

## THE ROLE OF PUBLIC POLICIES IN THE SUSTAINABLE DEVELOPMENT OF BRAZILIAN AGRIBUSINESS: IMPACTS AND CHALLENGES

### O PAPEL DAS POLÍTICAS PÚBLICAS NO DESENVOLVIMENTO SUSTENTÁVEL DO AGRONEGÓCIO BRASILEIRO: IMPACTOS E DESAFIOS

### EL PAPEL DE LAS POLÍTICAS PÚBLICAS EN EL DESARROLLO SOSTENIBLE DE LOS AGRONEGOCIOS BRASILEÑOS: IMPACTOS Y DESAFÍOS



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#### ABSTRACT

Brazilian agribusiness plays an essential role in the national economy, contributing to GDP, job creation, and a balanced trade balance. However, the sector faces challenges related to economic, social, and environmental sustainability. Public policies, such as tax incentives, rural credit, and technical assistance, are essential to modernize the sector, promote the inclusion of small producers, and foster sustainable agricultural practices. Thus, this article explores how public policies influence the growth and sustainability of agribusiness in Brazil, addressing issues such as tax incentives, rural credit, technical assistance, innovation and technology, and environmental sustainability. The study discusses the impact of public policies on productivity, social inclusion of small producers, environmental preservation, and compliance with international sustainability commitments, such as the Sustainable Development Goals (SDGs). The analysis highlights the need for integrated, inclusive, and efficient public policies to strengthen agribusiness, promoting social inclusion and environmental preservation.

**Keywords:** Public Policies. Sustainability. Brazilian Agribusiness.

#### RESUMO

O agronegócio brasileiro tem papel essencial na economia nacional, contribuindo para o PIB, geração de empregos e equilíbrio da balança comercial. No entanto, o setor enfrenta desafios relacionados à sustentabilidade econômica, social e ambiental. As políticas públicas, como incentivos fiscais, crédito rural e assistência técnica, são fundamentais para modernizar o setor, promover a inclusão de pequenos produtores e fomentar práticas agrícolas sustentáveis. Desse modo, o artigo explora como as políticas públicas influenciam

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o crescimento e a sustentabilidade do agronegócio no Brasil, abordando questões como incentivos fiscais, crédito rural, assistência técnica, inovação e tecnologia, e sustentabilidade ambiental. O estudo discute o impacto das políticas públicas na produtividade, inclusão social de pequenos produtores, preservação ambiental e no cumprimento de compromissos internacionais de sustentabilidade, como os Objetivos de Desenvolvimento Sustentável (ODS). A análise ressalta a necessidade de políticas públicas integradas, inclusivas e eficientes para fortalecer o agronegócio, promovendo a inclusão social e a preservação ambiental.

**Palavras-chave:** Políticas Públicas. Sustentabilidade. Agronegócio Brasileiro.

## RESUMEN

La agroindustria brasileña desempeña un papel esencial en la economía nacional, contribuyendo al PIB, la creación de empleo y el equilibrio de la balanza comercial. Sin embargo, el sector enfrenta desafíos relacionados con la sostenibilidad económica, social y ambiental. Las políticas públicas, como los incentivos fiscales, el crédito rural y la asistencia técnica, son esenciales para modernizar el sector, promover la inclusión de los pequeños productores y fomentar prácticas agrícolas sostenibles. Por ello, este artículo explora cómo las políticas públicas influyen en el crecimiento y la sostenibilidad de la agroindustria en Brasil, abordando temas como los incentivos fiscales, el crédito rural, la asistencia técnica, la innovación y la tecnología, y la sostenibilidad ambiental. El estudio analiza el impacto de las políticas públicas en la productividad, la inclusión social de los pequeños productores, la preservación del medio ambiente y el cumplimiento de los compromisos internacionales de sostenibilidad, como los Objetivos de Desarrollo Sostenible (ODS). El análisis destaca la necesidad de políticas públicas integradas, inclusivas y eficientes para fortalecer la agroindustria, promoviendo la inclusión social y la preservación del medio ambiente.

**Palabras clave:** Políticas Públicas. Sostenibilidad. Agroindustria Brasileña.



## 1 INTRODUCTION

Brazilian agribusiness plays a key role in the national economy, contributing significantly to the Gross Domestic Product (GDP), job creation, and trade balance stability (MAGALHÃES et al., 2019). However, in addition to its economic weight, agribusiness also faces complex challenges, especially when it comes to balancing economic growth with sustainable practices that meet environmental and social demands (WIENKE; BERNARDES, 2023). In this context, public policies emerge as crucial elements to guide and shape the development of this sector, directly influencing its capacity for innovation, competitiveness and sustainability (QUINTAM; ASUNÇÃO, 2023).

Tax incentive policies, for example, provide financial relief for producers, allowing them to invest in new technologies and sustainable practices (BEIJAMIN; ASUNÇÃO, 2022). Rural credit, another essential tool, provides financial resources to small and large producers, enabling the expansion of production and the modernization of agricultural techniques (CENTRAL BANK OF BRAZIL, 2024). This financing is particularly important for smallholders, who often face difficulties accessing resources and competing in a market dominated by large companies.

Technical assistance and rural extension represent another important component of public policies, working to train farmers and support the implementation of modern and sustainable agricultural techniques (RESSUTTI, 2024). These programs promote higher productivity and efficiency agriculture, while encouraging the responsible use of natural resources (BOLFE et al., 2018). This technical support is vital for the adoption of agricultural practices with low environmental impact, such as crop rotation, the recovery of degraded areas, and low-carbon agriculture (SILVA, 2022).

In addition, innovation and technology play a central role in policies aimed at agribusiness, contributing to the digitalization of the field and the modernization of agricultural operations (MAPA, 2021). Programs that encourage the use of technologies such as drones, sensors, smart irrigation systems, and soil monitoring tools help to increase productivity and reduce the waste of resources (VIOLA; MENDES, 2022). At the same time, these technological innovations favor the efficient use of inputs and help control the environmental impact of agricultural activity.

Environmental sustainability is one of the pillars of public policies in the agricultural sector, with emphasis on meeting the goals of the Low Carbon Agriculture Plan (ABC Plan) and the use of sustainable practices (TELES et al., 2021). These policies aim to preserve natural resources, reduce greenhouse gas emissions, and protect biodiversity (RESSUTTI, 2024). Environmental legislation, combined with incentives and regulatory requirements,



seeks to reconcile the advance of agribusiness with ecological responsibility, ensuring the conservation of Brazilian ecosystems.

Thus, by exploring the influence of public policies on the growth and sustainability of agribusiness, it becomes evident that these policies not only shape the economic structure of the sector, but are also determinant for its resilience and socio-environmental responsibility. The in-depth analysis of issues such as tax incentives, rural credit, technical assistance, technological innovation and environmental sustainability reveals that the strategic alignment between the public sector and agribusiness is essential for sustainable, competitive agricultural development integrated with global sustainability demands.

## **2 IMPORTANCE OF AGRIBUSINESS FOR THE BRAZILIAN GDP AND FOR JOB CREATION**

Agribusiness is one of the main pillars of the Brazilian economy. Historically, the agricultural sector has stood out as an engine of economic growth, being responsible for a significant portion of the national income and for boosting the development of several regions of the country (MAGALHÃES et al., 2019). Its importance transcends the production of food and raw materials, ranging from family farming to large corporations that export commodities to global markets (QUINTAM; ASUNÇÃO, 2023).

According to recent data from the Brazilian Institute of Geography and Statistics (IBGE), agribusiness represents about 25% of the Brazilian GDP, consolidating itself as one of the most dynamic and resilient sectors of the economy. This relevance is not only due to primary production; such as agriculture and livestock, but also by the inputs, processing and distribution segments, which make up the agribusiness production chain. The export of agricultural products, such as soybeans, corn, beef, coffee and sugar, contributes significantly to Brazil's trade balance, helping to maintain trade surpluses and attract foreign exchange to the country.

In addition to the direct contribution to GDP, agribusiness plays a crucial role in job creation. According to estimates by the Center for Advanced Studies in Applied Economics (CEPEA, 2024), the sector was responsible for employing approximately 28 million people in 2023, considering both direct and indirect jobs. This includes everything from workers on small rural properties to qualified professionals in areas such as agronomic research, agricultural technology, logistics and foreign trade. This employability potential is particularly important in inland regions, where agribusiness often represents the main source of livelihood and local economic development (MIRANDA, et al., 2021). The impact of agribusiness on job creation also contributes to the reduction of socioeconomic disparities



and the promotion of social inclusion. Family farming, for example, plays a significant role in employing a considerable part of the rural workforce and providing food for the domestic market (FROTA, et al., 2019). On the other hand, large companies in the sector, with their more technical and large-scale operations, generate jobs in highly qualified areas (ROCHA JUNIOR; SOUZA, 2024). This diversity of opportunities demonstrates the breadth of the impact of agribusiness on the country's occupational structure.

The importance of agribusiness for GDP and job creation is intrinsically linked to sustainability and innovation issues. The sector has faced the challenge of adopting more sustainable agricultural practices and incorporating new technologies that increase production efficiency and reduce environmental impacts (ZANUTO, 2024). This transition is essential to ensure that the economic growth promoted by agribusiness is sustainable in the long term, contributing to the preservation of natural resources and the fulfillment of the sustainable development goals established by Brazil (BESSA, 2024).

In this way, Brazilian agribusiness is more than a simple component of the national economy, it is a fundamental foundation for the country's economic, social, and sustainable development (SOUZA, 2024). Its contribution to GDP, job creation, and Brazil's insertion in global trade highlight the importance of public policies and continuous investments that ensure its competitiveness and resilience in the face of contemporary challenges (FERREIRA, 2024).

### **3 RELEVANCE OF THE SECTOR IN THE INTERNATIONAL MARKET AND ITS MAIN COMMODITIES**

The Brazilian agricultural sector has a unique relevance in the international market, consolidating the country as one of the main suppliers of agricultural commodities in the world (QUINTAN, et al., 2023). This prominent position is due to a combination of factors, such as the vast territorial extension, climatic diversity, soil fertility, and continuous investment in innovation and technology in the field (MORALES, 2024). As a result, Brazil has played a strategic role in sourcing products that are essential for global food security and meeting the growing demand for high-quality raw materials (ALVES, 2024). Among the main commodities exported by Brazil, soybeans occupy a prominent place (VIDAL; ROSA, 2023). The country is the world's largest exporter of soybeans, soybean oil, and soybean meal, serving markets around the world, especially China, which is the main consumer of this commodity (GAMA, 2023). The soybean complex represents a significant share of Brazilian exports and has a direct impact on the trade balance, contributing to the generation of surpluses and the strengthening of the country's international reserves (GONÇALVES,





2021). This leadership position reflects the productive capacity of the sector, which combines modern agricultural practices with efficient logistics of flow and distribution.

Another product of relevance in the international scenario is beef. Brazil is one of the largest beef exporters in the world, competing with countries such as the United States and Australia (THÉRY; CARON, 2023). The quality and traceability of Brazilian beef, combined with the capacity for large-scale production, have guaranteed the country a prominent position in the European, Asian and Middle Eastern markets. In addition to beef, chicken and pork exports have also grown, making Brazil one of the largest suppliers of animal protein in the world.

The sugar-alcohol sector also deserves attention, especially for the export of sugar and ethanol. Brazil is the world's largest producer and exporter of sugar, accounting for a significant part of the global supply (VIDAL, 2020). Ethanol, produced from sugarcane, not only supplies the domestic market but is also exported, especially to countries that seek renewable alternatives to fossil fuels (SARAIVA et al., 2024). This performance places Brazil in a strategic position in the global energy transition, contributing to the reduction of greenhouse gas emissions.

In addition to these commodities, Brazilian coffee is internationally recognized for its quality and diversity of flavors (DIAS et al., 2015). Brazil is the largest producer and exporter of coffee in the world, supplying both Arabica and Robusta coffee to the most diverse markets (MUNDIN et al., 2024). Coffee growing is a traditional sector that, over the years, has modernized and invested in sustainable practices, expanding its competitiveness and added value in the foreign market (COSTA JUNIOR, et al., 2024).

The relevance of the Brazilian agricultural sector in the international market is not limited only to the volume of exports, but also to its ability to adapt and respond to global demands for sustainable practices (ROCHA JUNIOR et al., 2024). The search for sustainability certifications and the implementation of technologies that ensure more efficient production with less environmental impact have become differential factors in Brazil's insertion in demanding markets (MARTINS, 2024). This evolution is essential to maintain the country's competitiveness and consolidate its image as a global leader in responsible agricultural production.

In this way, the Brazilian agricultural sector not only contributes to the food and energy security of several nations, but also strengthens the domestic economy, generating foreign exchange, jobs and development in producing regions. To sustain this relevance in the international market, it is crucial that there are public policies that encourage innovation, ensure the necessary infrastructure for the flow of production, and promote environmental and



social sustainability. Only then will Brazil be able to continue to play its strategic role in the supply of agricultural commodities and in the leadership of global agribusiness.

#### **4 EXISTING PUBLIC POLICIES IN AGRIBUSINESS**

Rural credit, technical assistance and rural extension (ATER), rural insurance and tax incentives play a crucial role in the development and strengthening of Brazilian agribusiness (SANTOS; BÁLSAMOS, 2024). Such policies are essential to ensure the economic sustainability and competitiveness of the sector, promoting the inclusion of small and medium-sized producers and ensuring fairer and safer production conditions (MENDONÇA et al., 2022).

Rural credit is one of the most relevant tools to promote agricultural production in Brazil (BENTO; VIEIRA FILHO, 2022). Established as a State policy, rural credit aims to provide producers with the necessary financial resources to fund agricultural activities and invest in modernization and expansion (SOUZA et al., 2024). Credit lines can be divided into costing, investment and marketing, each with specific characteristics and purposes.

The National Program for the Strengthening of Family Agriculture (PRONAF) is an example of a policy aimed especially at small farmers, offering subsidized interest rates and differentiated payment conditions (JESUS, 2023). The importance of rural credit lies in its ability to boost productivity, expand the cultivated area, and allow producers to access more advanced technologies, generating greater competitiveness in the market (GUIMARÃES, 2023).

Technical assistance and rural extension (ATER) is a policy that complements rural credit, ensuring that financial resources are well applied and that producers receive adequate guidance to optimize their agricultural practices (DIESEL, et al., 2021). ATER's function is to train farmers and disseminate technological innovations that improve production processes, property management, and sustainability (SIMÕES, 2021). The presence of ATER programs is essential for family farming and small producers, as it provides technical knowledge on crop management, soil conservation, rational use of inputs, and sustainable practices (NUNES, et al., 2020).

Public institutions, such as the Brazilian Agricultural Research Corporation (EMBRAPA) and state rural extension companies, play an important role in this process, ensuring that the knowledge generated by scientific research reaches the field and is applied in a practical and effective way.

Another essential pillar in agribusiness support policies is rural insurance. This policy's main objective is to protect producers from the risks inherent to agricultural activity, which



are amplified by climate variations and other natural adversities (BENAMI, et al., 2021). Rural insurance offers coverage against events such as drought, frost, floods, and pests, ensuring that the producer can maintain his activity even in the face of significant losses in production (MORAES, et al., 2024).

The Rural Insurance Premium Subsidy Program (PSR), coordinated by the federal government, is an example of a public policy that subsidizes part of the value of the insurance premium, making it more accessible to farmers (TEIXEIRA, et al., 2023). This policy not only contributes to the economic stability of producers, but also to the country's food security, by mitigating the risks of shortages and price volatility (PÉREZ, et al., 2024).

Tax incentives are another mechanism to stimulate agribusiness, playing an important role in the economic viability of rural activities (TAWFEIQ; SILVA, 2023). Tax exemptions, such as reducing taxes on the purchase of agricultural inputs and equipment, are policies that help reduce production costs and encourage the modernization of the sector (LOPES, 2023).

The Kandir Law, which exempts primary and semi-finished products intended for export from the payment of ICMS, is an example of a tax incentive that has contributed to the competitiveness of Brazilian exports, favoring a positive balance of trade (BARROS, 2022). However, the implementation of tax incentives must be done strategically, to avoid distortions and ensure that the benefits are passed on to the entire production chain, including small and medium-sized producers (TORRES, 2024).

The joint analysis of these policies reveals that, despite significant progress, there are still challenges to be overcome. Bureaucracy in access to rural credit and the concentration of resources in large producers are issues that demand attention. In addition, the expansion of ATER services to more remote regions and the increase in the capillarity of rural insurance are necessary steps to ensure greater inclusion of all agribusiness actors. More integrated and comprehensive public policies are essential to promote rural development that is both economically viable, socially just and environmentally sustainable.

Therefore, the strengthening of Brazilian agribusiness depends on rural credit policies, technical assistance, rural insurance and tax incentives that are not only effective, but also equitable and accessible to all segments of agricultural production. The continuity and expansion of these policies are essential for Brazil to maintain its prominent position on the global stage and for the development of the sector to contribute to the reduction of inequalities and the preservation of natural resources.





## **5 SUPPORT PROGRAMS FOR SMALL AND MEDIUM-SIZED PRODUCERS AND INCLUSION INITIATIVES IN AGRIBUSINESS**

### **5.1 SUSTAINABILITY AND ENVIRONMENTAL POLICIES IN AGRIBUSINESS**

Brazilian agribusiness is one of the most important sectors for the national economy, accounting for a significant portion of the country's Gross Domestic Product (GDP) and exports (MAGALHÃES et al., 2019). However, its relevance on the global stage also places it at the center of debates related to sustainability and environmental preservation. With increasing challenges posed by climate change, soil degradation, and deforestation, environmental public policies play a crucial role in mitigating environmental impacts and promoting more sustainable agricultural practices (AGRIPINO, et al., 2021).

### **5.2 ENVIRONMENTAL POLICIES AND PRESERVATION: THE FOREST CODE**

The Brazilian Forest Code, established by Law No. 12,651/2012, is one of the main pieces of legislation aimed at environmental preservation in the agricultural context. This law establishes rules for the protection of native vegetation, determining permanent preservation areas (APPs) and legal reserves (RLs), in addition to defining criteria for the recovery of degraded areas (MINISTRY OF THE ENVIRONMENT - MMA, 2017). The Forest Code seeks to balance agricultural production with environmental conservation, requiring rural landowners to maintain a minimum percentage of native vegetation on their properties, which varies according to the biome (SUELA, 2023).

One of the most notable advances introduced by the Forest Code was the Rural Environmental Registry (CAR), an environmental management instrument that allows the mapping of rural properties and assists in monitoring compliance with legal requirements (KORTING, 2021). This tool has been essential for the identification of areas in need of recovery and for the promotion of environmental regularization (AUBERTIN; JESUS, 2021). However, challenges persist, such as effective inspection and the resistance of some sectors to the requirements imposed by the legislation.

### **5.3 EMISSION REDUCTION POLICIES: LOW-CARBON AGRICULTURE**

Another relevant milestone in the scope of environmental policies is the Low Carbon Agriculture Plan (ABC Plan), implemented in 2010 by the Ministry of Agriculture, Livestock and Supply (MAPA). The main objective of the ABC Plan is to promote agricultural practices that contribute to the reduction of greenhouse gas (GHG) emissions in the agricultural sector, in line with Brazil's international commitments under the Paris Agreement (MONZONI; CARVALHO, 2023).



Among the technologies encouraged by the ABC Plan, the recovery of degraded pastures, no-till farming, the use of integrated crop-livestock-forest systems (ICLFS) and the sustainable management of animal waste for the generation of biogas stand out (LOPES, 2023). These practices not only contribute to the mitigation of environmental impacts, but also promote productivity and efficiency gains, economically benefiting rural producers (MONTEIRO, 2024).

In addition, the ABC Plan provides subsidized credit lines, such as the ABC Program, which finance projects aimed at the adoption of low-carbon emission technologies. This initiative has been essential in enabling the transition to more sustainable practices, especially for small and medium-sized producers who face financial barriers to implementing these changes.

#### 5.4 ROLE OF PUBLIC POLICIES IN SUSTAINABILITY

Environmental public policies play a central role in promoting sustainable practices in agribusiness. Through legal frameworks, financial incentives, and training programs, these policies have the potential to guide the agricultural sector towards a more responsible production model aligned with the Sustainable Development Goals (SDGs) (SILVA JUNIOR, 2023).

Strengthening these policies requires continuous efforts in the inspection and monitoring of compliance with environmental legislation, as well as the development of strategies that expand producers' adherence to sustainable practices (ZANUTO, 2024). In addition, it is necessary to invest in research and innovation to develop new technologies that reconcile productivity and environmental preservation, ensuring the competitiveness of Brazilian agribusiness in the international market (AGRIPINO, et al., 2021).

Brazilian agribusiness is at a crossroads between the need for productive expansion and environmental responsibility. Policies such as the Forest Code and the ABC Plan show that it is possible to move towards a sustainable production model, but for this it is essential that there is engagement of all actors involved, from small producers to large corporations, with the support of robust and effective public policies.

In this context, sustainability in agribusiness is no longer just an environmental requirement and becomes a strategic opportunity to ensure the competitiveness of the sector in the global scenario and promote the balance between economic, social, and environmental development.



## 5.5 CHALLENGES AND LIMITATIONS OF PUBLIC POLICIES IN AGRIBUSINESS

Brazilian agribusiness, recognized as one of the country's economic pillars, faces significant challenges related to the implementation and effectiveness of public policies aimed at strengthening it (BESSA, 2024). Despite the strategic role of rural credit and technical assistance policies in the development of the sector, these initiatives have limitations that directly impact small rural producers (MONTEIRO, 2024). In addition, barriers related to infrastructure and government support hinder the adoption of sustainable technologies, which are essential to ensure the competitiveness and sustainability of agribusiness in the long term (QUINTAM; ASUNÇÃO, 2023).

## 5.6 LIMITATIONS OF CREDIT AND TECHNICAL ASSISTANCE POLICIES

Rural credit is an essential tool to enable investments in agribusiness, especially in improvements in productive infrastructure and the adoption of innovative technologies (NOGUEIRA, et al., 2023). However, access to credit by small producers is still limited due to factors such as bureaucratic requirements, high interest rates, and the lack of collateral (ALVES, 2023). These barriers make credit inaccessible to a significant portion of family farmers, who often depend on this financial support to maintain the viability of their activities (RIBEIRO, 2024).

In addition, technical assistance and rural extension (ATER), which should be instruments to train producers and maximize the efficient use of resources, have low coverage and effectiveness. Many ATER programs suffer from a shortage of qualified professionals and a lack of financial resources, which compromises the provision of regular and personalized technical guidance. As a result, smallholders often lack access to best practices in management, planning, and use of technologies, perpetuating inequalities in the sector.

It is important to note that the absence of robust and continuous technical support limits the ability of small producers to implement more modern and sustainable production systems. This gap contributes to the maintenance of traditional agricultural practices, which are often less efficient and more aggressive to the environment, increasing the economic and environmental vulnerability of these populations.

## 5.7 BARRIERS TO THE IMPLEMENTATION OF SUSTAINABLE TECHNOLOGIES

Another critical challenge faced by Brazilian agribusiness is related to the implementation of sustainable technologies. The modernization of the sector is essential to meet the demands of an increasingly demanding global market in relation to sustainability,



but this transition faces significant barriers, especially in rural and less developed regions (CARVALHO, et al., 2024).

The lack of adequate infrastructure is one of the main limitations. Many producers face difficulties related to access to transportation, electricity, and connectivity, which makes it difficult to adopt technologies such as efficient irrigation systems, mechanized equipment, and digital solutions for agricultural management (MACHADO, 2023). In addition, the scarcity of government programs that offer financial incentives and subsidies for the acquisition of these technologies contributes to widening inequality between large and small producers (CHAVES, 2023).

Another relevant point is the lack of training programs focused on the use of sustainable technologies. Although agribusiness is increasingly innovation-driven, the lack of adequate technical training prevents many producers from understanding the benefits and functioning of these tools (BESSA, 2024). As a consequence, there is resistance to change and difficulties in adapting to the new paradigms of sustainable agriculture, such as integrated crop-livestock-forest systems (ICLFS) and low-carbon agriculture.

## 5.8 IMPACTS OF LIMITATIONS ON PUBLIC POLICIES

These limitations in public policies have direct and profound impacts on the performance of Brazilian agribusiness. Small producers, who represent the basis of family farming and play a crucial role in the country's food security, are the most affected (SILVEIRA, et al., 2024). Without adequate access to credit, technical assistance, and modern technologies, these producers face difficulties in increasing their productivity and competitiveness in the market, in addition to remaining more vulnerable to climate and economic risks (MONTEIRO, 2023).

In addition, the lack of support for the adoption of sustainable practices compromises Brazil's efforts to meet global sustainability goals, such as those established in the Paris Agreement and the Sustainable Development Goals (SDGs) (SILVA, 2024). Without effective public policies, the agricultural sector is unable to align its expansion with environmental preservation, which can generate international criticism and trade restrictions for Brazilian products (BESSA, 2024).

Strengthening public policies in agribusiness is essential to overcome the barriers faced by small producers and promote the transition to a more modern and sustainable agriculture (SEHN, 2023). To this end, it is necessary to simplify the processes of access to rural credit, expand the coverage and quality of technical assistance, and invest in infrastructure in rural regions. In addition, more robust public policies should prioritize the



inclusion of small producers in the adoption of sustainable technologies, promoting training and financial incentives that enable this transformation (FERREIRA, 2024).

Only through a joint effort between the government, the private sector and civil society will it be possible to create a favorable environment for the development of agribusiness, ensuring its contribution to the economy, food security and environmental preservation. Public policies should be seen as key levers to reduce inequalities and boost the sustainability of the sector, strengthening Brazil's role as a global leader in agribusiness.

## **6 IMPACTS OF PUBLIC POLICIES ON REGIONAL DEVELOPMENT AND SOCIAL INCLUSION**

Public policies aimed at agribusiness have played a key role in regional development and the promotion of social inclusion, especially in rural communities and among family farmers (PEREIRA, 2024). In Brazil, family farming is one of the main drivers of the rural economy, responsible for a significant portion of the production of food consumed domestically (BASTOS, 2023). However, the socioeconomic conditions of these farmers are often marked by inequalities and vulnerabilities. In this context, public policies aimed at modernizing agriculture and generating income in the countryside become indispensable to reduce inequalities, improve the quality of life in rural areas, and promote sustainable development.

### **6.1 PUBLIC POLICIES AND REGIONAL DEVELOPMENT**

Regional development is one of the areas most benefited by public policies aimed at agribusiness, especially in regions where agriculture plays a strategic role (ALCÂNTARA, 2024). These policies seek to reduce regional disparities, promoting greater equality in the distribution of resources and opportunities (SILVA; ANDRADE, 2023). Through tax incentives, rural credit, and investments in infrastructure, public policies help strengthen local production chains, foster the economy, and generate jobs in areas traditionally excluded from economic development (MICHELETTI, 2023).

A significant example is the National Program for the Strengthening of Family Agriculture (PRONAF), which provides subsidized credit and technical assistance to small producers. This initiative has promoted economic inclusion in less developed regions, such as the North and Northeast, where a large part of the rural population depends on family farming as their main source of income (TEIREIRA, 2020). PRONAF allows farmers to have access to financial resources to invest in inputs, equipment and technologies, increasing productivity and ensuring greater competitiveness in the market.





In addition, public policies that promote the integration of production chains have a direct impact on regional development. Projects that connect family farmers to large markets, such as the Food Acquisition Program (PAA), encourage the sale of products from family farming and strengthen the local economy (NASCIMENTO, 2023). This approach generates income for producers and contributes to the food security of vulnerable communities, while fostering the dynamism of regional economies.

## 6.2 SOCIAL INCLUSION IN THE COUNTRYSIDE

Social inclusion is another central aspect of public policies aimed at agribusiness, especially with regard to rural communities. Family farmers, traditional populations, and indigenous communities are often excluded from the benefits of economic development, facing difficulties in accessing credit, technical assistance, and markets (PHILIPPSEN, 2022). Public policies aimed at social inclusion seek to correct these inequalities, promoting access to resources and opportunities (MATOS; REZENDE, 2024).

In this sense, incentives for the modernization of family farming play a strategic role. The introduction of new technologies, such as efficient irrigation systems, adequate machinery, and sustainable agricultural practices, has enabled smallholders to increase their productivity and reduce production costs (BESSA, 2024). The ABC Plan (Low Carbon Emission Agriculture), for example, encourages agricultural practices that, in addition to being environmentally sustainable, ensure greater efficiency in production (MOREIRA, 2020). The dissemination of these technologies, combined with technical training, provides effective economic inclusion, allowing family farmers to integrate into agribusiness value chains (DAROSCI, 2022). This approach not only improves productivity, but also contributes to environmental preservation and the strengthening of rural communities, creating conditions for young people to stay in the countryside, reducing the rural exodus.

## 6.3 INCOME GENERATION AND QUALITY OF LIFE IN THE COUNTRYSIDE

Another highlight is the role of public policies in generating income in the countryside. Projects that encourage crop diversification and the introduction of value-added activities, such as family agribusiness, are key to expanding the sources of income for rural communities (SOBCZUK, 2022). In addition, initiatives that promote access to institutional and international markets strengthen local production chains, ensuring greater economic stability for farmers (SILVA et al., 2024).

An example is the strengthening of organic food production and the certification of family farming products, which add value to goods and increase competitiveness in the



market (MACIEL, et al., 2024). Programs such as the PNAE (National School Feeding Program), which prioritizes the purchase of food from family farming for school meals, create a stable demand for these products, guaranteeing income and improving the quality of life of producers (ROCHA FILHO, et al., 2024).

Finally, the impact of public policies on strengthening rural associations and cooperatives deserves to be highlighted. By encouraging collective organization, the policies expand the bargaining power of family farmers, allowing them to access more competitive markets and obtain fairer prices for their products (LIMA, et al., 2021). This dynamic promotes greater economic equity and strengthens the social fabric of rural communities.

Public policies aimed at agribusiness have a profound impact on regional development and social inclusion in Brazil. By promoting incentives for the modernization of family farming, offering affordable rural credit, and fostering income generation in the countryside, these policies reduce inequalities, strengthen rural communities, and contribute to the sustainability of the sector (ROCHA FILHO, et al., 2024).

However, for these initiatives to reach their full potential, they need to be continuously improved, with a focus on expanding access to small producers and creating conditions for the adoption of more modern and sustainable practices. Only in this way will it be possible to ensure that agribusiness continues to be an engine of economic development and social inclusion in Brazil.

## **7 FINAL CONSIDERATIONS**

Brazilian agribusiness occupies a prominent position both in the national economy and in the global market, being one of the main pillars of wealth and employment generation in the country. However, its sustainable expansion inevitably depends on effective public policies and concrete actions that reconcile economic growth with socio-environmental responsibility. Throughout this study, the positive impacts of policies such as rural credit, technical assistance and tax incentives were discussed, essential to enable the modernization of the sector and promote social inclusion, especially for small and medium-sized producers.

However, important gaps were evidenced that compromise the effectiveness of these policies, such as bureaucracy in access to credit, lack of adequate infrastructure, and resistance to the adoption of sustainable technologies. In addition, the lack of specific training and rural extension programs limits the implementation of modern and environmentally responsible practices, increasing inequalities between producers and regions.



The need for integrated and strategic public policies that favor sustainability, social inclusion and regional development is, therefore, urgent. The strengthening of support mechanisms for small producers, the expansion of incentives for low-carbon agriculture and the promotion of technological innovations are fundamental for the future of Brazilian agribusiness.

## 7.1 SUGGESTIONS FOR FUTURE POLICIES

### 1. Simplification and Expansion of Rural Credit

It is necessary to reduce the bureaucracy associated with rural credit and ensure that the lines of financing reach small farmers. The creation of specific funds for modernization and adoption of sustainable technologies can facilitate access and promote inclusion.

### 2. Investment in Infrastructure and Technology

Policies aimed at the development of rural infrastructure, such as roads, electrification, and digital connectivity, are essential to enable the modernization of the countryside. In addition, tax incentives should be directed to the acquisition of technologies with low environmental impact.

### 3. Strengthening Technical Assistance and Rural Extension (ATER)

Strengthening ATER programs, with a focus on technical training and the use of sustainable practices, can reduce inequalities in the sector and provide significant improvements in productivity and environmental preservation.

### 4. Implementation of Sustainability Policies

Public policies should prioritize the dissemination of practices such as no-till farming, recovery of degraded areas, and integrated crop-livestock-forest systems (ICLFS). The ABC Plan should be expanded to include small producers and regions with a lower development index.

### 5. Social and Regional Inclusion

Support programs should prioritize family farming and the most vulnerable rural communities, with a focus on income generation and the insertion of these producers in broader production chains.

In summary, the combination of more inclusive, efficient, and sustainable public policies is the way for Brazil to continue to consolidate itself as a global leader in agribusiness, respecting socioeconomic and environmental demands. Only through this balance will it be possible to ensure a future of prosperity, inclusion, and sustainability in the countryside.



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