

GUIDELINES FOR THE SUSTAINABLE DEVELOPMENT OF BRAZILIAN AGRICULTURE



MINISTRY OF AGRICULTURE, LIVESTOCK AND FOOD SUPPLY

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1. DRIVERS OF SUCCESS IN BRAZILIAN AGRICULTURE AND LIVESTOCK

Brazil is in a strong position to lead simultaneous actions to address two of the world's most pressing challenges: food security and conservation of natural resources.

In the last 40 years, Brazil's agricultural and livestock production methods have transformed dramatically. The country went from being a food importer to one of the world's largest exporters of agricultural products. During this period, Brazilian agricultural production grew by 385%, while the land area dedicated to agriculture increased by only 32%. This transformation of agriculture and livestock is not a product of chance. It is the result of decades of innovation and development to adapt agriculture to the tropics, with ongoing productivity gains and production intensification.

This success has made Brazil an important leader in the global food security scenario: Brazil uses only 30% of its lands for agriculture while 66% of its territory remains preserved with native vegetation.

The adoption of environmental protection policies and more efficient use of the country's territory have played a pivotal role in this process. Over the last decades, Brazil has developed a solid framework of public policies that ensured the reconciliation of environmental conservation and sustainable agricultural production. In 2012, Brazil approved its Forest Code, a law that seeks to reconcile environmental preservation with agricultural production in rural properties.

Brazil has a wide range of public policies to promote environmental conservation and foster sustainable agricultural production. This framework of governmental policies could be used to catalyze and promote a better use of the country's natural and productive resources.

The modernization of Brazilian agriculture has generated important social transformations in Brazil, especially in cities located in the country's interior region, and it has proven an important element to combat poverty, generating income and creating jobs. In Brazil, agribusiness creates 24% of the existing jobs, while the sector represents nearly 25% of the Brazilian GDP. These data demonstrate the relevance of agriculture for the social and economic development of the Brazilian population.

Brazil has become an important player in the international market, especially due to its capacity to produce safe food (i.e., sanitary) at affordable prices. To maintain this success in the future, the nation must increase production not only in quantitative terms, but also in qualitative terms.

The capacity of Brazilian agriculture to ensure safe and healthy food, with environmental preservation and social benefits, will ensure that Brazil remains a leader in food supply production for an increasing global population that values transparency, traceability, and knowledge of product origin.

2. OPPORTUNITIES TO ADVANCE THE SUSTAINABILITY AGENDA OF BRAZILIAN AGRICULTURE

The Brazilian government has increased the importance of sustainability in the Brazilian agriculture and livestock sectors by incorporating powers and responsibilities that were previously attributed to other Ministries into the Ministry of Agriculture, Livestock and Food Supply (MAPA). The implementation of the Brazilian Forest Code, the Land Governance Policy, a new vision for Family Agriculture, Technical Assistance and Rural Extension, as well as the return of aquaculture and fishing to MAPA are opportunities to rethink sustainability policies and actions in an integrated and coordinated fashion.

Taking into account this new administrative structure and Brazil's goal to play a leading role in meeting food security demands around the world, MAPA has developed its plan for the 2020-2023 period, which aims to transform Brazilian agriculture to be even more sustainable, efficient, and competitive.

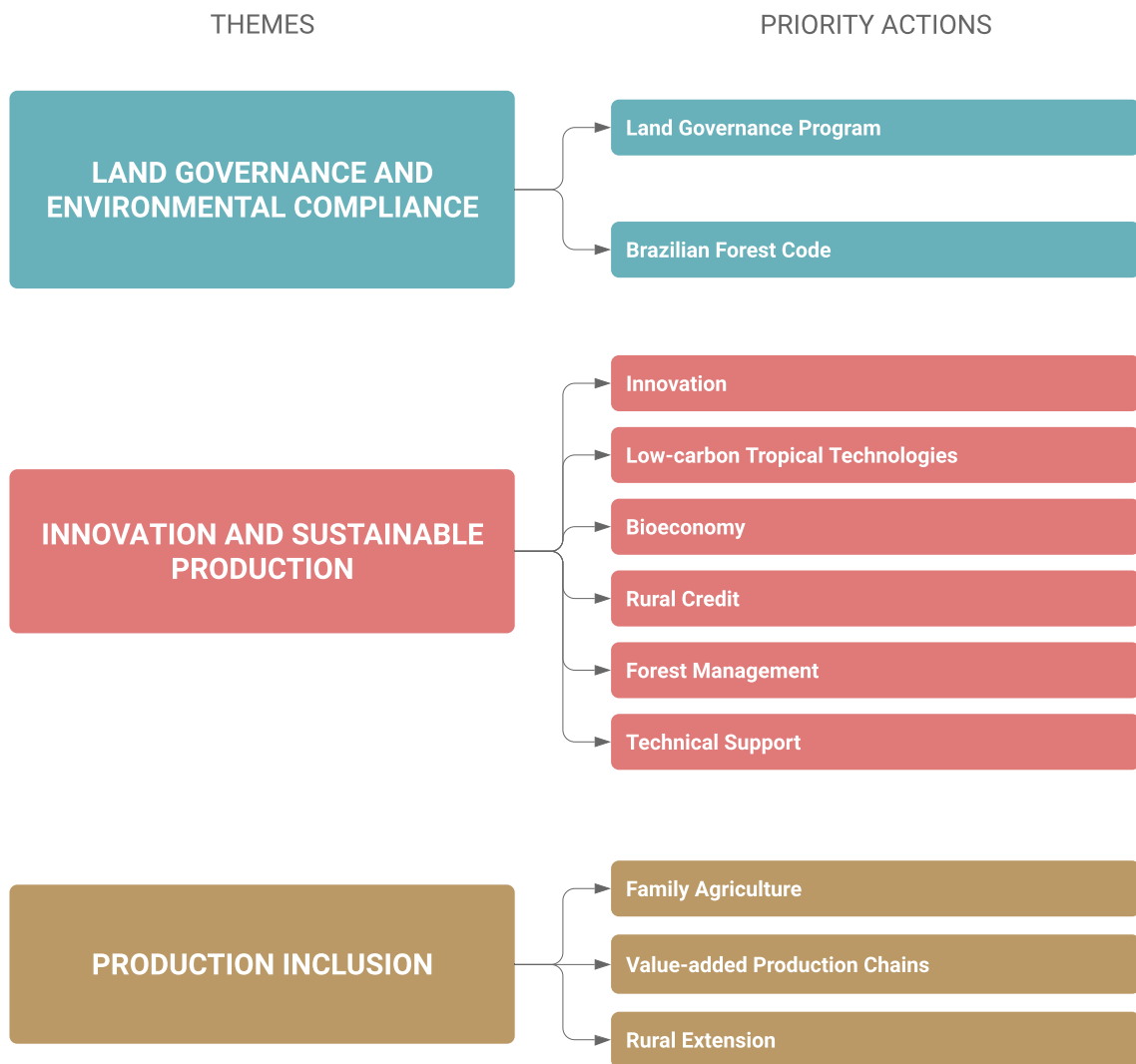
MAIN CHALLENGES TO THE SUSTAINABLE DEVELOPMENT OF BRAZIL'S AGRICULTURE

- Advance research and dissemination of tropical agriculture technologies that ensure agricultural productivity increases that are aligned with environmental preservation.
- Implement a robust and effective process of land governance and conformity to settle historic conflicts in sensitive regions, such as the Amazon.
- Advance the implementation of the Brazilian Forest Code and instruments to help rural properties to be compliant.
- Improve instruments that generate income for the environmental conservation activity, through forest management, payment for environmental services, and others.
- Structure new financial instruments that maximize funds to finance sustainable production models and improve alignment among existing public policies.
- Ensure the inclusion of small, medium, and family farmers in the value-added chains, generating income and economic development.
- Develop production chains of bioeconomy as a way to boost a renewable-based economy, through socio-biodiversity products, bio-inputs, renewable energy, among others.
- Open new markets for Brazilian agriculture and livestock products, while maintaining the current markets.

3. MAPA'S GOALS FOR THE SUSTAINABILITY OF THE BRAZILIAN AGRICULTURE AND LIVESTOCK

MAPA's work for making the Brazilian agriculture and livestock sectors more sustainable can be divided into three guiding themes: innovation and sustainable production, land governance and environmental compliance, and production inclusion. Each of these areas break down into a series of priority actions to be taken by the offices and institutions associated with the Ministry. Figure 1 presents the priority actions for each of the guiding themes, which are highlighted in the following sections.

Figure 1: MAPA's Priorities for the Sustainable Development of Brazilian Agriculture



3.1. Land Governance and Environmental Compliance

Land governance is the basis for effective territorial management and regulation and is directly related to the improvement of regional indicators of economic, social, and environmental development. With MAPA's recent administrative restructuring, the Ministry became responsible for land policy actions as well as the implementation of the Brazilian Forest Code. Connecting these agendas and placing them under the responsibility of the same body allows MAPA to plan and implement land tenure and environmental compliance and agricultural and livestock production in a more strategic and synergic manner.

Historically, land policy actions have not been capable of settling land conflicts in the country. This brings legal uncertainty and challenges to sensitive regions such as the Amazon, where, for example, occupation has been disorganized and a significant portion of the population lives in poverty.

The improvement of land management, integration of databases of rural records, and reinforcement in the issuance of definitive land titles, combined with implementation of the Brazilian Forest Code, comprise MAPA's main strategy to develop the Brazilian agriculture and livestock sectors sustainably. These strategies will also ensure the conformity of a significant portion of lands that are currently illegally occupied in the Brazilian territory.

The priority actions related to Land Governance and Environmental Compliance are:

Land Governance Program

- Intensify the process of land titling as a way to guarantee legal certainty for rural citizens.
- Implement the *Integrar Brasil Fundiário* program, aiming to regularize the situation of over 600,000 families.
- In connection with the *Integrar Brasil Fundiário* program, promote a broad integration of registration data to create a single database with information about rural producers and properties.
- Ensure access to public policies that stimulate production through the land conformity process.
- Support inspection authorities to help them combat illegal occupation of land, land grabbing, and trespassing.

Forest Code

- Ensure the implementation of the Brazilian Forest Code to reconcile agricultural production with conservation.
- Advance in the implementation of environmental compliance instruments, such as the Environmental Conformity Program (PRA).
- Expedite analyzing and validating over six million rural properties registered in the Rural and Environmental Register (CAR).
- Implement payment instruments for environmental services envisaged in the legislation, such as the Shares of Environmental Reserve (CRA), as a way to value native forests preserved in rural properties.

3.2. Innovation and Sustainable Production

Brazil has developed a production model that is based on sustainable tropical technologies that combine productivity gains and income generation for producers, with climate resilience and mitigation of carbon emissions. Such sustainable agricultural and livestock practices, aligned with the use of highly efficient inputs, genetic improvement and agricultural policies, such as rural credit and insurance, have been fundamental for the creation of sustainable tropical agriculture.

The dissemination of these sustainable agricultural practices at a large scale is one of the main challenges Brazil must overcome in the coming years. In the last 10 years, Brazil made considerable progress disseminating the Low-Carbon Agriculture Plan (ABC Plan) in connection with the National Policy on Climate Change. The ABC Plan resulted in an intervention of 59 million hectares of sustainable agricultural technologies, which accounts for 25% of the areas occupied by the Brazilian agriculture and livestock activities, representing an investment of US\$7 billion.

Brazil is one of the world's richest countries in biodiversity, with an abundance of natural assets. By exploring these resources, the country has been able to develop strategic sectors of the bioeconomy, such as production of fibers, renewable energies, provision of environmental and ecosystem services, products of socio-biodiversity from various Brazilian biomes, bio-inputs, among others, which will enable Brazil to have a renewable-based economy.

To ensure the dissemination of sustainable tropical technologies and the ongoing process of technological innovation for a stronger renewable-based economy, it is essential to rethink the role of technical assistance and rural extension. In addition, it is extremely important to redesign and improve the consistency among the existing financial instruments, aiming to value

environmental assets while improving the quality and efficiency of the Brazilian agriculture and livestock sectors.

The priority actions related to Innovation and Sustainable Production are:

Innovation

- Foster and strengthen technological innovation to ensure the sustainability of Brazilian agricultural and livestock production.
- Stimulate the creation of infrastructure necessary for connectivity.
- Rethink and restructure Technical Assistance to universalize the service and intensify the dissemination of sustainable agricultural practices.
- Structure the National Policy on Genetic Resources.
- Foster regional technological innovation hubs for the sustainability of the Brazilian agriculture and livestock.

Low-Carbon Tropical Technologies

- Drive the dissemination of tropical agricultural and livestock practices that ensure increased productivity, income generation, climate resilience and mitigation of greenhouse gas emissions.
- Strengthen and expand the Low-Carbon Agriculture Plan (ABC Plan).
- Develop and implement ABC Plan models that best fit the various Brazilian biomes.
- Prioritize the sustainable tropical technologies envisaged in the ABC Plan in connection with Technical Assistance and Rural Extension.
- Structure and implement the National Policy on Soil Management and Conservation (Pronasolos), aiming to stimulate the adoption of best agricultural and livestock practices.
- Disseminate sustainable tropical technologies that suit the various Brazilian biomes.
- Improve the efficiency and management of water resources through the Agriculture Water Program.

Bioeconomy

- Develop public policies to strengthen the bioeconomy.
- Stimulate segments of the bioeconomy (e.g., products of the socio-biodiversity from different Brazilian biomes, production of fibers, renewable energies, provision of environmental and ecosystemic services, bio-inputs, among others).
- Publish the National Policy on Bio-inputs as a way to drive the production of renewable inputs for Brazilian agriculture and livestock.
- Strengthen the National Program for Biofuels (Renovabio), the world's largest program for decarbonization of economic sectors.
- Encourage the structuring of socio-biodiversity production chains to value the country's environmental and cultural assets.

Rural Credit

- Restructure Rural Credit given the reduced availability of public funds for the financing of the Brazilian agriculture and livestock sectors.
- Foster the participation of the private market in the financing of Rural Credit.
- Structure new instruments, such as green bonds and climate bonds, to finance Brazilian agriculture and livestock production, focusing on sustainable activities.
- Focus public Rural Credit funds on rural producers who comply with the current environmental legislation.
- Prioritize Rural Credit funds for rural producers with limited access to funds in the private market.
- Prepare zoning plans to implement agricultural policies to ensure the sustainability of agricultural and livestock activities in the various regions of the country.

Sustainable Forest Management

- Expand areas under Forest Concessions for sustainable forest management in the next four years by 300%.
- Restructure the rules in force to bring more legal certainty and predictability to concessionaires.
- Foster public research to drive sustainable forest management.
- Collaborate to combat the illegal trade of native wood.

Technical Assistance

- Rethink and restructure Technical Assistance to universalize the service and intensify the dissemination of sustainable agricultural practices.
- Restructure the National Policy on Technical Assistance (PNATER).
- In connection with Technical Assistance and Rural Extension, prioritize the sustainable tropical technologies, such as the ones envisaged in the ABC Plan.

3.3. Production Inclusion

Brazil has over five million rural properties with extraordinary social, economic, and cultural diversity. Currently, a small group of producers is responsible for a large portion of the Brazilian agricultural and livestock production. Data from the Agricultural and Livestock Census of the Brazilian Institute of Geography and Statistics (IBGE) indicate that nearly 400,000 rural properties account for 85% of the gross agricultural and livestock production. A significant portion of Brazilian rural farmers, especially small, medium, and family producers, is excluded from the development that has taken place in the Brazilian agriculture.

This exclusion of the rural farmers must be addressed through the adoption of public policies that focus on generating rural income, ensuring the inclusion of these producers in local markets or global production chains and, most importantly, by creating opportunities that enable the permanence of new generations to engage in the activity. It is necessary and urgent that actions be adopted for the inclusion of these farmers in commercial production, such as strengthening cooperatives and other forms of organization, expanding the dissemination of technologies, increasing access to credit policies and rural insurance, and by developing other alternatives to add value to and diversify production.

MAPA will prioritize actions to stimulate value-added production and the diversification of the production agenda, focusing on socio-biodiversity products, for example. In 2019, the

ARTE seal was published for certification of artisanal products, aiming to drive small-scale agricultural production, adding value to and generating income primarily for small, medium, and family farmers, including these producers in value-added production chains.

MAPA is also considering various actions regarding agricultural and livestock defense, agricultural policy and technical assistance that enable the inclusion of rural producers in the value-added production chains, either through commercial production or production diversification, with the main purpose of generating income and reducing poverty in the field.

The priority actions related to Production Inclusion are:

Family Agriculture

- Rethink policies for the development of Family Agriculture that prioritize income generation, diversification of the production agenda and addition of value to production.
- Ensure that these rural producers are included in the value-added production chains, as well as in strategic segments of the bioeconomy, sustainable production, among others.
- Ensure access to new technologies, through connectivity in the field, Technical Assistance and Rural Extension (ATER) services, among others, to guarantee the inclusion of these producers in technological innovation.

Value-Added Production Chains

- Strengthen the value-added production chains as an alternative for diversification of the Brazilian agricultural and livestock production.
- Strengthen Agricultural and Livestock Defense as a guarantee of healthy and affordable food, while also improving the effective rules that drive production diversification.
- Foster value-added production models, through the publication of the ARTE seal in 2019 for artisanal products and other innovative approaches.
- Foster the chains of organic and biodynamic products, among others, as a way to add value and generate income for rural producers.

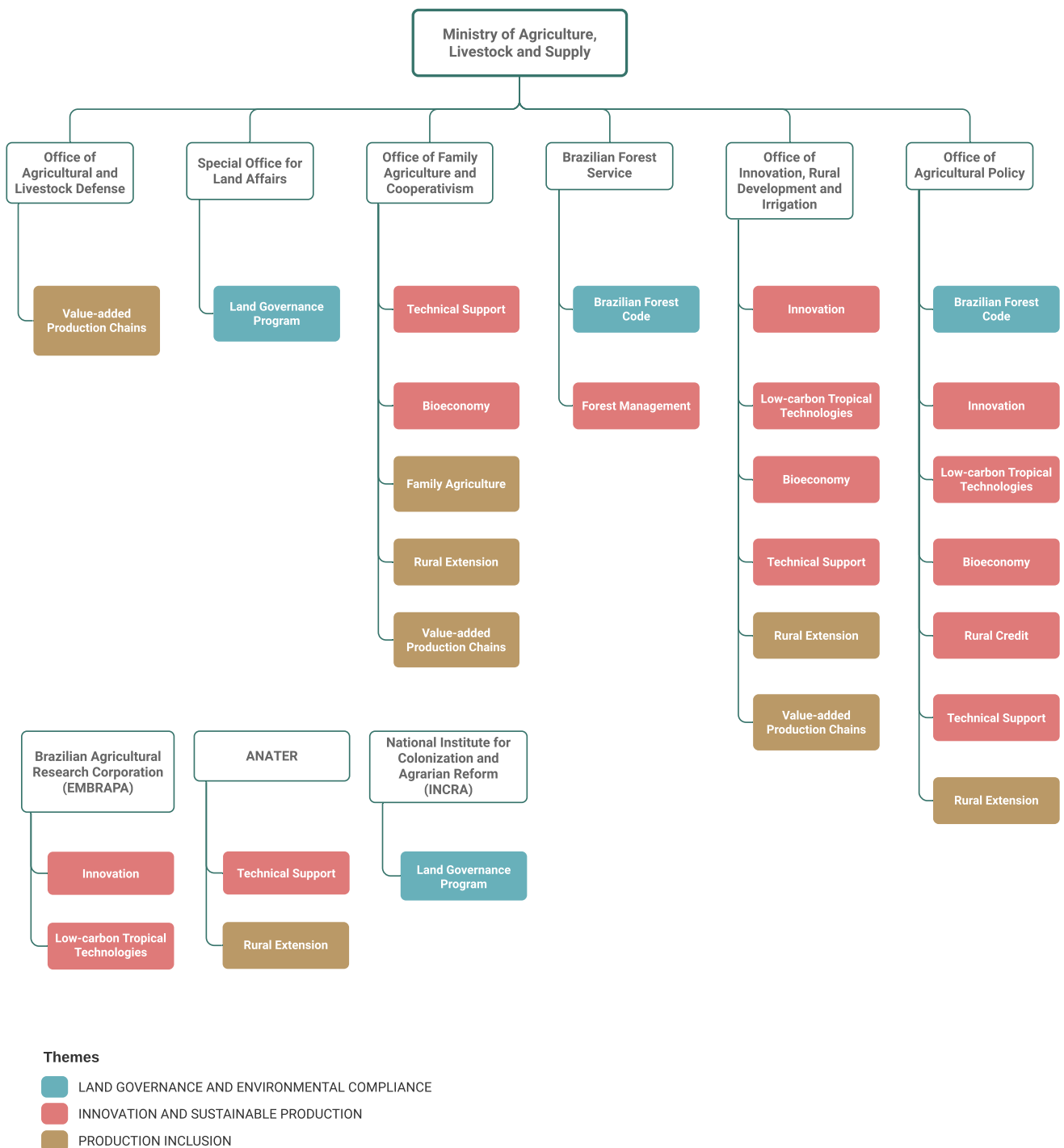
Rural Extension

- Revise the Rural Extension policy with a purpose that is different from that of Technical Assistance.
- Prioritize actions for the social development of rural producers in poverty.
- Ensure that Rural Extension activities lead to the inclusion of rural producers in policies and programs that foster social development.
- Ensure that Rural Extension helps producers comply with the applicable laws and requirements.

4. ORGANIZATIONAL DESIGN OF MAPA’S STRATEGIES

The priority actions described above are under the responsibility of various MAPA offices and reflect the administrative structure of the current federal government. Figure 2 below presents the agenda distributed among the various Offices and bodies associated with MAPA, identifying the parties responsible for implementing each priority action.

Figure 2: Organizational Design of MAPA’s Strategies for the Sustainable Development of Brazilian Agriculture



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