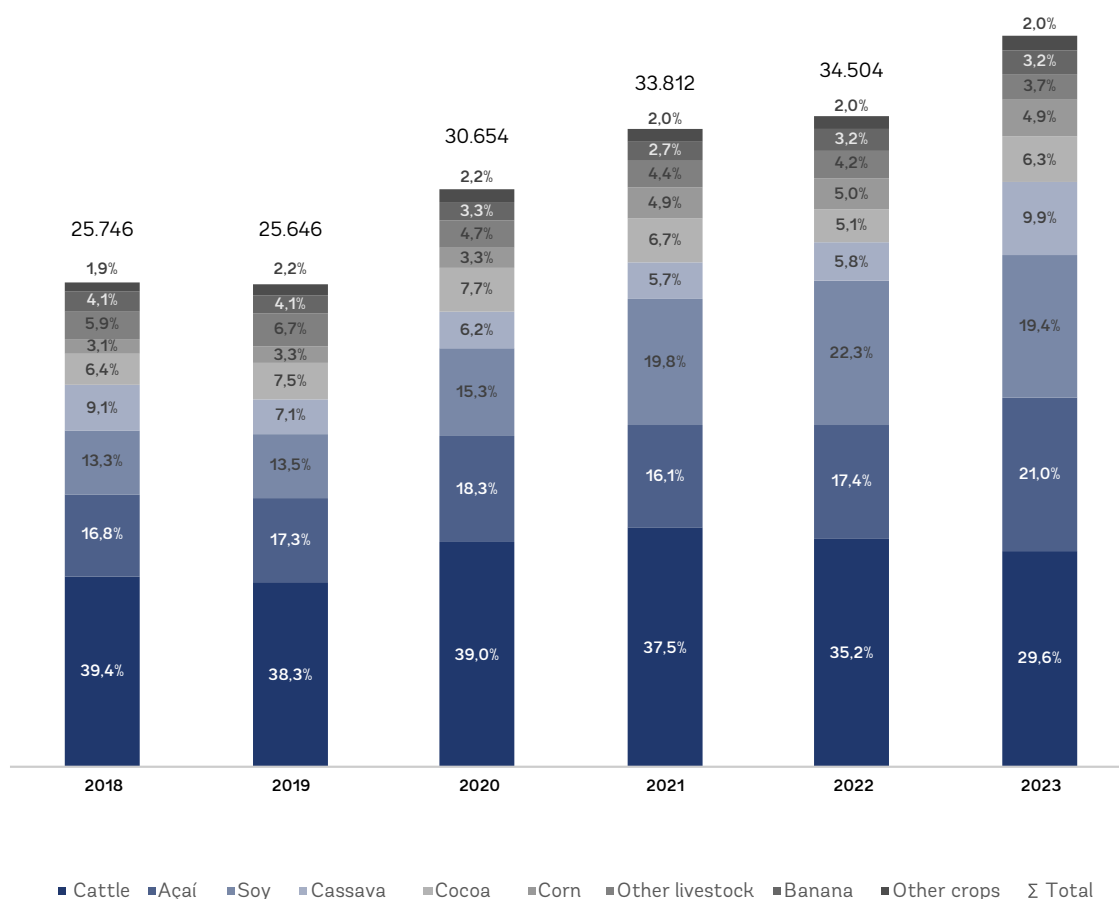


Source: Prepared by the author with data from the Ministry of Agriculture and Livestock, 2023.

Between 2018 and 2023, seven products (açai, soybeans, cassava, cacao, banana, corn, and cattle) accounted for 93 percent of the total value of state agricultural production. According to MAPA data, in 2023 agricultural production in Pará reached R\$ 38,822 million, representing a nominal increase of 50.8 percent since 2018 (Figure 10). Cattle were the leading product, with an average annual share of 36.5 percent of total production value, followed by açai at 17.8 percent.

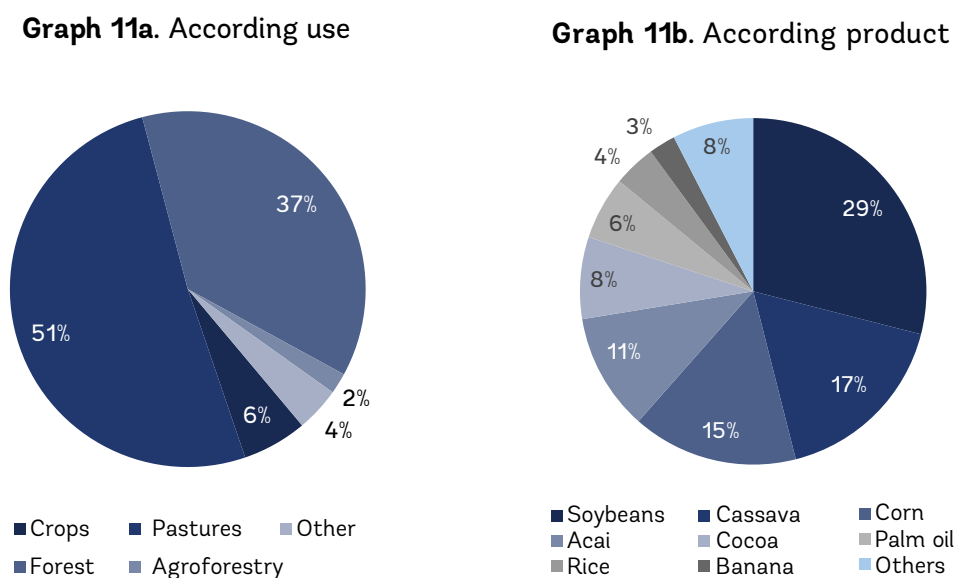
Notably, the share of cattle in total production value declined over this period, falling from 39.4 percent in 2018 to 29.6 percent in 2023, while açaí expanded its presence, rising from 16.8 percent to 21.0 percent.

FIGURE 10.

Agricultural Production Value in R\$ million and share by product: Pará 2018-2023

Regarding land use, a relatively smaller proportion of the State's total area is devoted to crops. According to the 2017 Agricultural Census, most of Pará's agricultural area is dedicated to pastures and forests (88 percent), while only 6 percent is used for crops (Figure 11). Within this cultivated area, soybeans account for the largest harvested share (29 percent), followed by corn, cassava, and açaí in order of importance (Figure 11b).

FIGURE 11.
Total Agriculture Area in Pará



Source: Own elaboration with data from the 2017 Agricultural Census, IBGE.

2.6 Total Trade and Agri-Food

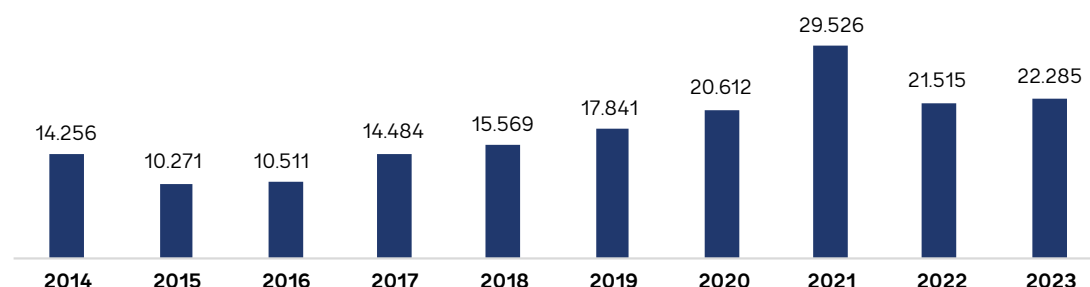
2.6.1 Exports

Agricultural exports are of high importance for the State and at the national level. In 2023, its exports totaled US\$ 22,285 million, representing 6.6 percent of the national total and ranking as the sixth largest exporter in Brazil, after Paraná. Between 2018 and 2023, Pará averaged 8.0 percent of the value of national exports.

Figure 12 shows the steady growth in the value of Pará's exports from 2016 to 2021, reaching a record US\$ 29,256 million in 2021. This dynamic is largely explained by the post-COVID-19 global economic recovery and the increase in the value of iron ore exports¹¹. In 2022, the value of state exports decreased compared to the previous year due in part to the fall in mineral prices. Thus, for the period from 2014 to 2023, a AAGR of 5.1 percent was recorded in the value of Pará's exports.

11 According to Comex Stat, mining participates with an average of 82.5% of the total value of state exports, this being the main export sector of the state.

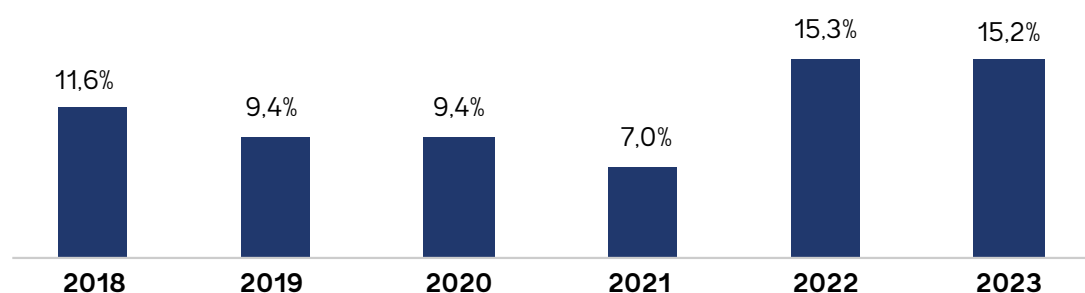
FIGURE 12.

Total Exports Value in Pará (US\$ million)

Source: Own elaboration with data of AGROSTAT and *Ministry of Agriculture and Livestock and Secretaria de Comercio Exterior de Brasil*.

According to information from AGROSTAT, as well as the Central Bank of Brazil, agribusiness exports represented, on average, 11.3 percent of the total value of the state's exports during the period 2018 to 2023 with significant growth towards 2022 (see figure 13). This growth was due to an increase in the export value of agricultural products such as corn and soybeans with annual growth of 339 percent and 72 percent, respectively, and to a lesser extent the increase in livestock products such as meat and bovine animals with growth of 45 percent and 113 percent, respectively.

FIGURE 13.

Share of agribusiness in total exports in Pará: 2018-2023

Source: Own elaboration with data of AGROSTAT MAPA and Brazilian Secretariat of Foreign Trade (SECEX).

Table 3 shows the composition of the value of Pará's agricultural exports included in the AGROSTAT classification of Brazil's MAPA. It shows that exports of soybeans, beef, live cattle, corn, cocoa, banana and cassava went from representing 7.2 percent in 2018 to 12.5 percent in 2023. This increase is mainly explained by a significant increase in exports of corn

and soybeans with notable average annual growth rates (AAGR) of 94.5 percent and 23.9 percent, respectively.

TABLE 3.
Agricultural main exports by sector (2018 vs 2023)

Sector (s)	2018		2023		AAGR 2018- 2023 (%)
	MUS\$	%	MUS\$	%	
Total State	15,568.7	100.0	22,284.5	100.0	7.4
Agribusiness	1,804.8	11.6	3,386.7	15.2	13.4
Soya complex	567.7	3.6	1,658.6	7.4	23.9
Grains	567.1	3.6	1,657.1	7.4	23.9
soybean meal	0.5	0.0	0.0	0.0	-71.1
Soybean Oil	0.0	0.0	1.6	0.0	456.3
Meats	266.3	1.7	511.6	2.3	14.0
Beef	249.7	1.6	505.8	2.3	15.2
Poultry	0.5	0.0	0.2	0.0	-17.6
Pig	0.0	0.0	0.3	0.0	59.3
Others	16.0	0.1	5.3	0.0	-19.9
Live animals	281.5	1.8	230.2	1.0	-3.9
Beef	281.5	1.8	230.2	1.0	-3.9
Others	0.0	0.0	0.0	0.0	0.0
Cereals	15.3	0.1	401.7	1.8	92.2
Maize	14.4	0.1	401.6	1.8	94.5
Rice	0.9	0.0	0.1	0.0	-35.8
Wheat	0.0	0.0	0.0	0.0	0.0
Others	0.0	0.0	0.0	0.0	23.3
Cacao and products	1.4	0.0	1.1	0.0	-4.1
Fruits	8.6	0.1	35.0	0.2	32.5
Canned fruit	4.6	0.0	27.4	0.1	42.7
Lemons	0.0	0.0	3.0	0.0	367.5
Bananas	0.0	0.0	0.0	0.0	39.4
Others	3.9	0.0	4.5	0.0	2.8
Horticultural products, legumes, roots and tubers	1.6	0.0	5.7	0.0	29.6
Mandioc	0.0	0.0	0.0	0.0	68.4

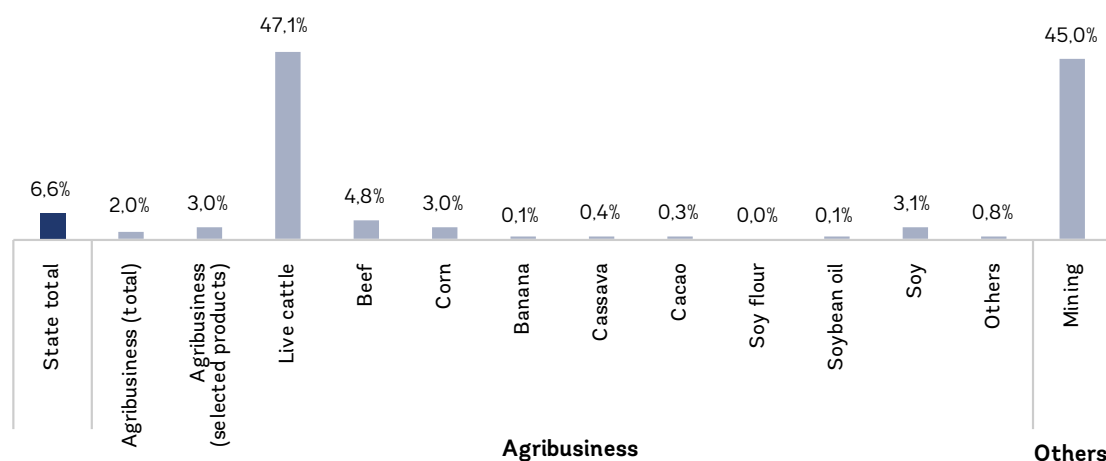
Sector (s)	2018		2023		AAGR 2018- 2023 (%)
	MUS\$	%	MUS\$	%	
<i>Others</i>	1.6	0.0	5.7	0.0	29.6
Walnuts and Chestnuts	32.2	0.2	13.1	0.1	-16.5
<i>Pará chesnuts</i>	32.2	0.2	13.0	0.1	-16.6
<i>Others</i>	0.0	0.0	0.1	0.0	33.9
Forestry products	372.3	2.4	196.1	0.9	-12.0
Oilseeds (excludes soybeans)	22.4	0.1	73.0	0.3	26.7
Juices	31.9	0.2	49.4	0.2	9.1
Leather	41.8	0.3	19.6	0.1	-14.1
Other animal products	0.6	0.0	31.5	0.1	120.8
Preparations	0.6	0.0	11.9	0.1	81.8
Other vegetal products	0.6	0.0	2.1	0.0	28.3
Sugar complex	0.0	0.0	0.9	0.0	240.5
Animal Food	0.3	0.0	0.3	0.0	-1.0
Fibres	0.1	0.0	0.0	0.0	-24.2
Fish	159.6	1.0	144.7	0.6	-1.9
Chemical fertilizers (other than crude)	0.0	0.0	0.0	0.0	13.3
Others	13,763.8	88.4	18,897.8	84.8	6.5

Source: Authors' elaboration with information from AGROSTAT, the Ministry of Agriculture and Livestock and the Secretariat of Foreign Trade of Brazil.

*By 2023, the export value of the mining sector amounted to 17,283 million dollars, representing 77.6 percent of the total value of Pará's exports.

Pará has an important representation within the value of national agricultural exports, which constitute 6.6 percent. However, and contrary to what happens in other states such as Mato Grosso do Sul, when this analysis is carried out at the product level, the relative importance of Pará decreases below that reference, for most of the products analyzed except for live cattle (see figure 14).

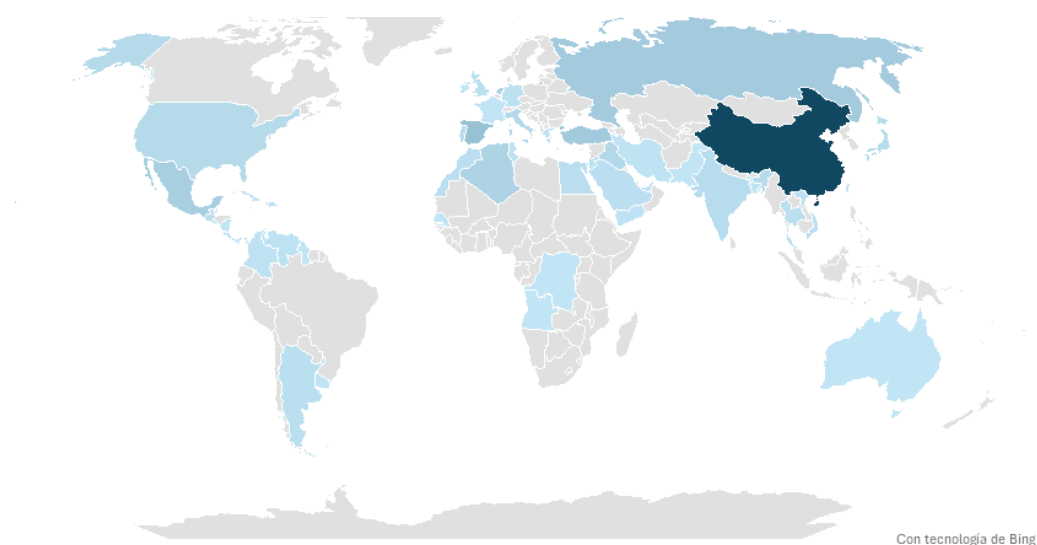
FIGURE 14.

Share of Pará in national exports, by main products, 2023

Source: Prepared by the authors with information from AGROSTAT, the Ministry of Agriculture and Livestock (MAPA) and the Brazilian Secretariat of Foreign Trade.

According to Comex Stat, Pará's agricultural products export platform has a relatively concentrated composition. In 2023, China accounted for 32.4 percent of the state's exports, followed by Spain, Turkey, Russia, and Mexico, whose destinations accounted for 7.5 percent, 5.5 percent, 5.4 percent, and 4.6 percent of the value of agricultural exports, respectively.

FIGURE 15.

Main Pará Export Destinations, 2023

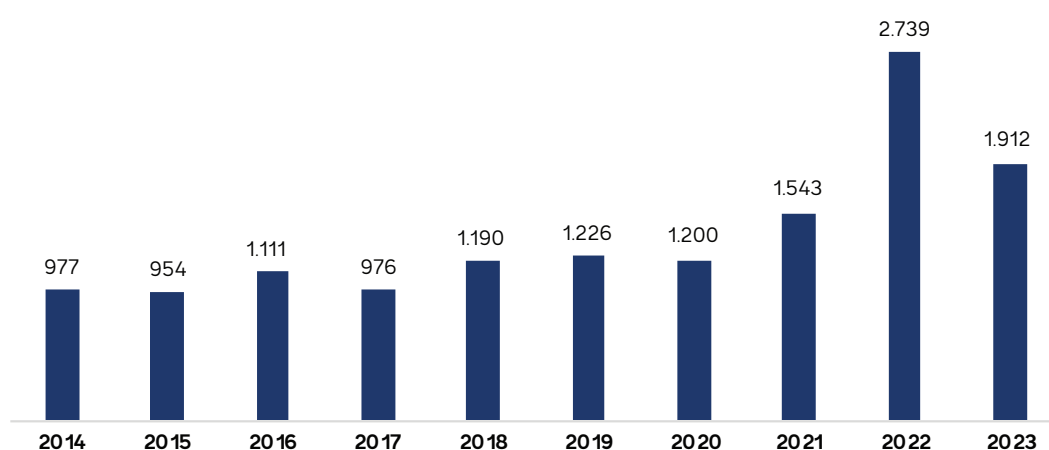
Source: Comex Stat.

2.6.2 Imports

The value of goods imports in Pará has more than doubled between 2014 and 2022. According to Brazil Central Bank, in 2023, the value of Pará's imports totaled US\$ 1,912 million, after registering an annual increase of 78 percent in 2022, mainly driven by the increase in the value of imports of fuels and chemical products such as fertilizers, the latter for that year alone increased by US\$ 409.7 million compared to the previous year. Overall, for the period from 2014 to 2023, Pará's total imports registered a AAGR of 7.7 percent from US\$ 877 million.

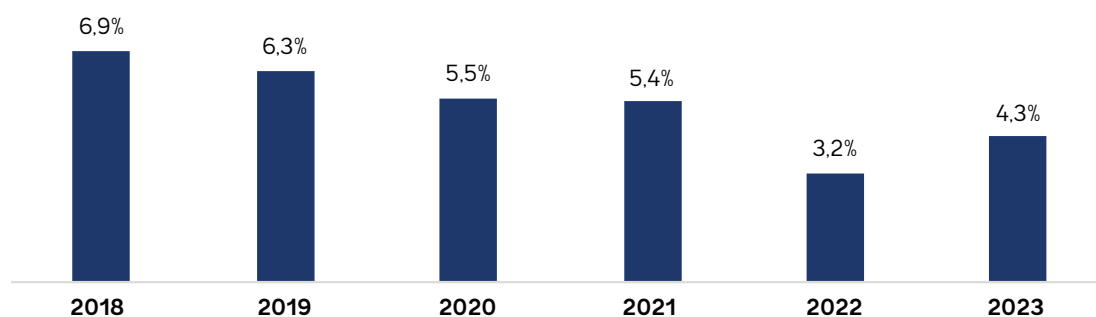
Agribusiness has decreased its share of the value of the state's imports, from 6.9 percent in 2018 to 4.3 percent in 2023.

FIGURE 16.
Total Imports Value in Pará (US\$ Million)



Source: Own elaboration with *Banco Central de Brasil* data.

FIGURE 17.
Share of Agribusiness in total imports in Pará 2018-2023

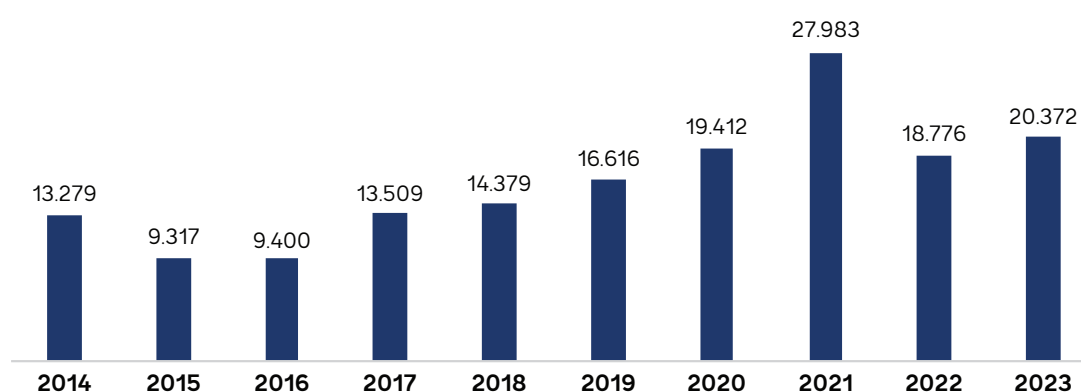


Source: Authors' elaboration with data from AGROSTAT and the Central Bank of Brazil.

2.6.3 Trade Balance

As a result of the behavior of trade, the Pará Trade Balance is in surplus with an increasing rate in it. In line with the Central Bank of Brazil, in 2023, the State recorded a positive balance of US\$ 20,372 million, which denotes an average annual growth of 4.9 percent since 2014 (see figure 18).

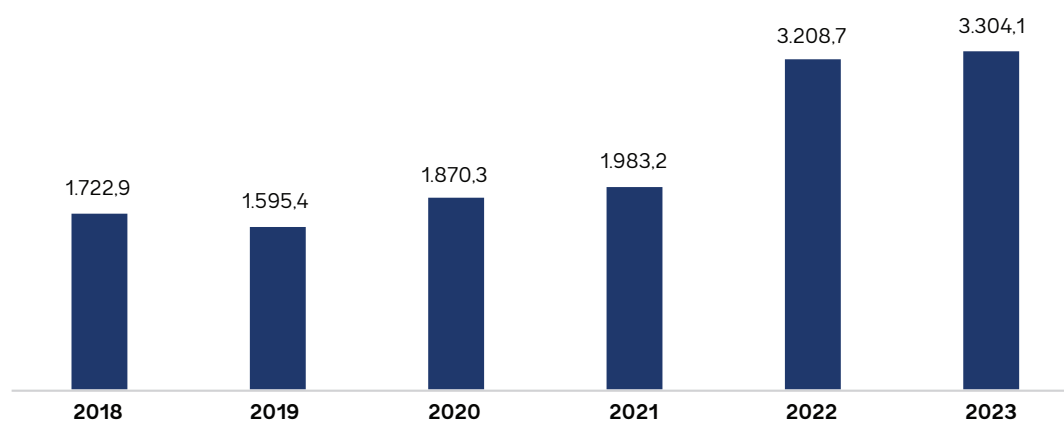
FIGURE 18.
Trade Balance in Pará (US\$ Million)



Source: Own elaboration with *Banco Central de Brasil* data.

Pará's agribusiness trade balance is in surplus. The following graph shows the evolution of the agribusiness balance. According to information from AGROSTAT, in recent years the sector has shown a positive and growing balance. In 2023, the balance totaled US\$ 3,304 million, 91.8 percent higher than that recorded in 2018.

FIGURE 19.
Agribusiness Trade Balance in Pará (US\$ Million): 2018-2023



Source: Prepared by the authors with data from AGROSTAT.

The following table shows the dynamics of the Pará's trade balance for 2018 and 2023. It is observed that to a large extent the generalized increase in the State surplus is due to the agribusiness sector and in particular in products such as soybean and corn oil, whose AAGR for the period was registered at 23.9 percent and 94.5 percent, respectively.

TABLE 4.
Agribusiness Trade Balance by Sector (2018 vs 2023)

Sector (s)	2018	2023	AAGR 2018-2023 (%)
	MUS\$	MUS\$	
Total State	14,379.1	20,372.1	7.2
Agribusiness	1,722.9	3,304.1	13.9
Soya complex	567.7	1,658.6	23.9
Grains	567.1	1,657.1	23.9
soybean meal	0.5	0.0	-71.1
Soybean Oil	0.0	1.6	456.3
Meats	266.3	511.6	14.0
Beef	249.7	505.8	15.2
Poultry	0.5	0.2	-17.6
Pig	0.0	0.3	59.3
Others	16.0	5.3	-19.9
Live animals	281.5	230.2	-3.9
Beef	281.5	230.2	-3.9
Others	0.0	0.0	0.0
Cereals	-49.4	335.2	-246.6
Maize	14.4	401.6	94.5
Rice	0.9	0.1	-43.5
Wheat	-64.8	-66.5	0.5
Others	0.0	0.0	23.3
Cacao and products	1.4	1.1	-3.9

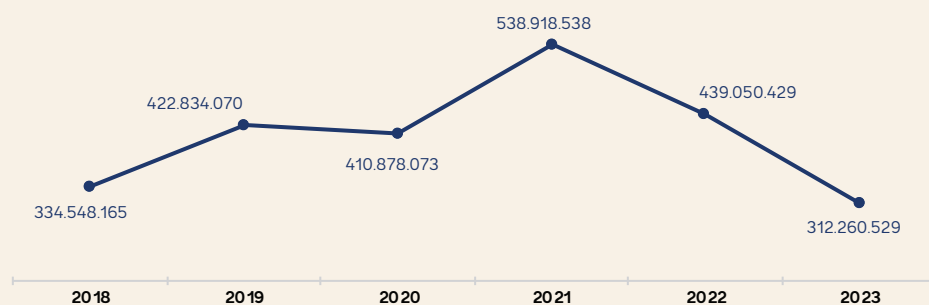
Sector (s)	2018	2023	AAGR 2018-2023 (%)
	MUS\$	MUS\$	
Fruits	8.4	34.7	32.6
<i>Canned fruit</i>	4.6	27.2	42.4
<i>Lemons</i>	0.0	3.0	367.5
<i>Bananas</i>	0.0	0.0	39.4
<i>Others</i>	3.8	4.5	3.4
Horticultural products, legumes, roots and tubers	1.5	5.7	30.8
<i>Mandioc</i>	0.0	0.0	68.4
<i>Others</i>	1.5	5.7	30.8
Walnuts and Chestnuts	32.2	13.1	-16.5
<i>Pará chesnuts</i>	32.2	13.0	-16.6
<i>Others</i>	0.0	0.1	33.9
Forestry products	369.7	192.5	-12.2
Oilseeds (excludes soybeans)	16.7	72.5	34.0
Juices	31.9	49.4	9.1
Leather	41.7	19.5	-14.1
Other animal products	0.6	31.5	120.8
Preparations	-3.7	7.4	-214.8
Other vegetal products	0.2	1.3	48.5
Sugar complex	0.0	0.5	-307.8
Animal Food	0.3	0.3	-1.0
Fibres	-3.5	-4.1	3.4
Fish	159.3	143.1	-2.1
Chemical fertilizers (other than crude)	-167.0	-539.9	26.5
Others	12,823.2	17,607.9	6.5

Source: Authors' elaboration with information from AGROSTAT, the Ministry of Agriculture and Livestock and the Secretariat of Foreign Trade of Brazil.

3. GHG EMISSION AND AGRI-ENVIRONMENTAL POLICY

According to Climate Observatory (OC), between 2018 and 2023 Pará registered a reduction in greenhouse gas emissions. In line with the Greenhouse Gas Emissions and Removals Estimation System (SEEG) of the Brazilian OC, in 2023 Pará's greenhouse gas emission was recorded at 312,260,529 CO₂e¹² (t), which represents a reduction of 6.7 percent compared to 2018 emissions, which were recorded at 334,548,165 CO₂e (t).

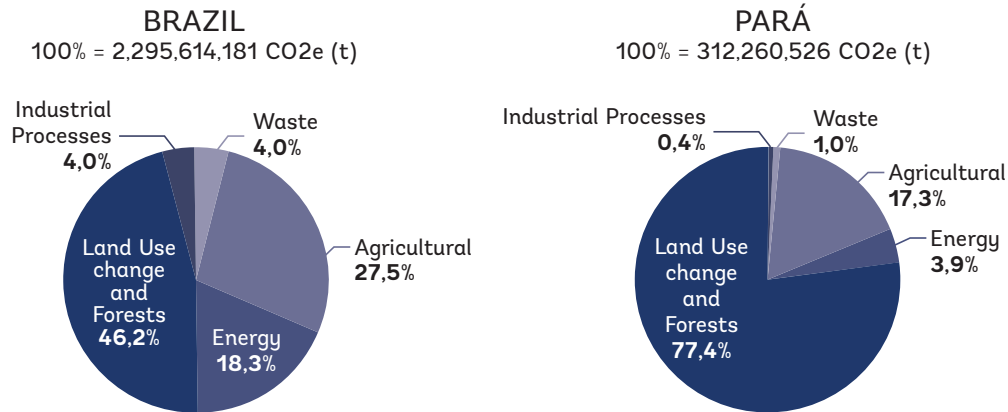
FIGURE 20.
CO₂e (t) GWP-AR5 Emissions in livestock in Pará, 2018-2023



Source: Authors' elaboration with data from the Greenhouse Gas Emissions and Removals Estimation System (SEEG) of the Brazilian Climate Observatory (OC).

In 2023, of the total emissions in Pará, 17.3 percent correspond to agricultural activities. This share is lower than the 27.5 percent represented by the country's agricultural sector as a whole.

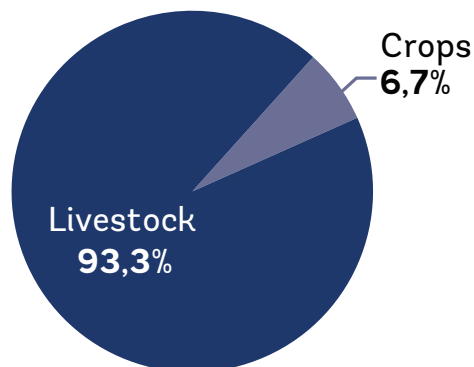
FIGURE 21.
CO₂e (t) Emissions by sector in 2023, Brazil and Pará



Source: Own elaboration with *Sistema de Estimativas de Emissões e Remoções de Gases de Efeito Estufa (SEEG)* do Observatório Brasileiro do Clima (OC) data.

Regarding the emissions structure of the agricultural sector in Pará, 93.3 percentage of the gases emitted come from the livestock sector and only 6.7 percentage from agricultural activities.

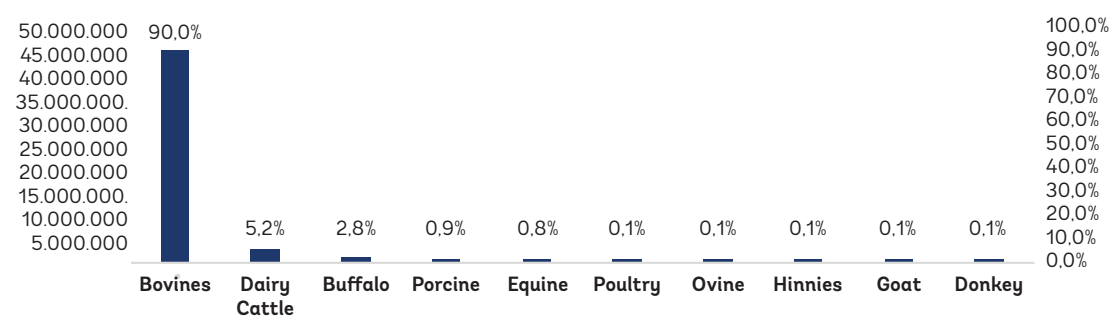
FIGURE 22.
CO₂e (t) agricultural emissions by subsector in Pará, 2023.



Source: Own elaboration with *Sistema de Estimativas de Emissões e Remoções de Gases de Efeito Estufa (SEEG)* do Observatório Brasileiro do Clima (OC) data.

Within the livestock sector, cattle production accounts for 90 percentage of the total CO₂e emissions in the sector. On the other hand, swine only contribute 1 percent, likewise, dairy and equine cattle participate with only 1 percent.

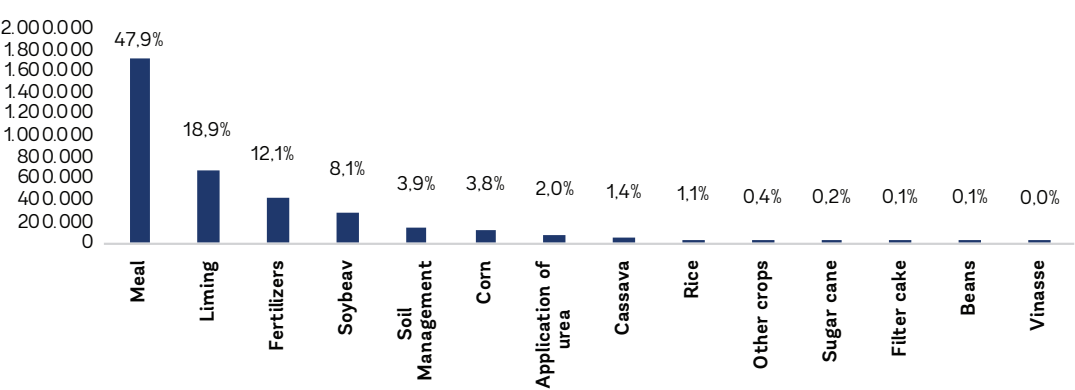
FIGURE 23.
CO₂e (t) GWP-AR5 emissions by livestock products in Pará, 2023



Source: Own elaboration with *Sistema de Estimativas de Emissões e Remoções de Gases de Efeito Estufa (SEEG) do Observatório Brasileiro do Clima (OC)* data.

Within the agricultural sector, 47.9 percentage of CO₂e emissions come from grasslands, followed by soil liming and fertilizers, which together contribute 31 percentage of emissions. Agricultural products such as corn, soybeans and sugarcane together contribute 12 percent of emissions in the sector.

FIGURE 24.
CO₂e (t) GWP-AR5 by agricultural products in Pará, 2023



Source: Own elaboration with *Sistema de Estimativas de Emissões e Remoções de Gases de Efeito Estufa (SEEG) do Observatório Brasileiro do Clima (OC)* data.

Main aspects of environmental policy in Pará

The State Climate Change Policy of Pará (State Law No. 9,048, of April 29, 2020), has a structural component called “State Plan Amazonia Now” decreed in 2021, which has as its main objective to achieve various Sustainable Development Goals (SDGs), such as: SDG 13 - Action against global climate change, SDG 15 - Life on land by promoting the restoration of degraded areas, SDG 2 - Zero hunger and sustainable agriculture, SDG 5 - Gender equality and SDG 17 - Partnerships for implementation.

This Plan is institutionalized based on three pillars: (i) Pará’s Regularization Plan (Decree No. 2,745/2022), which, in turn, has various instruments for its execution, including the regularization of land tenure, the Rural Environmental Registry (CAR), the granting of environmental licenses, and environmental education; (ii) Economic Development with Low Emissions, whose instruments include the Environmental Services Program and the Sustainable Livestock Program and (iii) Climate Financing, operated through Fundo Amazonia and RED++.

The Regularization Plan considers as the axis of its strategy the participation of small producers, for whom environmental education represents a fundamental element, and who have a highly relevant presence in the rural establishments of the State and as assets of sustainable production.

As part of the strategy, there is coordination between various areas of the State government, in particular the Secretariat of Environment and the Secretariat of Family Farming. Coordination is embodied in the Plan, which establishes the areas of execution of government agencies, including the Technical Assistance and Rural Extension Company of the State of Pará (EMATER), the Land Institute of Pará (ITERPA), the prefectures and non-governmental organizations that can act as facilitators. The CAR is considered an environmental management tool since it has information for the planning of the environmental regularization of rural properties, regardless of their size¹³. As of December 2024, the system registered 331,069 economic units, which is equivalent to 94 percent of the total. Out of these, 32 percentage were headed by women and 68 percentage by men¹⁴.

13 The CAR, operated and administered by the state’s Secretary of Environment, is a mandatory registry for all rural properties. The CAR gathers environmental information from them and has as some of its objectives, the control, monitoring and combat of deforestation of forests, as well as for the environmental and economic planning of rural properties.

14 Information available at: www.car.semas.pa.gov.br

Other instruments such as raising awareness of sustainable production and the approach and participation of producer groups are of high importance in the strategy for the Secretariat of Environment. To this end, frequent meetings are held with community leaders on the advantages of sustainable production and the importance of participating in the CAR, which are implemented by the municipalities and in coordination with other government agencies, such as the Secretariat of Family Farming (SAF).

Improvements have been carried out to simplify procedures for obtaining environmental licenses, which is a prerequisite to obtain federal and state concessions and supports, although the authorities indicated that some of the challenges they present for the execution of the programs are related to the availability of technology for the digitization of data.

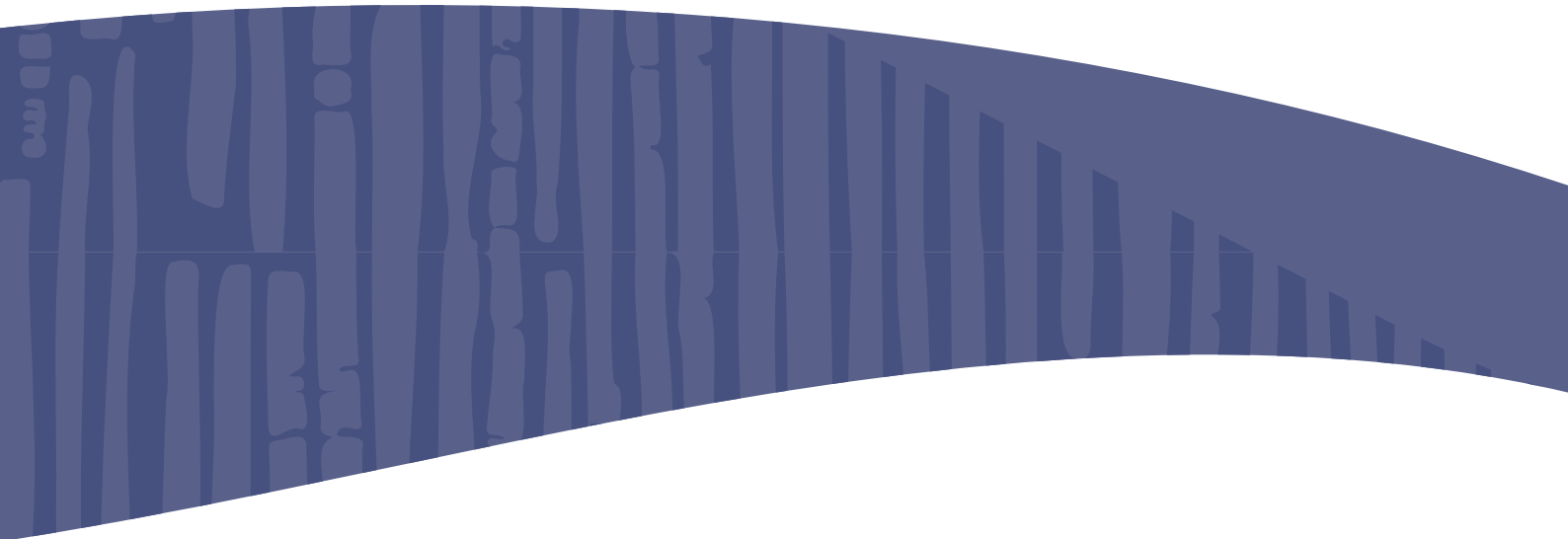
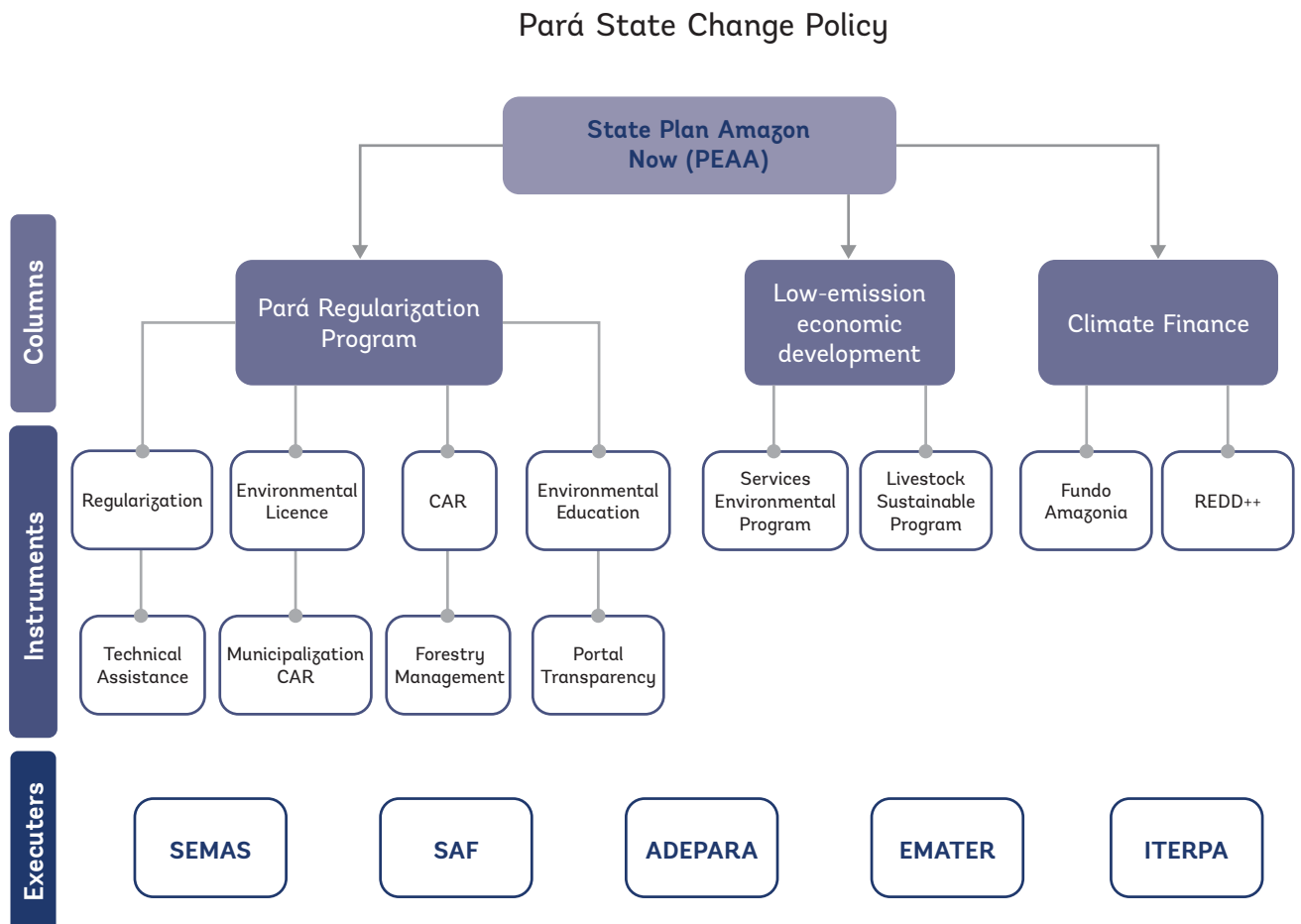


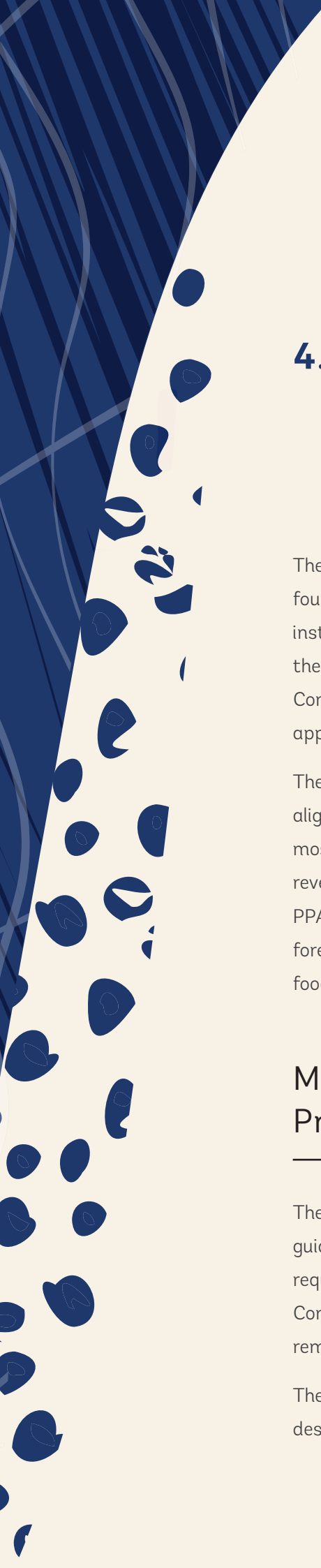
FIGURE 25
Pará Agricultural Policy Framework



The State Payment for Environmental Services (PES) Program, implemented in 2023, is one of the most important programs as a strategy to mitigate the effects of climate change. Its main goal is the neutralization of the GHG by 2036 and operates basically in areas where Family Farming prevails. By December 2024, it had already maintained coverage of 50 families served and has a goal of 1,000 families supported¹⁵.

The Sustainable Livestock program was launched in 2023 and maintains the goal of 100 percent traceability of state livestock by 2026 in all its phases of the production chain, including transport while continuing to maintain the state as a foot-and-mouth disease-free zone. The support includes continuous verification and subsidy of the cost of vaccines to small producers (less than 100 heads), as well as technical assistance to promote sustainable practices in breeding, fattening and abatement, which allow the sale in certified slaughterhouses with greater added value. The program is strategically fundamental in the economic development of the state, considering that Pará concentrates 10 percentage of the national cattle stock and where more than 2.2 million head are slaughtered annually.

15 The modality of the support includes a payment of 3,000R\$/ha restored in the first year (after verification) and support of between 5,000 and 6,000 R\$/ha for maintenance from the second year. The operation of the program involves important coordination between SEMAS and the State Secretariat of Family Agriculture



4. LEGAL FRAMEWORK OF STATE EXPENDITURE AND BUDGET CYCLE

The State budget cycle is a continuous planning and budgeting system comprising four stages: preparation, approval, execution, and control. It is governed by three instruments: the Multi-Year Plan (PPA), the Budget Guidelines Act (LDO), and the Annual Budget Act (LOA). The cycle is anchored in Article 204 of the State Constitution of Pará (1989), which grants the State Assembly the authority to approve the budget proposal submitted by the State Government.

The LDO guides the preparation of fiscal, social security, and investment budgets, aligning them with the objectives and goals established in the PPA. The LOA, the most important management mechanism of the Public Administration, estimates revenues and authorizes expenditures in pursuit of fiscal balance, translating the PPA's goals into the General State Budget. It is worth noting that the regulation of foreign trade, including tariffs, quotas, and subsidies affecting agricultural and agri-food products — is an exclusive prerogative of the Federal Government.

Multi-Year Planning Program (PPA)

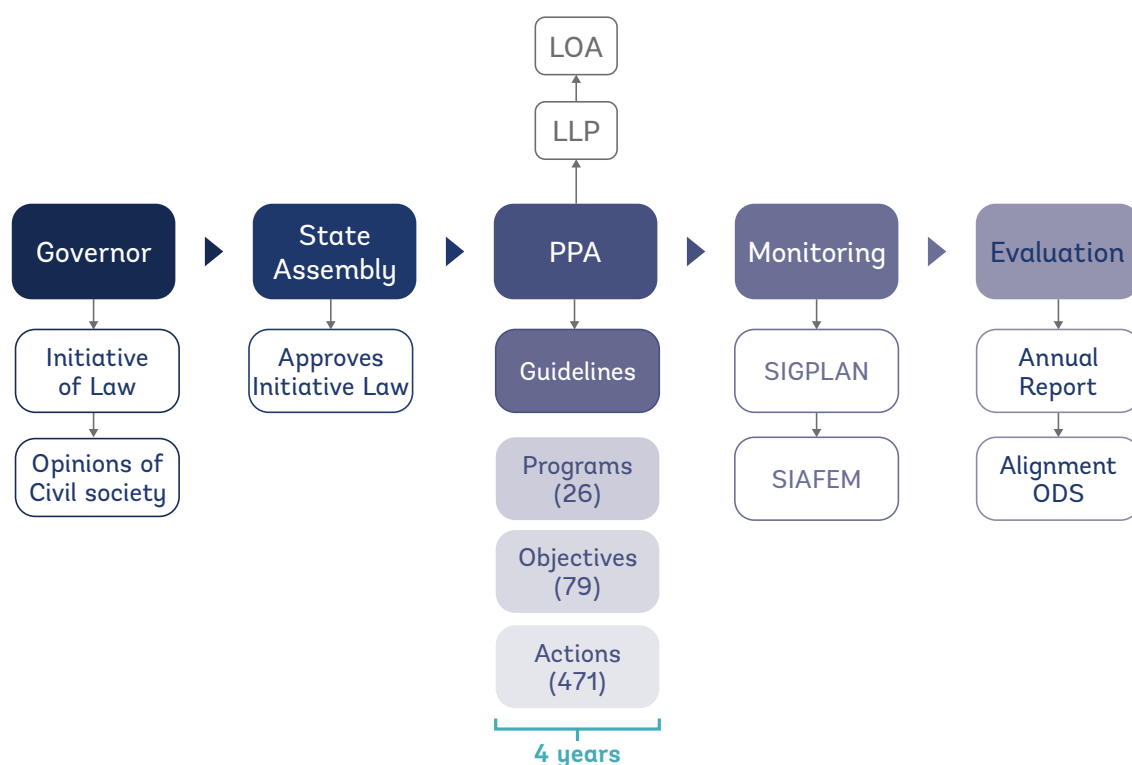
The PPA is the state's main financial planning instrument, establishing strategic guidelines, investments, and structuring actions over a four-year horizon, as required by Article 165 of the Federal Constitution and Article 204 of the State Constitution. It takes effect from the second year of a government term and remains valid through the first year of the following term.

The PPA 2020–2023, instituted through Law No. 8,966 of December 30, 2019, was designed to promote economic and social development in Pará within the context

of the COVID-19 pandemic. It comprises ten guidelines, under which 26 programs, 79 objectives, 471 actions, and over 100 indicators were defined. Agricultural sector programs fall under the “Economic Development” guideline and are structured around two objectives: (i) increasing production and promoting plant and animal health; and (ii) strengthening marketing of agriculture, fisheries, and aquaculture while promoting rural development with an emphasis on family farming. The PPA also includes an explicit commitment to align state goals with the Sustainable Development Goals (SDGs) of the 2030 Agenda.

Once civil society consultations are completed, the State Government submits the PPA to the Legislative Assembly for approval. Execution is carried out by state agencies, public companies, and entities, and is monitored through the Integrated Planning System (SigPLAN), linked to the financial administration system (SIAFEM), which enables tracking of the physical and financial performance of PPA actions. The Secretariat of Planning and State Administration (SEPLAN) consolidates results in an Annual Program Evaluation Report, which also assesses alignment with the SDGs.

FIGURE 26.
Budget Cycle in Pará



5. MAIN ASPECTS OF THE AGRICULTURAL POLICY OF PARÁ

During the period analyzed, sectoral policy focused on sustainable production, animal and plant health, and rural extension, with institutional programs aligned with the SDGs of the 2030 Agenda¹⁶. Family farming plays a central role in the state's agricultural policy, being present across all regions and responsible for a significant share of food production¹⁷. Municipal participation, whether coordinating actions or executing resources, is a defining feature of this policy.

The Agriculture, Livestock, Fisheries and Aquaculture Program, framed within the PPA, pursues two objectives: (i) developing production and promoting plant and animal health; and (ii) strengthening the marketing of agriculture, fisheries, and aquaculture while promoting rural development with an emphasis on family farming. Three state bodies are primarily responsible for executing these programs: the Secretariat of Agricultural Development and Fisheries (SEDAP), the Agricultural Defense Agency (ADEPARÁ), and the Technical Assistance and Rural Extension Company (EMATER).

EMATER supports family farmers by transferring knowledge on improved production and processing practices to increase productivity, product quality, and market access, through a range of activities including field visits, training courses, participatory rural diagnostics, and demonstration units. ADEPARÁ focuses on the prevention, control, and eradication of animal and plant diseases through epidemiological surveillance, property registration, and pest monitoring.

16 Secretary of Planning and Administration of the State of Pará. SDG Notebook. Alignment of the PPA 2020-2023 with the 2030 Agenda.

17 Secretary of Planning of the State of Pará. *Report of Avaliação do PPA 2020-2023*.

with a particular emphasis on obtaining pest-free area certifications that enhance the competitiveness of Pará's products in domestic and foreign markets. SEDAP, in turn, has been responsible for promoting product marketing through fairs and exhibitions, providing technical assistance to family producers in coordination with municipalities, and supporting access to federal programs such as the Food Acquisition Program, the National School Feeding Program, and the National Credit Program, as well as overseeing productive infrastructure investments.

To carry out its functions, there are various organizations and companies functionally linked to SEDAP (table 5). These organizations and companies have a direct influence on the agricultural policy of the sector, either as executors of programs, or as auxiliaries through the supervision of the conditions of the same in the field of their faculties.

TABLE 5.
Agencies and Organisms linked to SEDAP

Agency / Organization	Institucional Feature	Key Functions
Technical Assistance and Rural Extension Company (EMATER)	Public Company with Indirect State Administration, linked to SEDAP	Provides technical assistance and rural extension services; disseminates agricultural and technological knowledge to increase production, productivity, and rural living standards (State Decree No. 2,277/2018)
Agricultural Defense Agency (ADEPARÁ)	Decentralized State Agency, linked to SEDAP	Plans, regulates, and executes animal and plant health policy; conducts quality control, inspections, and laboratory services; supports small producers in accessing agricultural policy instruments (Law 6,482/2002)
Pará Land Institute (ITERPA)	State Agency, linked to SEDAP	Promotes land tenure security; executes agrarian policy including land regularization, boundary demarcation, rural registry management, and land transfers for agrarian development (Law No. 4,584/1975)
PARÁ RURAL Rural Management Center	Inter-institutional Partnership (SEDAP, SEMAS, ITERPA)	Coordinates actions to reduce rural poverty and strengthen state institutions, within the framework of the broader Pará Rural Program

In addition, there are other state government bodies that directly or indirectly contribute to actions and programs for the development of the agricultural sector, but that due to their legal nature are not necessarily linked to SEDAP, among them are:

Institute of Forestry Development and Biodiversity (IDEFLOR-Bio)	State Institute (not directly linked to SEDAP)	Manages state public forests for sustainable production; oversees policies for biodiversity conservation and sustainable use of fauna and flora (State Law No. 6,963/2007)
Banco do Pará	Mixed Economy Company (99% state-owned, not directly linked to SEDAP)	Acts as financial agent of the state government; promotes economic development through loans and credit to small and medium-sized rural producers

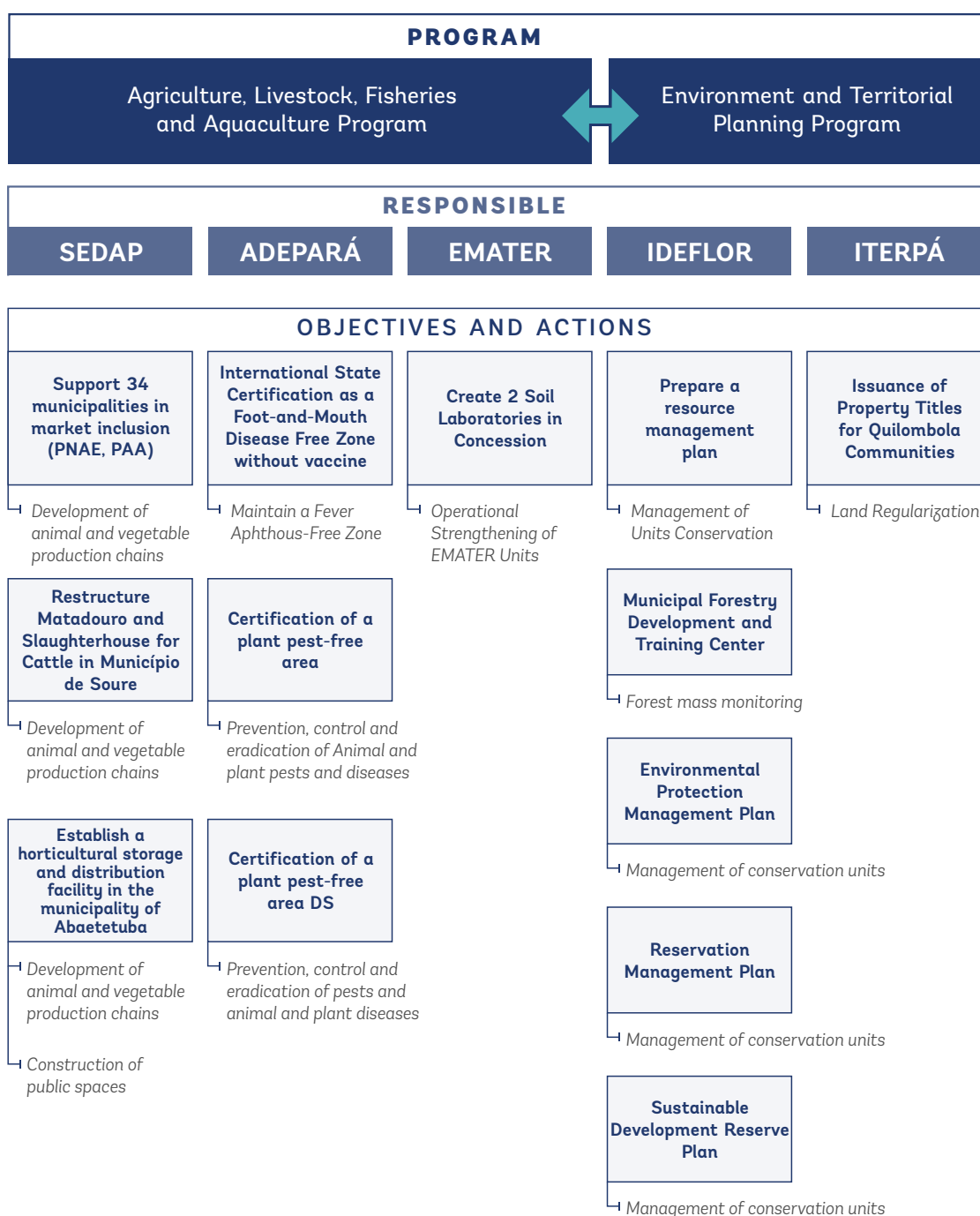
Ecosystem of the State Program of Agriculture, Livestock, Fisheries and Aquaculture and Territorial Planning 2020-2023

SEDAP, directly or through its decentralized bodies (ADERÁ and EMATER), and in collaboration with organizations such as IDEFLOR and ITERPÁ, is responsible for implementing agricultural programs. Since 2023, in coordination with SEAF, it has carried out the actions needed to achieve the objectives and goals set out in the PPA. As mentioned above, municipal participation, land management and the conservation of natural resources are basic elements established in the objectives and corresponding actions of the program.

In order to describe how the program works, the following figure illustrates the areas of state government responsible, as well as the objectives of each of them, and the actions required to carry them out. The coordination between SEDAP and SEMAS (with their related bodies), and since 2023 with SEAF, is an important feature, considering the concurrence of elements of both programs.

FIGURE 27.

Conjunction of Programs of Objectives and Actions of the State Program of Agriculture, Livestock, Fisheries and Aquaculture 2020-2023



The following section highlights the operating principles that, in environmental and operational matters, prevail in the design in a practically transversal manner, and that are considered important for the achievement of the objectives of the PPA.

BOX 1.

A VISION IN PRACTICE ON SUPPORT PROGRAMS FOR THE SECTOR

This document includes a description of the characteristics, conditions, and objectives of each program executed by the entities involved in the state's agricultural policy, including public enterprises and decentralized organizations, it is worth mentioning in this section a version by state officials of the characteristics of these programs in daily practice, derived from an interview conducted by the authors in Misión in December 2024. On the one hand, we include the observations derived from the Secretary of SEDAP, as well as the Secretary of family farming of the state. On the other hand, we include the vision of SEMAS officials. In both cases we were able to identify, from their own perspective, the main challenges facing the sector, including operational and institutional challenges, which provide a highly valuable vision that can be considered for the near future.

- **Secretary of Agricultural Development and Fisheries (SEDAP)**

One of the most relevant aspects of the sectoral policy lies in technical assistance to small producers, with a focus on sustainability. For SEDAP, the importance of maintaining a staff of qualified extension workers is key. This assistance should facilitate the marketing of their products to new markets with high added value, which is why in recent months there has been significant recruitment of technicians, however, this is a medium-term process, and the training of these technicians must be continuous. As part of the challenges that the official observes, there is that of doubling the productivity of key products in the state.

Increasing productivity is seen as a highly relevant aspect to enhance producers' income and their participation in the income of the production chain. The inclusion of more technology in production processes is an important instrument in this objective and for this, SEDAP has created funds such as

FUNCACAO, which is financed by the collection of a special tax on cocoa producers. The resources of this fund are used to finance productive projects that are presented to a qualified committee made up of SEDAP officials and approve the disbursement of resources for this purpose. It is important to clarify the operational rules of this fund and strengthen its corporate governance. For example, the monitoring of the financed project should be carried out by bodies other than those that authorize it to avoid a conflict of interest, and ensure that the qualification committee also includes representatives from outside SEDAP to ensure that the resources used are used in the most profitable projects and that truly require the support offered.

- **Secretary of State for Family Farming (SAF)**

The recent creation of this Secretariat is due to the priority that the sectoral policy of the current government has given to small producers, considering their important presence in food production in the State. According to the interviews, one of the strategic aspects in the objectives pursued lies in land regularization of family farmers, which requires coordination with various authorities of the state government such as SEMAS, ADPARÁ, Land Institute, etc., as well as the various municipal governments, in order to facilitate the articulation of policies without bureaucratizing it.

Likewise, technical assistance to family farmers is the cornerstone of the contemplated actions and to this end, one of the main challenges is to continue generating trained extension agents, which support family farmers' access to market, including federal programs such as the PAA and PNAE, and to formal credit.

Supporting family farmers' registration into the CAR is also seen as a key priority of this Secretary.

- **Deputy Secretariat for Environmental Management and Regularization (SEMAS)**

It was appreciated that the fundamental vision of SEMAS is to promote a sustainable economy and reduce GHG emissions in production, in this case agricultural. This challenge considers that a high proportion of state producers are small and require information and support for this and with a process that involves not only the state government, but also the private sector and NGOs.

The key instrument for achieving the objectives is CAR along with the total coverage of the producers in the state. Education and awareness of its benefits is key to this objective, so collaboration and coordination with other institutions such as the Secretariat of Family Agriculture, is of high relevance.

- **Assistant Secretary for Water Resources and Climate Management (SEMAS)**

One of the most relevant aspects of environmental policy in the state is the implementation of the Payment for Environmental Services (PPSA) program. In SEMAS' vision, this program will contribute to meeting the state's GHG reduction goals in a significant way (the goal is to neutralize these emissions by 2036). Like other SEMAS policies, the implementation of this program considers alignment and coordination with the Secretariat of Family Farming, as an operational strategy. In the future, the formalization of a state-owned Environmental Services Company is contemplated, which allows, among others, access to the green bond market in favor of the sector and the state.

- **Family Farmers and Traditional People and Communities**

We had the opportunity to do a couple of interviews with producers who are beneficiaries of the SEDAP programs and the Secretariat of Family Farming, in the municipality of Benevides. It was possible to observe the importance of state programs in the creation of employment among the municipal beneficiary population, and in particular the level of environmental awareness from the technical support received on sustainable production, a support that,

in the same way, has been important for farmers to access markets through the federal programs of PAA and PNAE. Coordination between authorities is seen as fundamental, mutual trust and reciprocity were appreciated. The municipal authorities have been able to contribute to the organization of the farmers, but also in other aspects such as the financing of rural roads and other smaller-scale infrastructure works.

The interviewees expressed the importance of continuing to be involved and supported. There is also limited knowledge of formal financing and risk management instruments. This is particularly relevant because the area visited appears highly exposed to climate risks and diseases, while commercialized production is becoming an increasingly important source of family income.

It could not be verified that the design of the programs contains clauses of "graduation" of the beneficiary population, meaning that when reaching a certain pre-established income level, the support will stop. This aspect is fundamental, in order to minimize political costs when programs cease or are modified but, above all, to be able to allocate scarce resources among the population that really requires them.

Finally, the importance of accelerating the process of land regularization among small producers is appreciated. This process contributes to giving certainty to private or public-private investments and gradually helping to capitalize productive units. In interviews with family farmers, this aspect was frequently mentioned.

6. AGRICULTURAL SUPPORT ESTIMATES IN PARÁ (2018-2023)

One of the aspects highlighted by the methodology is that the level of support it provides to the sector is important, but also the way in which support is provided to producers.¹⁸ Governments can implement a range of measures including input subsidies and other support for farmers that can be provided on the basis of production, area, number of animals or farm income. Payments may also be subject to conditions in terms of production practices and uses of specific inputs, pursuing environmental outcomes or other social objectives. Other government policies do not provide payments or transfers to individual farmers but instead focus on the provision of general services and public goods for the entire sector. In all cases, the incentives generated by the way in which such support is provided may differ and, above all, may have additional effects on production, productivity, trade and even the environment. That is why the methodology includes a differentiation of the supports considering their nature.

BOX 2.
OECD METHODOLOGY INDICATORS RELATED TO AGRICULTURAL SUPPORT

- **Producer support indicators**

Producer Support Estimate (PSE): The annual monetary value of gross monetary transfers to specific producers or groups of producers, measured at the farm level, and derived from the implementation of agricultural policy measures by the state government. The identified sources of such transfers are consumers (through the payment of higher prices) or taxpayers (through various government public programs). These transfers are estimated regardless of their nature, objectives, or impacts on agricultural production or incomes.

Percentage of PSE (%PSE): The %PSE is calculated as a percentage of gross farm income (including transfers).

Producer Individual Product Transfers (Producer SCT): The annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm level, derived from policy measures by the Government of Pará directly related to the production of a product. In this study, we will also refer to this indicator as PSE per product.

Individual Product Transfers as a Percentage of Gross Income (SCT of Producer %): The SCT as a percentage of gross farm income for the specific product. In this study, we will also refer to this indicator as PSE% per product.

- **Consumers support indicators**

Consumer Support Estimate (CSE): The annual monetary value of gross transfers from (to) consumers of agricultural products, measured at the farm level, arising from the implementation of policy measures by the State Government that support agriculture, regardless of their nature,

objectives, or impacts on the consumption of agricultural products.

CSE as a percentage (CSE%): CSE as a percentage of consumption expenditure (measured at farm level) net of taxpayer-to-consumer transfers.

- **General services support indicators**

General Services Support Estimate (GSSE): The annual monetary value of cash transfers for the provision of general goods and services (public goods or with characteristics of public goods) provided to the sector collectively (such as research, development, training, inspection, marketing, and promotion), derived from measures of government policy implementation that support agriculture, regardless of their nature, objectives and impacts on agricultural production, income or consumption.

Percentage GSSE (GSSE%): GSSE as a percentage of the Total Support Estimate (TSE).

- **Total support Indicators**

Total Support Estimate (TSE): The annual monetary value of all gross transfers from taxpayers and consumers arising from the implementation of government policy measures to support agriculture, net of associated budget revenues, regardless of their objectives and impacts on agricultural production and incomes, or consumption of agricultural products.

Percentage TSE (TSE%): TSE as a percentage of GDP (Agricultural GDP).

6.1 Total Support Estimate (TSE)

TSE is the indicator that includes the sum of transfers to agricultural producers directed, 1) individually (PSE); 2) collectively (GSSE); and 3) direct budget transfers to taxpayers consumers (TCCs). Again, it is necessary to remember that, in any case, these transfers arise from the implementation of agricultural policies by the state government. This indicator can be expressed in absolute terms or as a percentage of GDP (agricultural GDP). In the latter case, (TSE%) provides an indication of the cost that support entails for the economy and is usually mostly used to make more reasonable comparisons (than absolutes) between economies or overtime.

Figure 28 shows that, on average during the period analyzed, the TSE in Pará amounted to US\$ 22 million. For this last period, this figure was equivalent to 0.05 percent of the State GDP (0.48 percent of the Agricultural GDP). The evolution of the indicator allows us to appreciate a practically sustained increase between the first and last year of analysis.

FIGURE 28.

Total Support Estimate (TSE) and proportion to State GDP and Agricultural GDP 2018-2023 (R\$ million and percentage)

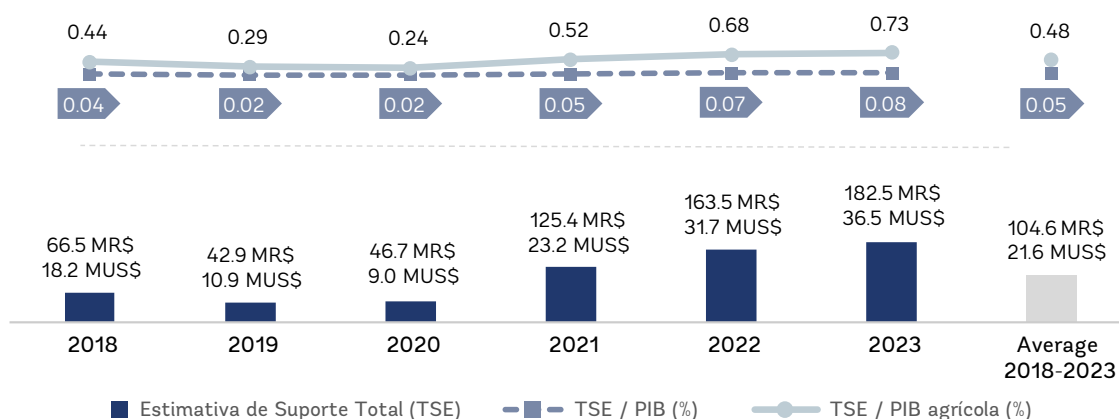
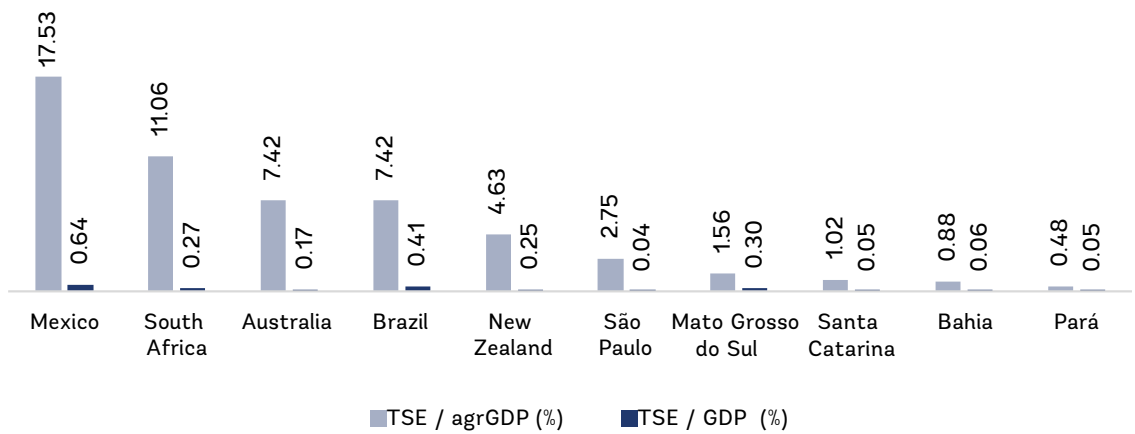


Figure 29 shows a comparison of Pará's TSE and its comparison with other local and international economies. When the TSE is compared as a proportion of Total (or agricultural) GDP, its level in the State of Pará is below the national one of 0.41 percent, and that of other states in Brazil.

FIGURE 29.
Total Support Estimate (TSE) as a proportion of GDP and Agricultural GDP: Average**



* Average for 2018-2023, except for the states of São Paulo, Santa Catarina and Bahia, whose averages correspond to the years 2017-2021 and 2018-2022 for Mato Grosso do Sul.

Figure 30 outlines the composition of the TSE considering the three categories of support that compose it, according to the nature of the support using the average of the analyzed period. It is observed that most of the transfers (35.4 percent of the TSE) were made through support that was granted directly to a product or group of products (PSE), investments in public goods and services aimed at the sector as a whole (GSSE) represented 32.6 percent and the rest (32 percent) were support to consumers.

FIGURE 30.
TSE, by type of support. Average 2018-2023

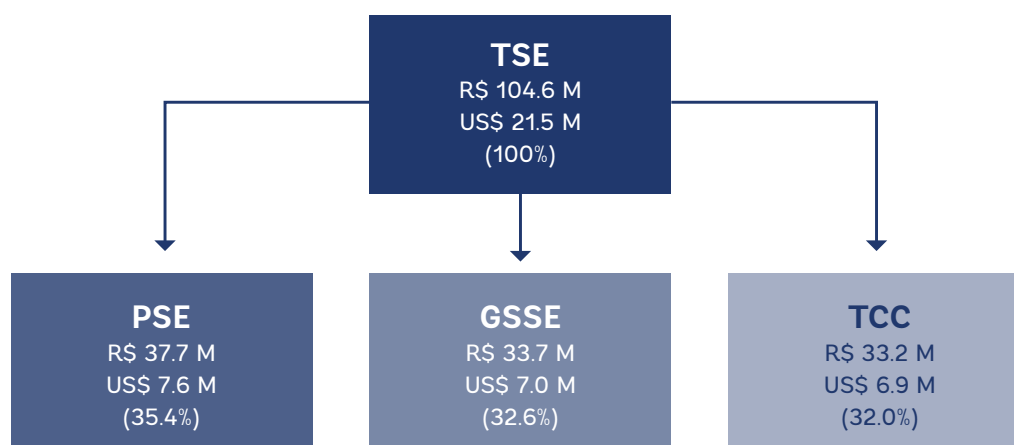
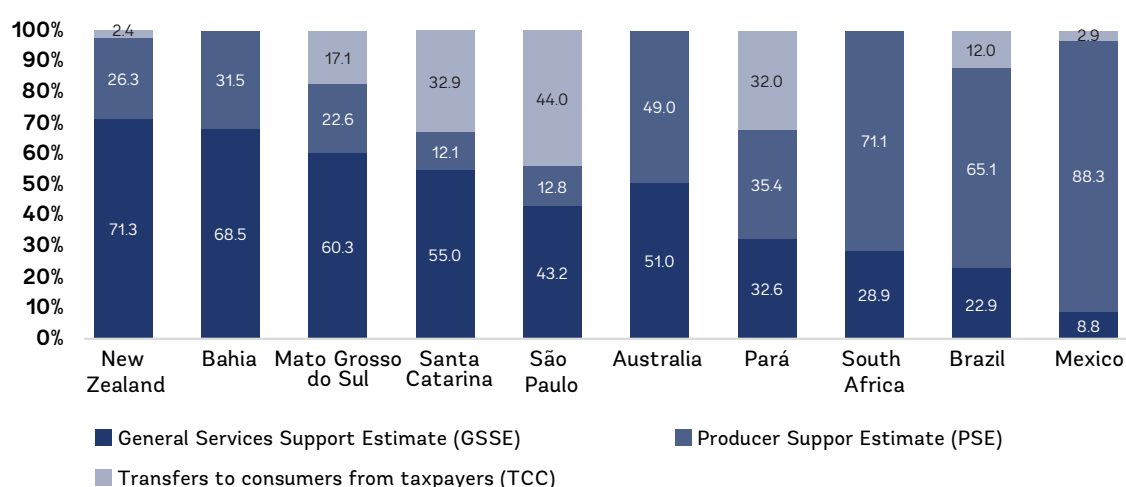


Figure 31 shows a comparison of TSE composition with some local and international economies according to the three types of support (PSE, GSSE and TCC). In the State of Pará, TSE is divided almost equally between the three categories, while in other analyzed states the GSSE category represents the majority of support (between 43 percent and 69 percent of total support). At the federal level, TSE is mostly directed towards direct producer's support (PSE) as in most of the analyzed countries (Mexico, Australia and South Africa).

FIGURE 31.
Percentage TSE Structure*



*Average 2018-2023, except for the states of São Paulo, Santa Catarina and Bahia whose averages correspond to the years 2017-2021 and Mato Grosso do Sul 2018-2022.

6.2 Producer Support Estimate (PSE)

6.2.1 Level of PSE

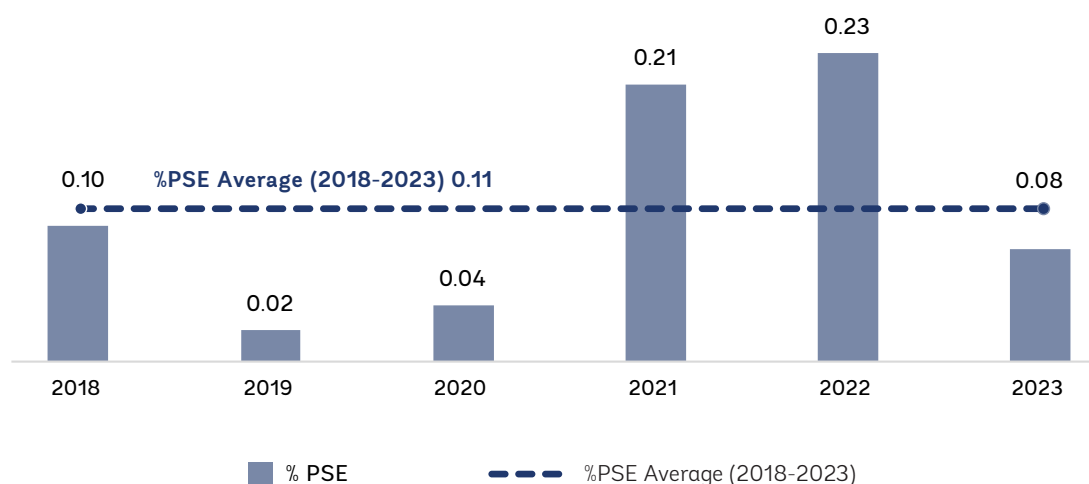
This section discusses in greater detail the first component of the TSE, i.e., the Producer Support Estimate. This component includes transfers directed to a specific product or group of products. Similarly, this component is presented both in absolute terms and in percentage (PSE%); the latter to dimension these transfers within the gross agricultural income of the producer¹⁹. It is a highly relevant indicator to make comparisons of the impact of policies with other economies, between products or over time, the OECD itself considers it as the “most appropriate indicator to compare changes in the level of support for farmers”.²⁰

Figure 32 shows the estimate of PSE% of Pará for the period 2018-2023. In that first year, the PSE% indicates that 0.10 percent of the annual gross income of the producers was generated by government support policies and associated transfers. For 2022, this level reached a maximum of 0.23 percent but falls towards 2023 to 0.08 percent. On average for that period, the PSE% was at levels of 0.11 percent. In general, these levels indicate that most of the producer's total income comes from his activity in the market, so this “low” level does not necessarily indicate an inefficient level, considering that the sector in the state is, in general, oriented towards market conditions, including exports, conditions that require monitoring of market signals and competitiveness.

19 Calculated as the value of production plus transfers received.

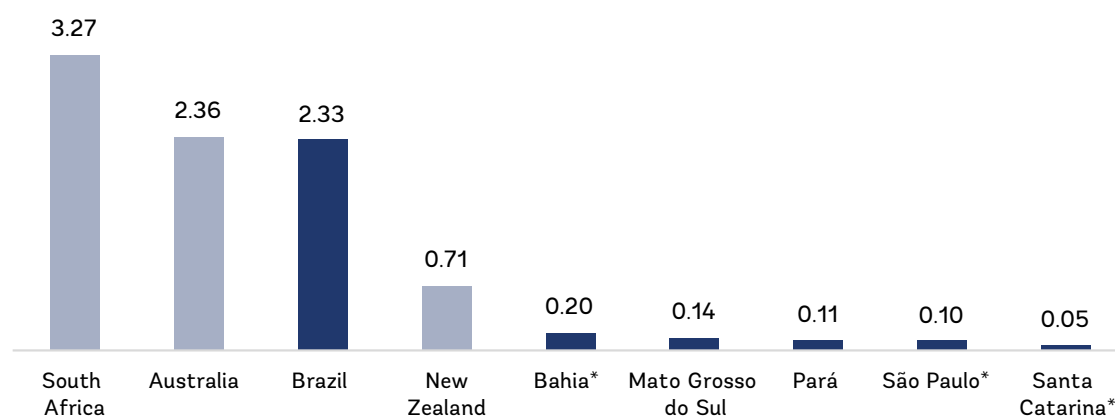
20 See PSE Manual, OECD.

FIGURE 32.

Producer Support Estimate as proportion of Producer Gross Income (PSE%): 2018-2023

When making comparisons with other economies, it is observed that the level of support to the producer of Pará as a proportion of income (0.11 percent) is relatively lower than that observed in the economy as a whole of Brazil (2.4 percent) and other economies such as Australia and New Zealand (the latter two economies, highly oriented to exports). However, this indicator maintains a slightly higher level when compared to other Brazilian states, such as São Paulo (0.10 percent) and Santa Catarina (0.05 percent), but lower than Bahia (0.20 percent) and Mato Grosso do Sul (0.14 percent).

FIGURE 33.

PSE% Average for selected Countries and Pará (2018-2023)

It is important to note that this analysis has considered that Brazil's estimates, made by the OECD, indicate that all programs and policies for the sector have been considered, including national, state, and municipal ones; however, during our analysis we identified the existence

of some state policy measures that have not been corroborated in the national analysis. Accordingly, the estimate made for the State considers only these last measures and the result is interpreted as the impact, at the margin, that these measures have on the income of the state producer. In other words, the state producer is a beneficiary of both federal and state measures, however, considering that some State measures have not been considered in the national analysis, it is possible to establish the impact (on income) that these measures have marginally on the income of the State producer.

6.2.2 PSE Structure

The analysis of the estimates made must include not only the levels of support, but particularly importantly the composition of the same. As indicated above, a low level of support is not necessarily inefficient (or vice versa) if its composition is consistent with the objectives and conditions of competitiveness of the sector during the period of analysis. The structure of the PSE considers various categories of support that, according to their objectives and characteristics, allows identifying whether the support scheme is efficient or not, based on the classification that the OECD maintains in this regard.

As part of its evaluation criteria, the OECD methodology generally considers that the supports that, due to their characteristics, are placed within category A (price support), A.2 (production support) and B (input support), are the most potentially distorting supports (production, trade, employment), ineffective in transferring income to the producer and often associated with negative repercussions on the environment (*“environmentally harmful”*). Supports designed by decoupling the benefit granted of the condition of producing certain product(s) have less distorting effect and theoretically are more efficient in generating greater income for the producer (categories C, D, E, and F in Table 6).

The OECD continuously reviews its methodology in the light of new policies that have emerged in the world and in recent years, it has recognized that the existence of support, which on the other hand is conditioned to the generation of pro-environmental actions, should be subject to a more reflective analysis of its efficiency²¹. In fact, in recent years, the organization has already published its reflections on the matter, pointing out that, when support for inputs is accompanied by environmental conditions or incentives to carry out environmental practices, the effect on the environment is positive²². Based on the above, three important aspects, derived from the structure of the PSE presented in Table 6, need

21 OECD (2023).

22 DeBoe, G. et al. (2020)

to be highlighted. It is important to note that practically all of the PSE support analyzed in the State falls within the category of support to inputs, whether variable inputs (for example, subsidies for the cost of seeds), fixed inputs (for example, subsidies for productive facilities and equipment) or on-farm services (for example, extension services and technical assistance). This type of support is considered *a priori*, highly distorting and inefficient to transfer income to the producer²³, however, in the case of some states of Brazil and in this case Pará, it deserves a more in-depth analysis, considering that a good part of this support requires to be eligible, the respect of environmental criteria (first of all, registration in the CAR). Similarly, the vast majority of State PSE is aimed at family farmers who face higher barriers to access inputs.²⁴

No Market price support (category A.1) was observed. This means that, during the period analyzed, the State did not implement any policy that affected the domestic price (e.g. imposition of minimum or maximum prices, production quotas, state purchases...). It is worth noting nevertheless that tariffs and barriers to trade, that can affect domestic prices, are the exclusive power of the Federal Government and therefore not considered in this analysis.

However, although it was not considered due to its temporality, it should be noted that since mid-2023, Pará has been carrying out the Payments for Environmental Services program, executed by SEMAS, which due to its characteristics would be considered within the least distorting PSE support categories indicated above.

23 To the extent that input support is necessarily linked to the production of a given product, it presents a degree of distortion due to induced production. Likewise, if this support is not accompanied by an adequate technological package, it can affect the quality of the soil and thus generate an environmental impact and finally, the OECD itself points out that the support for inputs ends up benefiting the marketers of these products in a high percentage and does not transfer the total benefit to the producer.

24 The methodology considers transfers derived from policies, "regardless of their nature and objectives", so aspects such as the target population, the solution of market failures, etc., are not, from the beginning, considered, but should be part of the final evaluation and the recommendations of the researcher.

TABLE 6.
PSE Structure, according to the Support Category in Pará

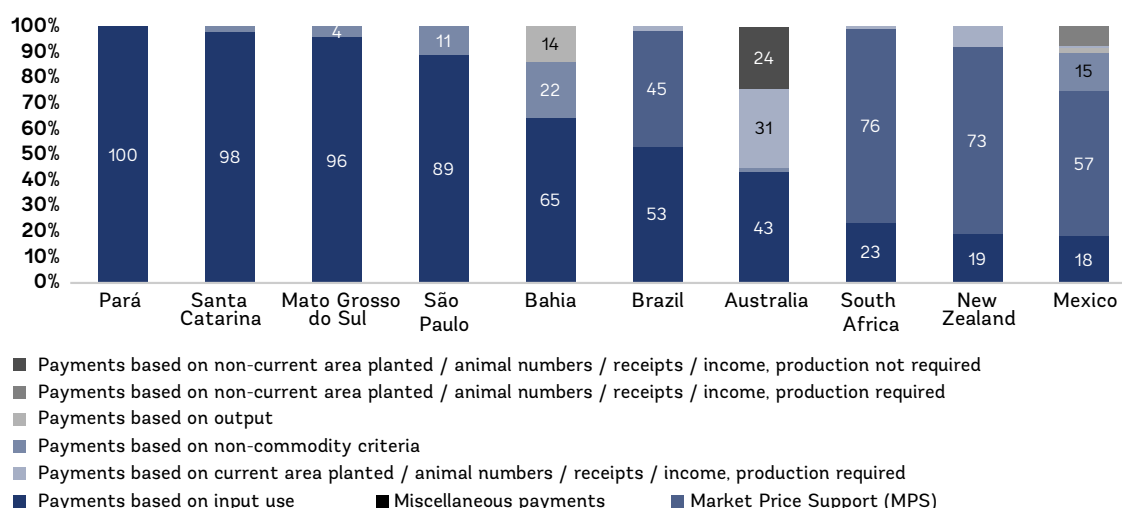
PSE Category	2018		2019		2020		2021		2022		2023		Average 2018-2023	
	MR\$	%	MR\$	%	MR\$	%	MR\$	%	MR\$	%	MR\$	%	MR\$	%
PSE	25.9	100.0%	5.8	100.0%	12.8	100.0%	69.8	100.0%	79.3	100.0%	32.5	100.0%	37.7	100.0%
A.1 Market Price Support	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
A.2 Output support	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
B. Inputs support	25.9	100.0%	5.8	100.0%	12.8	100.0%	69.8	100.0%	79.3	100.0%	32.5	100.0%	37.7	100.0%
C. Payments based on production. Production required	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
D. Payments based on current production. Production required.	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
E. Payments based on non-current production. Production not required.	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
F. Payments based on non-commodities criteria.	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
G. Others	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%

In general, the analysis of the composition of the PSE in Brazilian States showcases a high concentration of support to the producer via support for inputs (variable, services or fixed).

identified by the literature as potentially inefficient and distorting²⁵. As mentioned above, the environmental requirements that a large part of this input support includes in its design should be considered.

The chart below shows the structure of the PSE in various economies (see figure 34). However, it should be noted that the State of Pará has an opportunity to design direct support instruments that are decoupled from production and are considered more efficient in transferring income to the producer and with less distorting effects on production and trade²⁶.

FIGURE 34.
PSE Structure. Selected Economies. Average 2018-2023*



* For the States of São Paulo, Santa Catarina and Bahia, the figures correspond to the average for the period from 2017 to 2021 and Mato Grosso do Sul 2018-2022.

6.2.3 Producer Support Estimate by Product

The OECD methodology allows a disaggregated level to be obtained for each product selected as a basis for analysis. Formally, the analysis of support by product is called "Individual Commodity Transfers". For these purposes we will call it "Producer Support Estimate by Product".

25 Corden (1971), Timmer (1989) and Guerrero (2022)

26 In this regard, it should be noted that, towards the end of 2023, the Secretariat of Environment (SEMAS) launched the Environmental Services Program, whose characteristics would allow it to be classified precisely within the categories considered least distorting of the PSE.

The PSE by product can also be expressed both in absolute terms and as a percentage of the gross income of the producer under analysis. For example, a PSE of 25 percent indicates that the value of transfers derived from the implementation of agricultural policies, which are specific to that commodity, is equivalent, on average, to a quarter of the gross agricultural income of the producers of that commodity and the rest (75 percent) of their income, corresponding to their activities in the market. For this analysis, seven products were selected, including: corn, cassava, cocoa, soybeans, bananas, açai and cattle, which were chosen considering their strategic importance in production, consumption and trade, both internal and external.

Figure 35 shows the PSE of Pará as a percentage of producers' incomes (PSE%) for the seven products included in the analysis. Throughout the period analyzed, cattle presented the highest level of PSE% (0.17 percent), while the rest of the products observed a lower level of between 0.15 percent and 0.08 percent.

FIGURE 35.
PSE% by product. (Average 2018-2023)

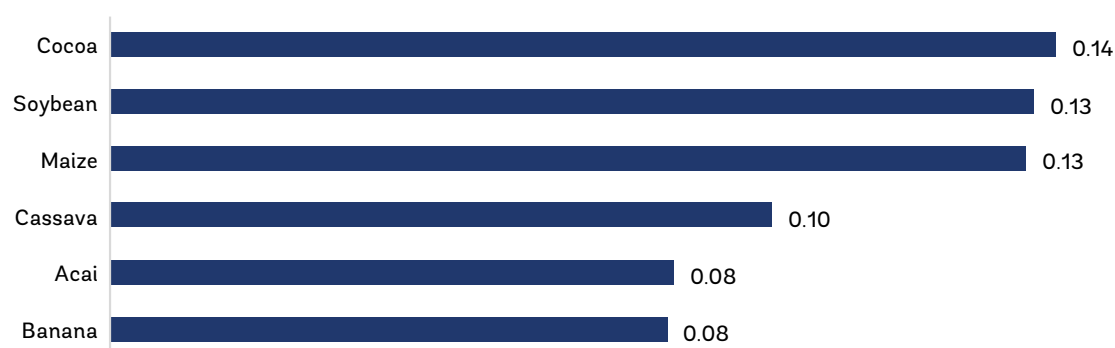


Table 7 includes the monitoring of this indicator for each year analyzed. The products analyzed show a significant drop in the level of PSE% towards 2019 and deepen in 2020, as a result of a significant decrease in the resources allocated to various state programs aimed at financing agricultural projects located within the category "Support based on the use of inputs" of the PSE. For 2021 and 2022, all five products show increases in the level of PSE% as a result of the significant increase in resources.

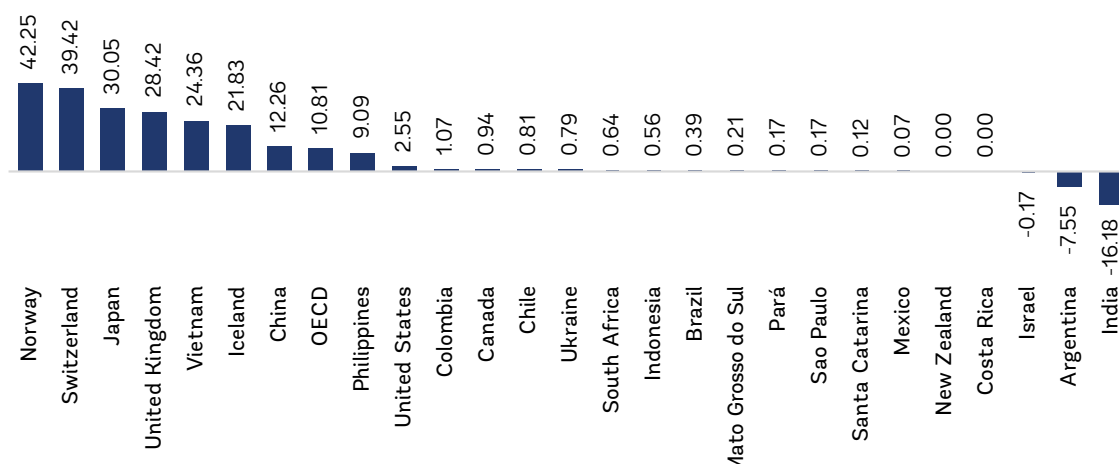
TABLE 7.
PSE by product in Pará 2018-2023 (percentage)

Product/year	2018	2019	2020	2021	2022	2023	Average 2018-2023
Cacao	0.14	0.03	0.06	0.23	0.26	0.10	0.14
Soya	0.14	0.04	0.05	0.23	0.26	0.09	0.13
Maize	0.14	0.04	0.05	0.23	0.26	0.08	0.13
Mandioc	0.12	0.03	0.04	0.15	0.17	0.08	0.10
Banana	0.10	0.03	0.03	0.11	0.16	0.05	0.08
Açaí	0.12	0.01	0.02	0.14	0.09	0.11	0.08
Beef	0.18	0.05	0.08	0.30	0.33	0.12	0.17

Beef

The following graph shows the proportion of transfers associated with State policies in the gross income of cattle producers (PSE). This indicator is recorded on average at 0.17 percent during the period of analysis, which is a higher level compared to the state results of 0.17 percent and 0.12 percent of São Paulo and Santa Catarina, respectively. However, Pará's level is still below the national average of 0.39 percent. It should be noted that economies such as Mexico and Chile have a bovine PSE% indicator close to Pará levels.

FIGURE 36.

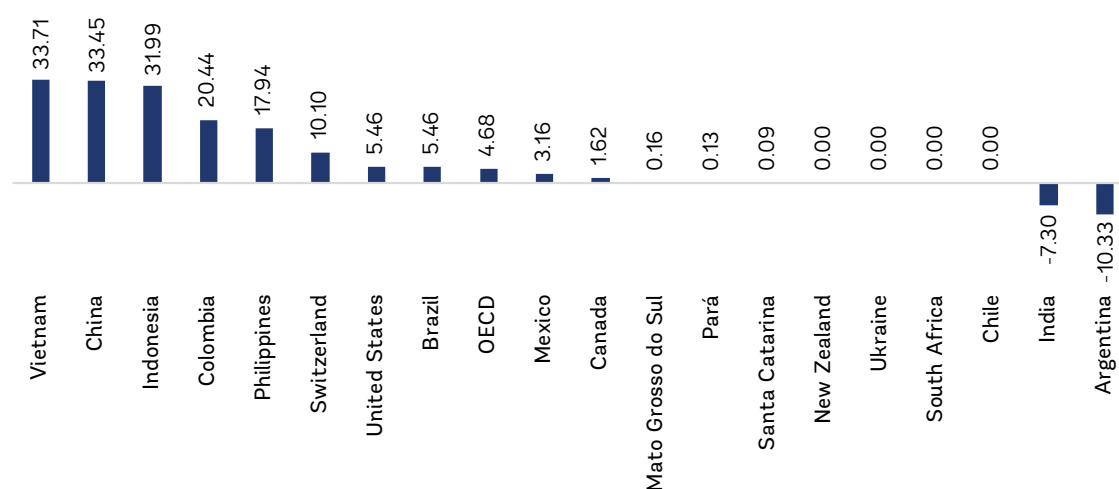
PSE% for bovine in selected economies. Average 2018-2023*

* For the States of São Paulo and Santa Catarina, the figures correspond to the average for the period from 2017 to 2021.

Maize

The PSE% of maize in the period of analysis was estimated at 0.13 percent, a level above the level of 0.09 percent in Santa Catarina, although lower than that observed in Brazil (5.46 percent).

FIGURE 37.

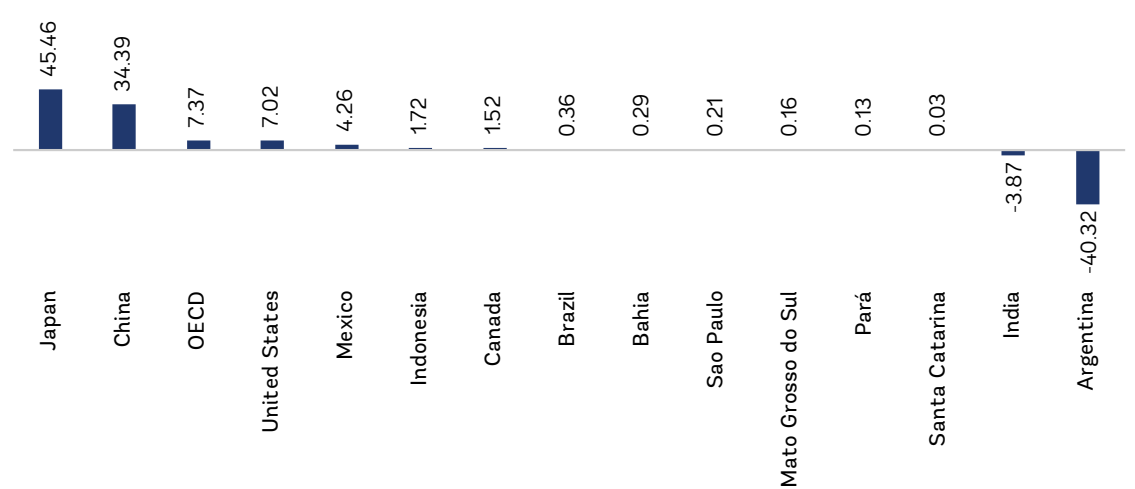
PSE for maize in selected economies. Average 2018-2023*(percentage)

* For Santa Catarina, the figures correspond to the average for the period from 2017 to 2021 and Mato Grosso do Sul from 2018 to 2022.

Soy

The following graph shows the results of the PSE% for soybeans of 0.13 percent in Pará, lower than the states of Bahia (0.29 percent) and São Paulo (0.21 percent) and that of Brazil as a whole (0.36 percent).

FIGURE 38.
PSE for soya in selected economies. Average 2018-2023 (percentage)

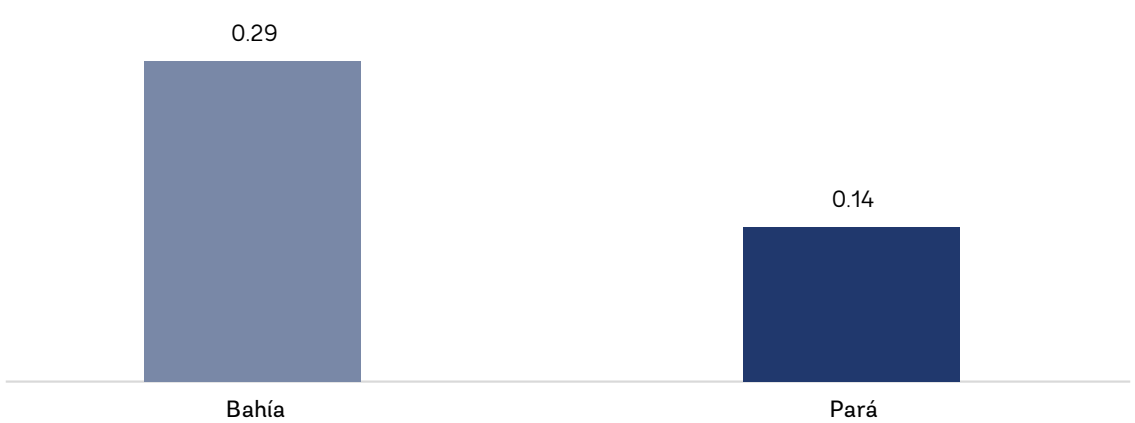


* For the states of São Paulo, Santa Catarina and Bahia, the figures correspond to the average for the period from 2017 to 2021, while for Mato Grosso do Sul to 2018-2022.

Cacao

The graph below illustrates the PSE% results for cocoa at 0.14 percent, which is lower than the 0.29 percent observed in Bahia.

FIGURE 39.
PSE for cacao in selected economies. Average 2018-2023* (percentage)



Banana

The following graph shows the results of the PSE% for bananas at 0.08 percent, lower than that registered in countries such as Costa Rica or the Philippines, whose production is decisive in the international market.

FIGURE 40.
PSE for banana in selected economies. Average 2018-2023* (percentage)



6.3 General Services Support Estimate (GSSE)

In addition to the transfers received by individual producers, State public policies can be directed at the agricultural sector as a whole, by financing activities that provide general benefits (public goods), such as research and development, training, inspection and sanitation, public information, promotion of the sector, etc.

This type of public support generates positive externalities for the sector, and its high social return has traditionally been evidenced²⁷. For example, innovation is a key driver of agricultural productivity and sustainability, making the system more responsive to industry needs, societal demands, and environmental pressures. The competitiveness of the agricultural sector and its resilience to shocks and new challenges posed by climate change also depends on investments in infrastructure, including transport, the provision of information technologies and connectivity in rural areas. Public policies have a role to play in facilitating these investments, particularly those that improve access to information, increase human capital, and facilitate producers' decision-making. Investments in animal and

27 IFPRI (2018); FAO (2012); DeBoe (2020)

plant health create incentives for producers to prevent and prepare for adverse events and are critical to a competitive and resilient sector.

The OECD methodology estimates this type of transfer to the sector through the General Services Support Estimate (GSSE), which considers the amount of public investment (from the state) towards these activities. The GSSE is financed by taxpayers, which is key to the extent that, due to its characteristics as public goods, the level provided by the market is lower than the socially optimal level.

During the period 2018-2023 (table 8), the GSSE in Pará had an annual average of R\$ 33.7 million (US\$ 7.0 million). Almost 90 percent of this investment is concentrated in two areas: about 49.1 percent of GSSE's total disbursements were allocated to investments related to infrastructure and its maintenance and 40.3 percent to Inspection and Control (sanitary defense, inspection of inputs, sanitary monitoring); 10.1 percent was assigned to marketing and marketing campaigns in the sector. It is striking that investment in technology generation, and development maintains a level of less than 1 percent of the total, which can be an investment that traditionally generates important and sustainable social returns in the medium and long term, this in the context of climate change, can be highly relevant for small and medium-sized producers to generate resilience.

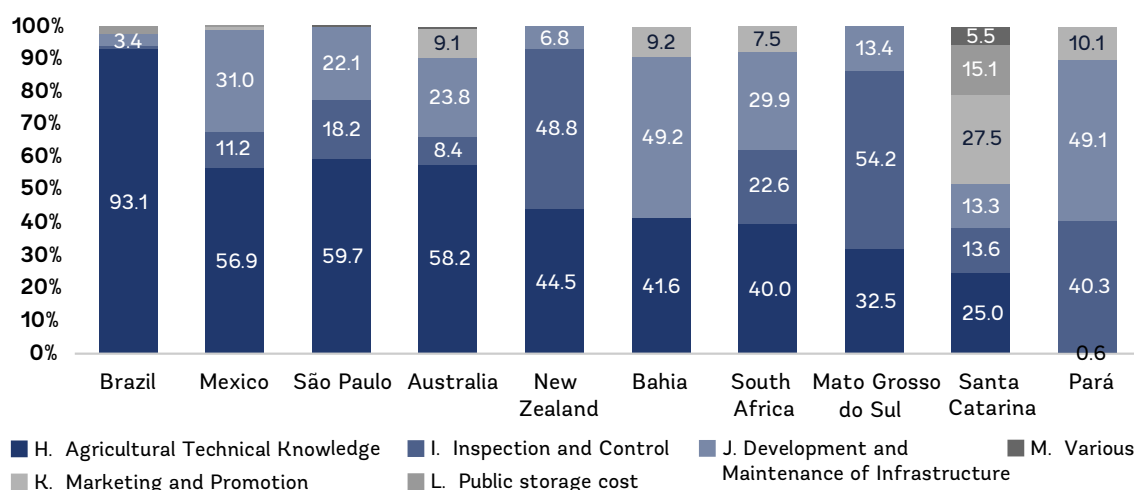
TABLE 8.
GSSE Composition in Pará (Average 2018-2023)

Concept	MR\$	MUSD	%*
General Services Support Estimate (GSSE)	33.7	7.0	100%
I. Inspection and Control	12.9	2.8	40.3%
H. Research and Development	0.2	0.0	0.6%
J. Infrastructure	17.3	3.4	49.1%
K. Marketing and promotion	3.4	0.7	10.1%
L. Public Stockholding	0.0	0.0	0%
M. Others	0.0	0.0	0%

*Participation based on the dollar amount structure

The following graph shows a comparison of the structure of the GSSE among economies. While in Pará the main line of investment in general services is infrastructure and inspection and control, knowledge and research are practically nil. (see figure 41).

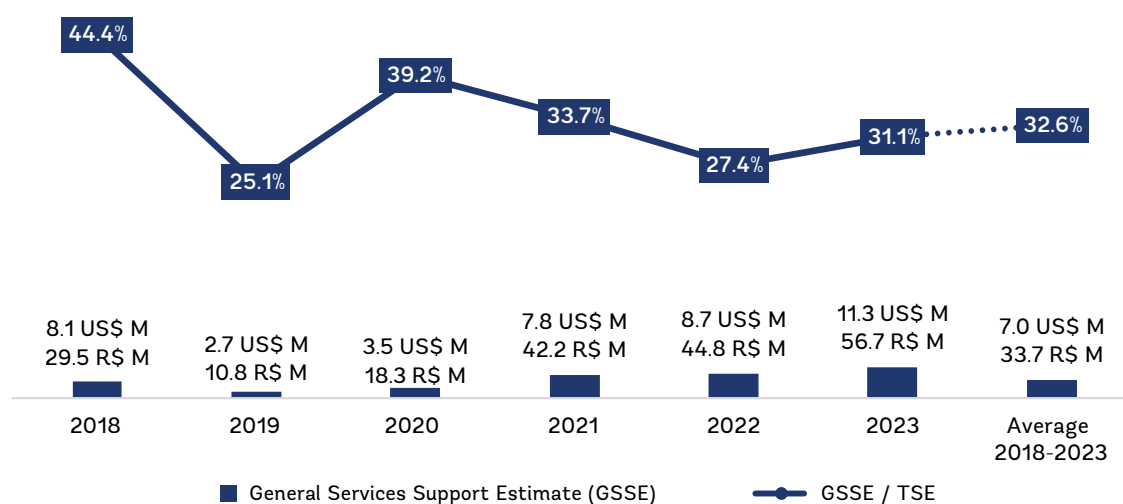
FIGURE 41.

Composition of GSSE. Selected Economies (percentage).

* For the states of São Paulo, Santa Catarina and Bahia, the figures correspond to the average for the period from 2017 to 2021.

It is worth mentioning that the GSSE reduced its relative importance within total support in the state from representing 44.4 percent of the Total Support Estimate (TSE) in 2018 to 31.1 percent in 2023. (see figure 42).

FIGURE 42.

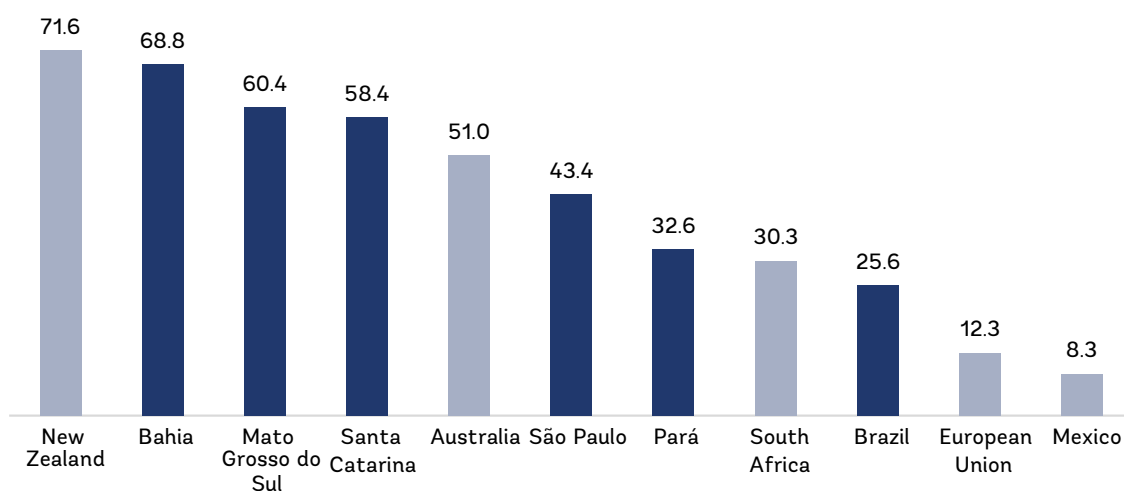
Evolution of the General Services Support Estimate (GSSE) and its participation in the Total Support Estimate (TSE): 2018-2023

Evidence shows that the level of GSSE is positively correlated with the degree of development of countries. Moreover, this type of support is listed in the Green Box in the WTO, i.e. it is not subject to any countervailing measures by trading counterparts. Investment in GSSE is often associated with long-term agricultural growth and competitiveness, and the evidence collected over the past 50 years denotes the significant level of social return on this investment, particularly that associated with research and development²⁸.

The following graph shows a comparison of the relative importance of the GSSE in the TSE. It shows that these investments represent 32.6 percent of the TSE, a proportion that, although higher than that observed at the national level and other international economies, is lower than that observed in other Brazilian states.

FIGURE 43.

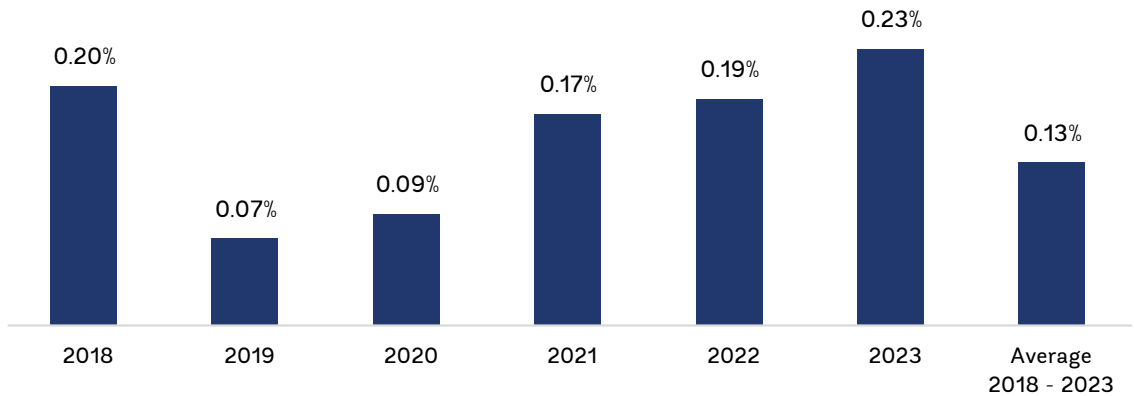
Evolution of the General Services Support Estimate (GSSE) and its participation in the Total Support Estimate (TSE): 2018-2023



* For the states of São Paulo, Santa Catarina and Bahia, the figures correspond to the average for the period from 2017 to 2021.

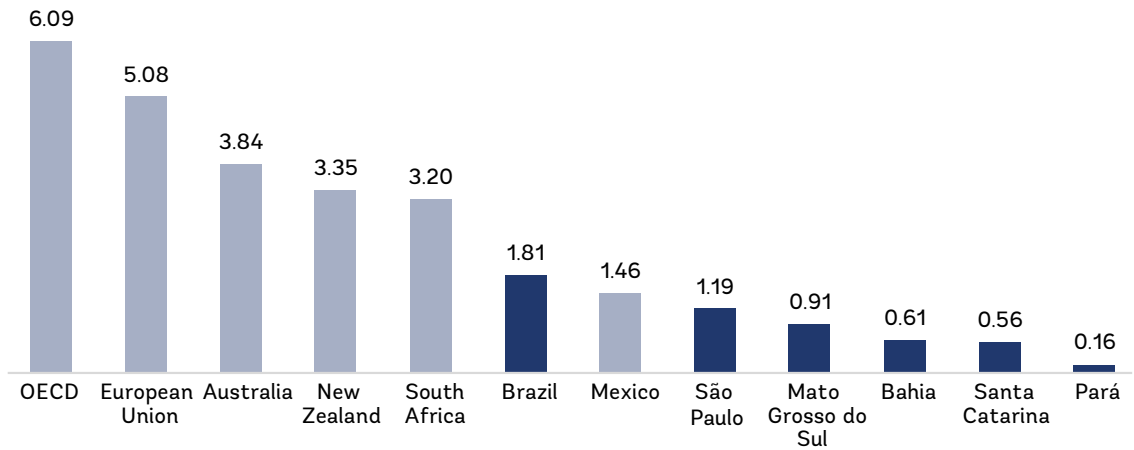
Figure 44 shows the GSSE as a percentage of agricultural GDP in Pará. The data obtained show that the average public investment in SG made by the State government measured as a proportion of its Agricultural GDP (0.13 percent) showed a sustained increase since 2020, after a notable drop in 2019.

FIGURE 44.
GSSE as percentage of Agr GDP (2018-2023)



As shown in the following graph, the indicator of 0.13 percent observed in Pará is lower than the national level of 1.8 percent and is below the record observed in other states.

FIGURE 45.
GSSE as Percentage of Agr GDP. Selected Economies



*For the State of MGS, an average for the years 2018-2022 was used; São Paulo, Santa Catarina and Bahia 2017-2021; OECD 2022 and the rest of the economies were estimated for the period 2018-2022.

6.4 Consumer Support Estimate (CSE)

The Consumer Support Estimate (CSE) measures the cost (or benefit) for consumers derived from the implementation of policies to support the agricultural sector by the state government. A negative CSE indicates negative consumer support, which amounts to an “implicit tax” on the consumption of agricultural products. To the extent that an agricultural policy raises the domestic price of products above international reference prices, the consumer is the one who must assume that cost and transfers it as a benefit to the producer. Conversely, a policy that generates a domestic price below the international reference price generates an “implicit subsidy” to the consumer financed by the producer.

The OECD methodology considers, in addition to these supports, those that may result from taxpayer-financed consumption subsidy programs, which can “cushion” the negative impact on the consumer generated by other producer support measures. In any case, both sources of financing are considered in the calculations to determine the net support to the consumer.

Like the PSE, the CSE can be expressed in relative terms as a percentage of consumption expenditure on food (%CSE). The average percentage of CSE observed in Pará was, on average, slightly positive for the entire period analyzed (0.1 percent). As mentioned in the analysis section of the PSE, the policies to support the producer sector did not include price support measures, which explain their zero impact on the consumer. On the other hand, during this period, subsidy and support programs for food consumption were implemented, financed by the State government and executed by the Secretary of State for Education and the State Social Assistance Fund, which contributed positively to the CSE. The result indicates that, as a result, the consumer found a subsidy for food consumption equivalent to 0.15 percent of the value of the food basket in the State. Without any such state policy, this would have created an “implicit tax” on the food consumer to be transferred to the producer.

FIGURE 46.
Consumer Support Estimate as proportion of Food Consumer Basket value (CSE) in Pará: 2019-2022 (percentage)

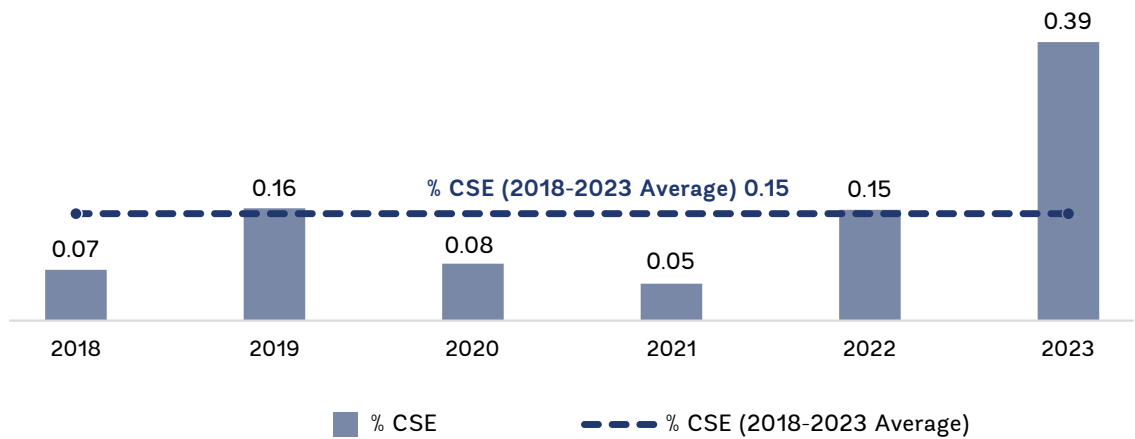
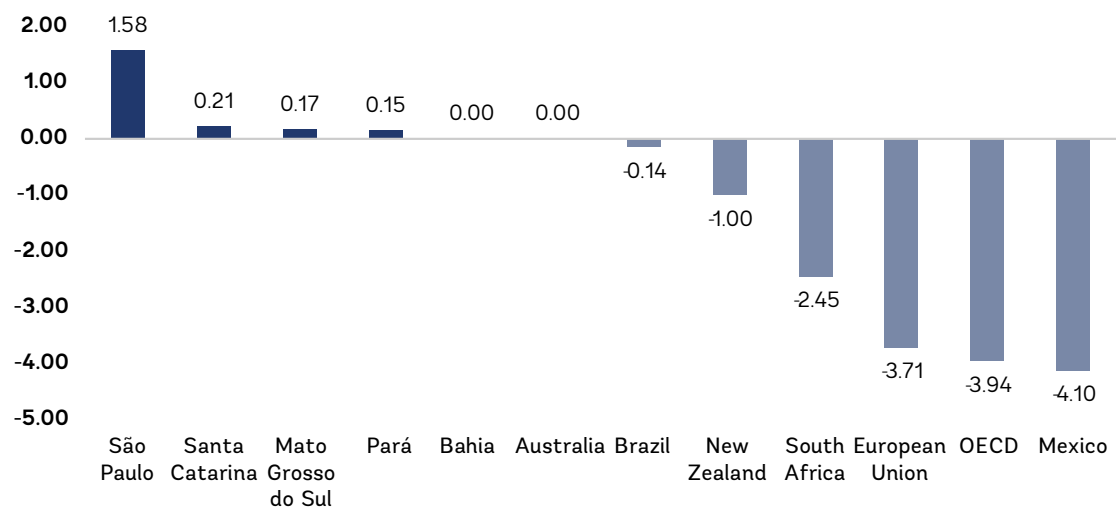


Figure 47 shows a comparison of the CSE% with other international economies and with other states. In the State of Pará, the indicator is positive and higher than that of Bahia, it is though still lower than the rest of the Brazilian States analyzed.

FIGURE 47.
Consumer Support Estimate as proportion of Food Consumer Basket value (CSE) in Selected Economies (percentage)



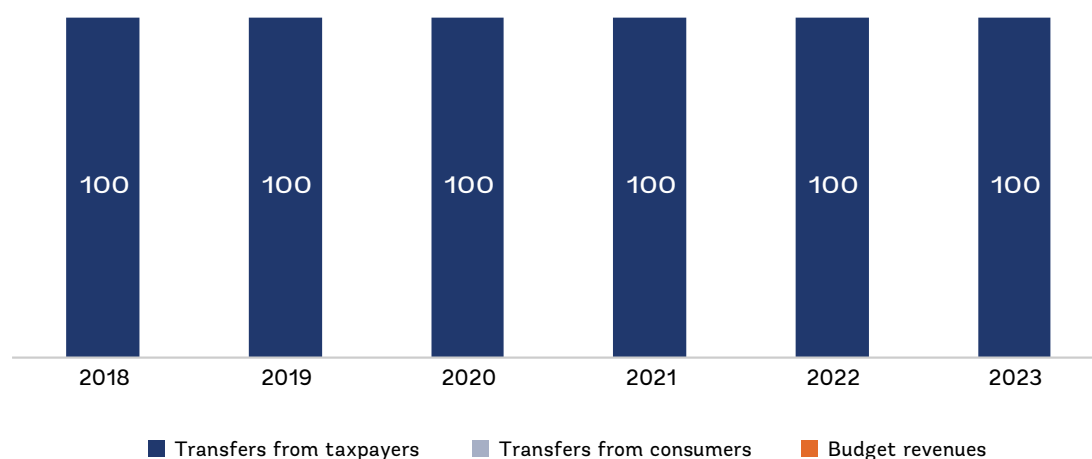
*Average for 2018-2022, except for the states of São Paulo, Santa Catarina and Bahia, whose averages correspond to the years 2017-2021.

6.5 Sources of Financing for Agricultural Support

By definition, any transfer implies the existence of a beneficiary and a source of origin. The OECD methodology allows the identification of the beneficiaries of the transfers, but it also identifies (and quantifies) the sources of financing of these transfers. The sources of such transfers are consumers (who can transfer resources to producers through the payment of above-market prices) and/or taxpayers (who finance the implementation of public programs and projects). The impact that support for the agricultural sector can have on other agents of the economy has been considered of high relevance based on externalities that support can generate in other economic agents, particularly consumers and the distributional impact on low-income segments. To the extent that support for producers is based on instruments that have an impact on prices, the policy generates, in return, an “implicit tax” for consumers who must pay a higher price for the products to create the transfer required by the policy. This tax is also regressive, to the extent that consumer spending tends to be higher in lower-income households.

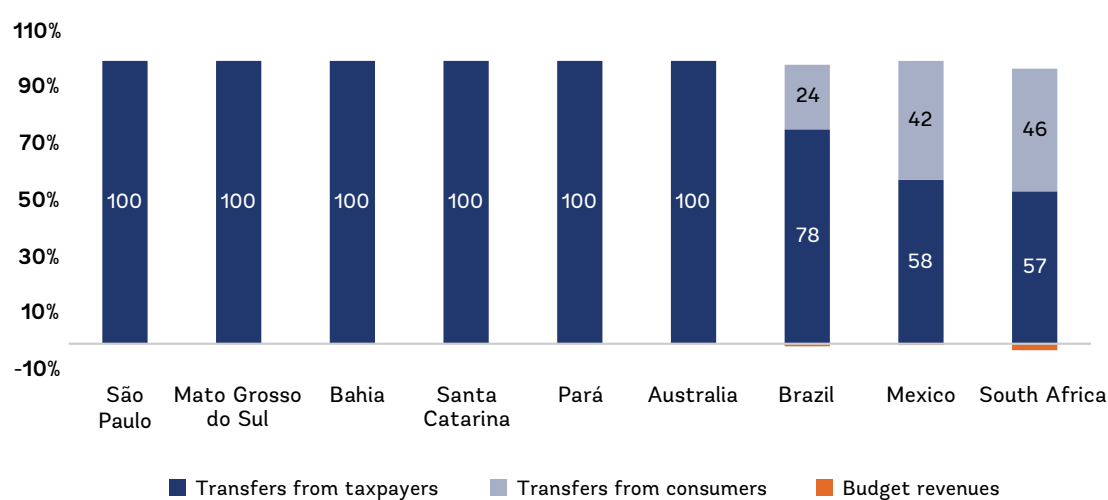
During the period analyzed, transfers to the sector were 100 percent financed by taxpayers (see figure 48). Consumers did not finance any type of transfer to the sector. In this sense, since there is no “implicit tax” on consumers derived from the existence of market price support to the producer. Producer support policies are carried out without implying a loss of welfare for other agents of the state economy (consumers) and in that sense a more efficient policy.

FIGURE 48.

Sources of Agricultural Transfers in Pará (% of total)

The following graph shows the participation of consumers and taxpayers as sources of financing for total support transfers. It can be seen that, in the Brazilian states analyzed, all of the support is provided by taxpayers. At the federal level, support is mostly provided by taxpayers (78 percent of the total), though consumers support part of the transfers to producers.

FIGURE 49.

Participation of Consumers and Taxpayers in TSE (%). Selected Economies

*Average 2018-2022, except for the states of São Paulo, Santa Catarina and Bahia, whose averages correspond to the years 2017-2021



7. CONCLUSIONS AND RECOMMENDATIONS

The agricultural sector in Pará is highly strategic for its economy, registering in recent years growth rates higher than the rest of its economy. As a result of this dynamic, the sector's contribution to the generation of State wealth has increased to represent 10 percent of the state's GDP in 2023 and 13 percent of employment, denoting a level of employment productivity higher than the national average. Similarly, the agricultural sector plays a relevant role, representing 15 percent of the State's exports, through products such as cattle, soybeans, cocoa and bananas. This performance is generated even though only 6 percent of the State's area is used for agricultural activities.

As part of this dynamic, the agricultural sector has also played an important role as a generator of GHG emissions. Currently, the agricultural sector represents 17 percent of the State's emissions and of that total, livestock generates 93 percent. Under this circumstance, the State government has taken actions to generate a comprehensive government plan that aims at reaching carbon neutrality.

The State's agricultural policy is framed within the Multiannual Plan, and its main objectives are to increase production, animal and plant health, the marketing of products and development. This policy maintains an emphasis on the strategic importance of family farming and its modernization, and among the most outstanding instruments is extension aimed at small producers. The implementation strategy rests on an important level of linkage with the Municipalities.

The importance of sustainability as part of the objectives of the State's Agricultural Program should also be highlighted. To this end, there is significant coordination between SEMAS and SEAF, SEDAP and their related institutions. Various objectives

concur in the rural sector, including environmental education, territorial planning and the achievement of the SDGs of the 2030 Agenda, which are present within the actions and objectives of these government bodies.

The recent creation of the SEAF is an indication of the strategic importance of family farming in the productive sector of the State. Its current tasks of technical assistance with the participation of the Municipalities and coordination with SEMAS, must go hand in hand with a structure of trained extensionists and of the magnitude required for the productive and sustainable objectives that the State has.

Marketing of family farming products today is largely based on federal programs such as the PAA and PNAE, which are extremely important, but it is desirable that they are not seen as the only marketing channels in the future. Therefore, it will be key that, in the medium term, family farmers can also access other markets, including export ones, so that the productive organization, the capitalization of productive units (where legal certainty of land is necessary), access to financing, cutting-edge technology and the use of risk management instruments, should be considered as strategic elements of the sector's development policy and where the duly trained extension force will play a central role.

As in other states in Brazil, the configuration of expenditure allows for multi-year programming, which provides an important degree of certainty in this regard, particularly regarding the continuity of programs considered strategic and which can be used to finance public goods that require long maturation periods. Monitoring instruments also strengthen transparency and accountability. However, some resources are still perceived as lacking clear decision-making mechanisms for their use, suggesting that these expenditure items require stronger governance.

The result of the analysis of the quantification of support during the period analyzed (2018-2023), indicates that the level of total support for agriculture is equivalent to 0.3 percent of the state GDP. This figure is slightly lower than what was observed at the national level (0.4 percent), but higher than that found in other states.

When analyzing the components of this total support, we find that:

- a. Support aimed at certain products or groups of products accounted for the largest share of total support to the sector (35 percent). On the other hand, the support that is aimed at the sector as a whole, in the form of public goods and services, maintains a slightly lower representativeness within the total (33 percent). Within these, public investment in infrastructure and health and safety services account for the majority of support for sectoral

public goods (90 percent). Other general services items were less important. Finally, support through food consumer subsidies accounted for 32 percent of the total. Support granted through the State Secretariat of Education and the State Social Assistance Fund to access food, made up these results, and played a critical role during the pandemic and the food price crisis.

- b.** When analyzing the product-specific support (PSE), it is possible to observe their impact on the average gross income of the producer. In the period of analysis, this impact is observed, on average, at a relatively low level (0.11 percent) compared to the national level (2.4 percent), which indicates that, of each R\$ 1 in income obtained by the producer, 11 cents come from government transfers and the rest from the producer's activity in the market. In that regards, the State of Pará sits between States like Bahia (0.20 percent) and Mato Grosso do Sul (0.14 percent) and São Paulo (0.10 percent) and Santa Catarina (0.05 percent).
- c.** Considering the structure of the PSE, it was observed that most of the support that composes it, is subsidies for inputs. This type of support, in general, is considered highly distorting and inefficient in transferring income to the producer and has been considered to have a negative impact on the environment. However, it was observed that environmental requirements are embedded in the design of these supports and the target beneficiaries are mainly family farmers, who face greater difficulties in accessing these inputs. Though the OECD itself recognizes that in those cases support to inputs can have limited environmental impact, other disadvantages still prevail (part of support can be captured by the input marketer rather than the producer, and is still creates a high distortion of production as support is directed at 1 kind of product only²⁹).
- d.** In the same way, the results indicate that input support is the only mechanism to support the producer. Other instruments, which can be highly effective and less distorting, such as support not conditioned to production, direct income support, have not been used, at least in the period of analysis. It is worth highlighting that in 2023, the State started to implement a program of Payments for Environmental Services.
- e.** Likewise, it has been found that at least during the period of analysis there were no measures by the State government that intervened at the level of market

29 DeBoe, G. (2020), "Impacts of agricultural policies on productivity and sustainability performance in agriculture: A literature review", OECD Food, Agriculture and Fisheries Papers, No. 141, OECD Publishing, Paris

prices in favor of the producer (a measure considered to be the most highly distorting, inequitable and inefficient), which in turn generated that there was no negative impact on consumers derived from a policy of support for the sector.

Key Recommendations:

1. The State's agricultural policy aims to achieve several objectives, including the integration of family farmers into commercial channels, all while adhering to principles of sustainable production. This effort is carried out in collaboration with other State and municipal government agencies. A critical component of this policy is the provision of technical assistance. It is essential to ensure the continuous training of extension workers and to maintain an adequate number of these professionals to effectively support the policy's goals. Although currently, the anchoring of food purchase programs of the federal government has been of great help, it will be important to establish an objective of eventually favoring the entry of this segment to other commercial channels, including exports, considering that there is potential demand for a good part of the products that are produced today. To this end, it will be necessary to establish the design of new actions and programs that, in a gradual process, will foster family farmers' access to key elements for sustainable production (finance, risk management instruments, technical and managerial assistance, etc). As a key element of this, specific support to promote producer organization and to capitalize productive units, through public and private investment, are key. Regularization of land tenure is also a key element to secure further investments in family farms.
2. To achieve this objective requires medium to long-term vision. The State should take advantage granted by a multi-year spending plan, established in the State Constitution, to bring more visibility and sustainability to its support to the sector. In relation to the design of actions, it should consider a graduation process beneficiaries producers with differentiated levels of support depending on their characteristics and income-level. This graduation process would allow the State to redirect support to the farmers that need it the most, while fostering economic growth of the others. This would contribute to a more efficient use of scarce public resources.
3. Promoting and facilitating in parallel access to formal finance would be key to ensure sustainability of "graduated" farmers. Setting in place risk management instruments,

such as insurance, and the possibility of constituting liquid guarantees duly designed by the State government, would help lower family farmers' risk profile for lenders.

4. When designing risk management instruments, the government of Pará must take into account, not only the complementarity with the federal insurance premium subsidy program but also consider the long-term risk landscape and the development of farmers' capacities to manage current risks and adapt to an evolving risk environment in the context of climate change. This includes increased investments in research and development, including the generation of market and climate information. Importantly, the State government must adopt collaborative and participatory approaches to make producers aware of the risks they face and understand their responsibilities in managing them. These actions may consider additional incentives, to the extent that their design and execution include aspects in favor of sustainability and the achievement of the objectives of the 2030 Agenda that the State has.
5. Currently, support for producers is practically being implemented through subsidies for inputs (a good part of them, accompanied by technical assistance and environmental objectives); however, there is an important space for the design of other types of support, such as those not conditioned to production (decoupled), or direct to the producer's income. These supports have the advantage of having a lower distorting effect and properly designed, they can promote productivity and lower environmental impact. An important step that the State has taken in this regard is the recent implementation of the payment for environmental services program, which is highly relevant, and could be expanded.
6. State investment in public goods and services will remain crucial, as these are essential for the sector's development in the medium and long term and as they bring the highest returns. The emphasis on promoting animal and plant health is vital, not only for ensuring public safety but also as a strategic tool for accessing new markets, benefiting family farming in particular. However, it is important to broaden the scope of public investment to include areas currently receiving lower levels of funding, especially those related to agricultural innovation (research and development, extension). Such investment is essential for boosting production through increased productivity and efficient use of resources, thereby ensuring food security among other benefits. The upcoming Public Policy Agendas (PPAs) should consider increasing investment in this area to at least 1 percent of agricultural GDP. Leveraging the advantages of the State's multi-year budget plan will facilitate the allocation of

resources for medium and long-term investments. This type of public investment brings high economic and social returns as demonstrated at the federal level for example³⁰.

- 7.** Reducing direct emissions from on-farm agricultural production will require improvements in productivity and input efficiency, greater deployment of new technologies, and improvements in farm management, i.e. increased investment in R&D. This involves promoting the use of precision agriculture and integrated crop management. Livestock emissions can be addressed through a combination of improvements in feed conversion efficiency, improved pasture quality, strengthened farm and animal management, as well as methane inhibitors. Production emissions can be reduced by limiting losses on farms through more resilient crops, better harvesting equipment and techniques, better storage infrastructure and logistics. Energy consumption on farms can also be reduced by promoting renewable energy and adopting greener and more efficient fuels to power agricultural machinery. Agriculture can also help reduce fossil fuel consumption through sustainable bioenergy production.
- 8.** To effectively address the challenges posed by potential future food price crises, it is crucial to prioritize the expansion of food safety net programs for the most vulnerable households, as was done during the pandemic and following food crisis. Therefore, it is essential to develop well-designed actions and programs, supported by adequate technical and financial resources, to alleviate the impact on these vulnerable populations. Ensuring the resilience and protection of these groups should be a top priority.

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