

# Building a Better Future for Sustainable Agricultural Production in the Cerrado



## Bringing Farmers & Conservationists Together to Develop a New Business Model for the Biome

### 1 WHY THE CERRADO NEEDS A NEW ROAD MAP FOR PRODUCTION

Brazil's abundant lands in the Cerrado and the ingenuity and hard work of its farmers and producers have transformed the nation into a global agricultural powerhouse. Today, Brazil ranks as one of the world's leading agribusiness producers and exporters.<sup>1</sup> From 1977 to 2019, agricultural production in Cerrado skyrocketed from 8 million to 130 million tons.<sup>2</sup> Yet to maintain Brazil's global standing, to meet world food demand, reduce hunger, and rehabilitate land, a new and ambitious roadmap for production in the Cerrado is needed, one that is also rooted in environmental sustainability.



**Figure 1.** The Cerrado biome in Brazil

Source: adapted from the Brazilian Forest Service, *Biomes and Their Forests*. [www.florestal.gov.br/snif/recursos-florestais/os-biomas-e-suas-florestas](http://www.florestal.gov.br/snif/recursos-florestais/os-biomas-e-suas-florestas). 2018.

<sup>1</sup> Klein, H.S. and Luna, F.V. 2019. *Feeding the World. Brazil's Transformation into a Modern Agricultural Economy*. Cambridge University Press, Cambridge. p. 453.

<sup>2</sup> Companhia Nacional de Abastecimento - CONAB, Available at [www.conab.gov.br](http://www.conab.gov.br).

## 2 THE CERRADO BIOME

The Cerrado’s agricultural expansion surged in large part due to a centuries-old pattern of clearing cheap and plentiful lands. **These practices, which made sense in the past, if continued, will severely damage primary ecosystem services that agribusinesses rely on for their success, such as an abundant water supply and reduced soil erosion.** In addition, Brazil’s agribusiness industry is often seen as a primary driver of deforestation, which limits its international potential and restricts access to international markets and finance. International markets have shown a strong demand for products that protect native vegetation in private lands.<sup>3</sup> A new business model, therefore, is a valuable pursuit.

**The continued degradation of the Cerrado’s environment, if left unaddressed, will harm Brazil’s agricultural industry and weaken the nation’s economic standing.** Protecting the Cerrado’s natural vegetation can play a fundamental role in conserving water and protecting the healthy functioning of ecosystems. This is why Brazil’s private and business sectors need to join forces with national and international academics, civil societies, nonprofit organizations, and governments to improve practices and supply the rising demand for agriculture products that have been developed sustainably.

Brazil has already proven that by correctly deploying technology, policies, and science, agricultural development can continue to grow without causing further deforestation. By adapting soybean cultivation in the Cerrado, farmers have raised productivity and shifted investments away from deforestation. The next step is to demonstrate how ecosystem protection can add economic value to agricultural production in the Cerrado.

**Fortunately, Brazil is ideally positioned to create**

**a more sustainable business model.** The Cerrado’s business and policy environment has many strengths that bring agribusinesses and conservationists together already, including:

- Evidence that shows increased enforcement of deforestation does not undermine agricultural productivity or economic growth;
- The ability to increase productivity significantly through improved technology;
- The opportunity to cultivate already cleared areas and lands for agricultural production;
- A highly competitive agribusiness industry;
- A vigorous commercial pulp and paper, and timber industry;
- An innovative and growing economic restoration industry;
- An advanced research and development (R&D) capacity;
- Consolidated civil society organizations;
- A strong policy framework to promote ecosystem services and conservation in private lands;<sup>4</sup> and
- Proven scientific and technical capacity to monitor ecosystems and deforestation.

Thanks to this strong potential in the Cerrado, significant improvements in agricultural productivity and ecosystem protection can be achieved at scale. Sustainable agriculture and agri-food systems must be at the core of these new agendas. Promoting productivity for farmers must gain importance along with conserving and enhancing the function of the ecosystems they require. As farmers plan for their production, they can begin to integrate conservation practices, including watershed management, soil conservation practices, and adhering to the directives of the Forest code.

**The Cerrado Initiative, led by researchers at the**

<sup>3</sup> See, for instance, the Cerrado Manifesto at <https://www.wwf.org.br/?60722/Manifesto-convoca-o-mercado-para-atingir-desmatamento-zero-do-Cerrado>.

<sup>4</sup> See, for instance, *Ministério da Agricultura, Pecuária e Abastecimento 2020. Diretrizes para o Desenvolvimento Sustentável da Agropecuária Brasileira*. MAPA, Brazilian Ministry of Agriculture, Brasília, DF, p. 16. Available at [www.agricultura.gov.br](http://www.agricultura.gov.br).

**University of Brasilia in partnership with Climate Policy Initiative (CPI), brings scientists and farmers together to advance agribusiness and ecosystem protection in the Cerrado.** This new collaboration, if fully developed in the Cerrado, will create a transformative new business model for Brazil and the world. Formulating a new land-use agenda will require buy-in from both the agricultural and

environmental constituencies and must be based on scientific evidence. **If successful, Brazil has the potential to double its agricultural production while protecting its natural resources.**<sup>5</sup> The new business model would establish Brazil as an example for the world and a global leader in agricultural growth and ecosystem protection.

## 3 THE CERRADO INITIATIVE: ENSURING THE POTENTIAL OF THE CERRADO

The Cerrado Initiative proposes developing a pragmatic agenda for the Cerrado together with the agribusiness and conservation constituencies. The Cerrado has already seen many concrete examples of agribusinesses and conservationists working together successfully. These partnerships have been documented by the Cerrado Initiative and CPI and show great promise for the achievement of a new business model.

**Initial studies completed by researchers with the Cerrado Initiative show that it is possible to build a new “operational” agribusiness-ecosystem agenda for the Cerrado.** The Cerrado Initiative identified transformative initiatives already underway in Brazil, including:

- Many farmers are seeking to achieve higher agriculture productivity while also complying with environmental regulations;
- Think-tanks, NGOs, academics, and traders are building strategies for zero-deforestation in the mid-term;

- Financial flows and mobilization of private investments have increased for green investments;
- New technologies and artificial intelligence are being deployed for better planning of the farming landscape; and
- Farmer awareness regarding the environmental risks associated with agricultural production has increased.

In addition, much of Brazil’s 180 million hectares of pastureland is degraded with low productivity, and therefore represents a major opportunity for agriculture, bioenergy, and beef production expansion without further deforestation. In several locations, low productivity pastureland is already being replaced by more intensive techniques and knowledge. Examples like Mato Grosso do Sul (see Box) show the potential for farmers and agribusiness to succeed while also protecting the environment.

<sup>5</sup> Bragança, A. and Assunção, J. 2019. *Insights. Pathways for Sustainable Agricultural Production in Brazil: Necessary Investments and Potential Gains of Increasing Efficiency*. Rio de Janeiro: Climate Policy Initiative.

### Box 1. Potential for Success: As Agricultural Productivity Rose in Mato Grosso do Sul, Deforestation Fell

In the Cerrado areas of the state of Mato Grosso do Sul, sugar cane and ethanol production have expanded significantly. In 2005, eight ethanol plants used 137,000 hectares of land for sugarcane plantation; in 2012, 22 plants were using 559,000 hectares. This sugarcane expansion had a profound impact on the economy of the municipalities of the region: 31% increase in income, an increase in 30% of gross domestic product, and a 10% increase in population.<sup>6</sup> Sugarcane expanded mostly into areas of degraded pastureland. Due to the improved productivity and better compliance with environmental norms, deforestation decreased. The new mills also attracted suppliers of agricultural inputs and services, a more skilled labor force, and an increased provision of rural credit. Because of improved services, storage, transportation, inputs, and financial services that came into the area, other crops, such as soy and corn, also benefited from gains in productivity. This example underscores the potential in the Cerrado to achieve the dual goals of improved productivity and reduced deforestation.

**A critical key to achieving this vision and the development of the new business model will be leadership and the purposeful coordination to bring the various stakeholders in the Cerrado together.**

Without a champion for the future of the Cerrado, who recognizes the needs of agribusinesses, farmers,

and the science required to support ecosystem services, the potential of the Cerrado could vanish. **The Cerrado Initiative proposes fulfilling this coordinating role, with key strategic partners and funders, for the next phase of the development of a new business model.**

## 4 A PROPOSAL FOR NEXT STEPS: TOWARD A STRONGER FUTURE IN THE CERRADO

To move toward an agribusiness future where the importance of ecosystems and ecosystem services are fully integrated, it will be crucial to facilitate participation among the region's different stakeholders and organize where they fit into the new business model.

Three primary strategies will be used to build the road map that will lead to the new business plan for the Cerrado:



**CREATE AN ACTIVE, SOLUTION-FOCUSED DIALOGUE AMONG FARMERS AND ORGANIZATIONAL STAKEHOLDERS IN THE CERRADO.**

Farmers and producers must be at the table in the development of the agribusiness-ecosystem business model so that they may benefit fully from the new actions taken under the model and so

<sup>6</sup> Assunção, J. Souza, P. & Pietracci, B. 2016. O papel da cana de açúcar no desenvolvimento econômico. Rio de Janeiro, Climate Policy Initiative. [https://www.inputbrasil.org/wp-content/uploads/2016/07/Fueling\\_Development\\_Sugarcane\\_Expansion\\_Impacts\\_in\\_Brazil\\_Working\\_Paper\\_CPI.pdf](https://www.inputbrasil.org/wp-content/uploads/2016/07/Fueling_Development_Sugarcane_Expansion_Impacts_in_Brazil_Working_Paper_CPI.pdf).

that the new initiative is a success. The Cerrado Initiative will engage farmers, large and small, to help develop the new strategies. Engaging farmers will help ensure that the solutions for improved business practices that emerge from the Cerrado Initiative can be leveraged and scaled up and will reach as many farmers as possible.



### **DEVELOP, FIELD TEST, AND IMPLEMENT NEW BUSINESS INTELLIGENCE AND TOOLS THAT HELP FARMERS TO MANAGE OR REDUCE AGRIBUSINESS RISK FROM DEGRADED ECOSYSTEMS.**

The Cerrado Initiative will help develop critically needed business tools for the Cerrado region by studying new farming practices, interviewing farmers, examining how state-of-the-art cleantechs and agtechs operate, identifying and mobilizing new financial mechanisms and capital, and learning from new public-private approaches. The Cerrado Initiative also foresees supporting the development of ecosystem indicators, environmental monitoring, economics studies, and the development of tailor-made solutions with farmers about how best to implement the Forest code into their farms. The Initiative intends to prepare case studies on specific Cerrado areas where successful programs exist so that other regions may learn from these examples, and solutions can be brought to scale. The collection of this learning will provide reliable recommendations and best practices to benefit farmers throughout the region.



### **FORMALIZE PARTNERSHIPS WHEREVER POSSIBLE THAT SERVE THE DEVELOPMENT OF THE NEW AGRIBUSINESS-ECOSYSTEM BUSINESS MODEL.**

Throughout the Cerrado, numerous organizations and funders are seeking to advance agribusiness-ecosystem ideas like these, but they often lack farmer input and coordination at the regional level. The Cerrado Initiative will fulfill this role as convener and coordinator, bringing many stakeholders to the table and ensuring farmer input.

Brazil's Cerrado region is in a strong position to lead the world not only as an agricultural producer but also as an environmental problem solver for the next century. The Cerrado Initiative invites small and large farmers and agribusiness leaders to join this effort and help shape the region's next business model for success.

March 2020.

*The Cerrado Initiative aims to increase awareness of ecosystem services and incorporate them into decision-making about public and private land use*

#### **Partnership**



#### **Contacts**

**Carlos Klink**  
klink@unb.br

**Margarete Naomi Sato**  
nsatoecologia@gmail.com