

# DONATION OPPORTUNITY

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## Access to Adequate Food

Agroecological Backyards



doebem

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**Cause:** Access to Adequate Food

**Organization:** Sabiá Center for Agroecological Development

**Intervenção:** Agroecological Backyards

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## Executive Summary

**doebem**'s work focuses on finding and recommending the most cost-effective donation opportunities. In our research on food insecurity in the country, we identified a highly cost-effective intervention that delivers significant social impact per Brazilian Real donated. The solution described here involves agroecological backyards promoted by the *Centro de Desenvolvimento Agroecológico Sabiá* (Sabiá Agroecological Development Center).

Part of the strategic project *Comida de Verdade Transforma* (Real Food Transforms), agroecological backyards transform domestic yards into agroforestry plots that combine horticulture and animal husbandry to produce food adapted to the semi-arid region. The intervention targets family units led by women and combines modular actions for harmonious coexistence with the semi-arid environment, including water security initiatives, seed banks, continuing education on racial and gender equality, and climate adaptation measures. Families develop their own food security strategies alongside their communities, with improvements in morbidity and mortality rates and increases in monthly household income. The intervention promoted by Sabiá addresses the main causes of hunger: unavailability or low diversity of food, low nutritional literacy, and insufficient income to purchase diverse, high-quality food.

By operating in the Northeast region, the *Centro Sabiá* impacts the second-most affected region in the country. There, 35% of the population faces food insecurity, and 29% experience severe insecurity (hunger). Pernambuco state, part of the Polígono das Secas (Drought Polygon, a semi-arid region historically affected by food insecurity), shows high rates of hunger-related hospitalizations and deaths—approximately

220 and 17 per 100,000 inhabitants, respectively. More than 48% of the state's population faces food insecurity, and 6.8% suffer from hunger. These factors indicate that donations to the Centro Sabiá's agroecological backyards will be highly cost-effective.

**Evaluation highlights:**

- The intervention aligns with the strongest evidence for mitigating food insecurity globally and is implemented in highly vulnerable territories.
- With a cost per DALY below US\$5,000, agroecological backyards are scalable and replicable.
- The Sabiá Center has over 30 years of community-based work and maintains strong institutional credibility beyond its implementation region.

## The Problem

Food insecurity affects approximately 64 million people in Brazil—about 30% of the population. Severe food insecurity, which we refer to here as hunger, affects 8.7 million individuals. The highest rates are found in the Northeast and Southeast regions.

In some states, nearly half the population lives with food insecurity; in certain cases, up to 10% of a state's population experiences hunger. Nutritional deficiencies—most commonly calcium, vitamin D, vitamin B6, and iron—affect a substantial portion of the population, particularly children and women of reproductive age.

Fifteen people die from hunger each day in the country. Beyond its effects on physical health, the problem impacts cognitive development, labor productivity and income generation, child growth, and mental health. The populations most affected by food insecurity are the poorest, Indigenous people, women, and rural residents.

Brazil has made structured efforts to combat hunger since the 1990s, though success has varied across decades. Resource distribution among states and regions shows significant inequalities, and closing these gaps has been a joint objective of public authorities and organized civil society.

# The Organization



The *Centro de Desenvolvimento Agroecológico Sabiá* (Centro Sabiá Center for Agroecological Development) is a non-governmental organization based in Recife, Pernambuco, with 32 years of experience promoting family farming according to agroecological principles. The organization operates in more than 50 municipalities across Pernambuco, from the Zona da Mata to the hinterland. It was founded by Pernambuco researchers advocating for a new productive model based on family farming and collaboration with social movements.

As part of the evaluation process, **doebem** examined the Sabiá Center's institutional solidity across several criteria:

## Legitimacy

The organization originated from the local community through residents' organizations and social movements. It is managed by the community through General Assemblies, which have active representation and meet regularly for decision-making. It participates in networks and official councils for public policies, representing local community interests.

## Strategic use of additional resources

The organization details resource use in its reports, and implements projects aligned with each community's needs. The theory of change, activity reports, and completed evaluation form provide evidence that the organization will continue serving beneficiary populations throughout the partnership.

### Sustainability

The organization has a competent team and the most recent balance sheet is positive. Its history of expanding activities in the territory demonstrates capacity for growth, as does the possibility of future expansion through partnership with **doebem**.

### Openness to external audits and evaluations

Audits were conducted in 2018, 2019, and 2020, with reports easily accessible on the organization's website. The team considers itself fully prepared for new audits.

### Transparency

The organization's social media channels are regularly updated, and the team produces video content for YouTube and a podcast accessible on any platform.

### Operational team's delivery capacity

The team is trained and qualified for accountability and operations (legal, accounting, administrative, and technical), presenting no apparent reputational risks or concerns for partnership with **doebem**.

### Credibility

Founded in 1993, the organization maintains strong ties with its originating social movements. It has 6 board members. The collegiate coordination includes 3 technicians, and the team has 41 employees, the majority (28) being formal employees.



The Sabiá Center satisfactorily met most evaluation aspects, particularly regarding institutional solidity and the intervention's impact mechanisms on morbidity, mortality, and income generation. Upon formalizing the partnership, the organization committed to improving its website for clearer communication with donors about the Agroecological Backyards initiative.





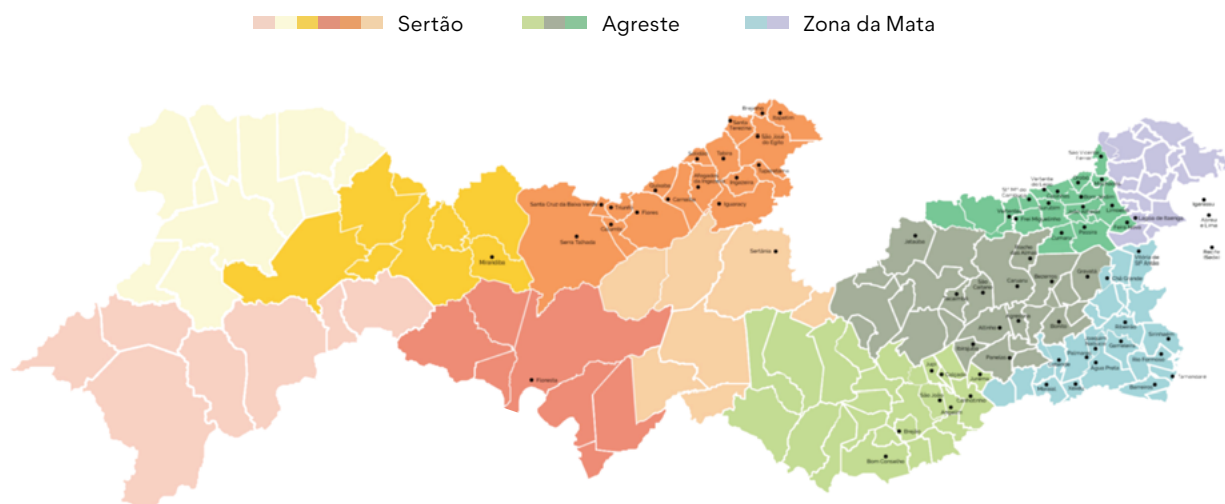
Image: Sabiá's Center Archive

## Implementation Territory

By operating in the agreste and sertão regions of Pernambuco, the Sabiá Center directly impacts the area historically most affected by hunger in the country—the Drought Polygon<sup>1</sup>. Currently, the evaluated program is implemented in 2 territories in the Semi-Arid (Caatinga Biome), 1 in the Recife Metropolitan Region, and 1 in the Zona da Mata Sul (Atlantic Forest Biome).

<sup>1</sup> An area in northeastern Brazil legally recognized for its pronounced susceptibility to repeated drought crises. Demarcated by Law No. 175 of January 7, 1936 (later supplemented), it encompasses 1,108,434.82 km<sup>2</sup> across 1,348 municipalities in the states of Piauí, Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Alagoas, Sergipe, Bahia, and Minas Gerais.

### Recife Metropolitan Region (RMR)



Sabiá Center's area of operation (2024). Source: institutional website.

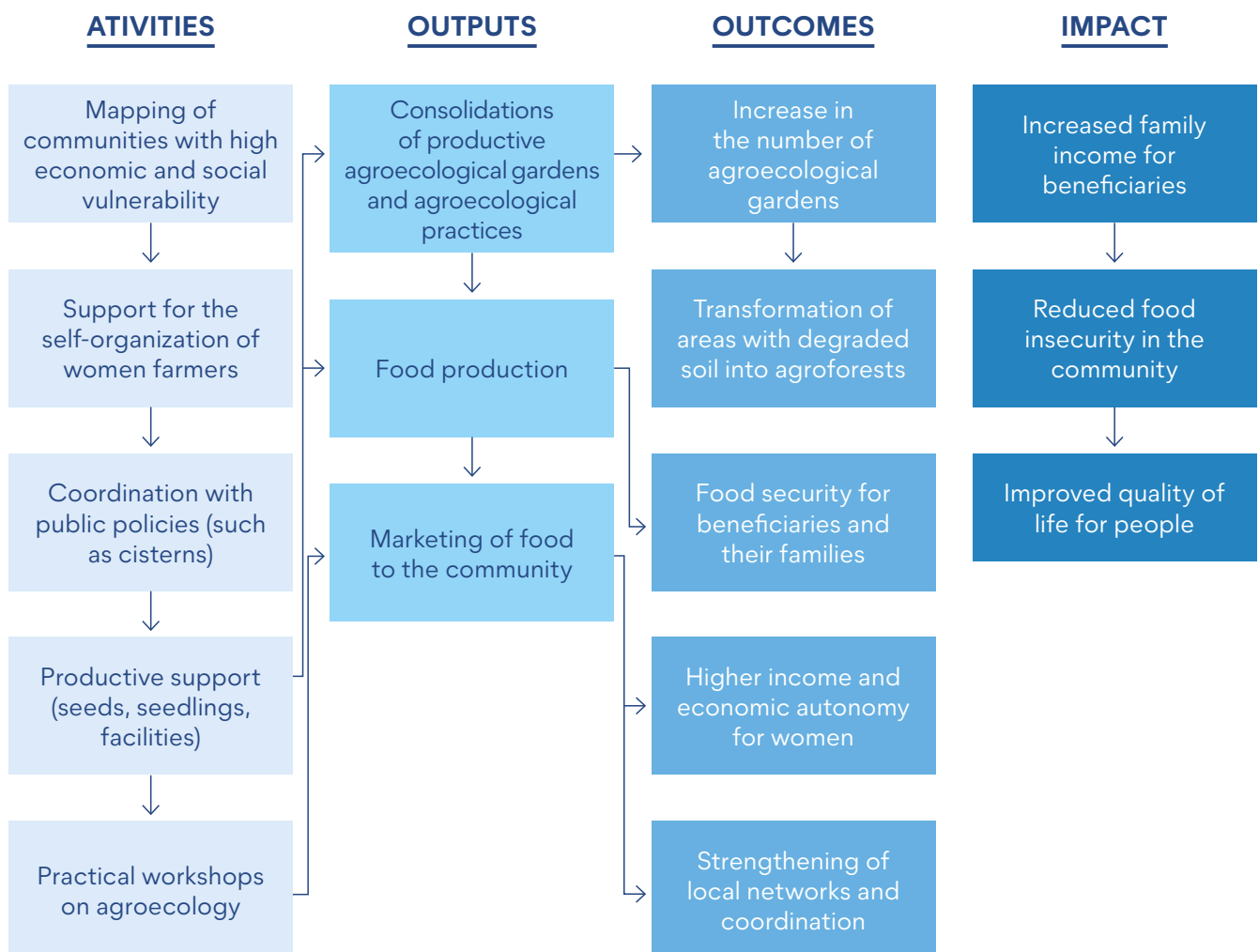
## The Intervention

The case studied in this evaluation is the Mãos Que Alimentam (Hands That Feed) program, part of a larger strategic project called Comida de Verdade Transforma (Real Food Transforms). Consistent with the organization's historical work, Mãos Que Alimentam is a modular program in which various actions are developed with the community so that each family can transform their backyard into an agroforestry plot. Focused on productive units led by women, the program fosters production that combines horticulture and animal husbandry adapted to the semi-arid region, working toward food security.



Image: Sabiá's Center Archive

After mapping communities in situations of socioeconomic vulnerability, the Sabiá Center diagnoses each beneficiary's needs, guiding them toward self-organization of their rural production. Working with public authorities, Sabiá directs beneficiaries to public policies for local development and access to basic conditions (e.g., adequate drinking water through the Cistern Program), promotes their rural production, and provides socio-environmental education for an agroecological transition that includes gender and racial equality.



Summarized theory of change for the intervention carried out by the Sabiá Center. Source: doebem team.





Images: Sabiá's Center Archive

The cost to implement the program with one family is R\$9,882.00 (USD 1,976.4)<sup>2</sup>, excluding overhead costs. Each household unit serves an average of 4 people (including the main beneficiary), and the Sabiá Center monitors each beneficiary closely for 5 years. The first production results typically appear after 6 months; from that point, production from agroecological backyards represents an average of 28% of families' daily food intake. When production surpluses occur, units can exchange or donate to other families, or sell to supplement household income. Among families who sell surplus production, the supplementary income generated reaches an average of 25% of the minimum wage.

<sup>2</sup> Exchange rate of 1 USD = 5 BRL used as an estimate for reference, based on the average value over the past 5 years. For a more precise estimate, we suggest performing the conversion at the time of reading due to the significant volatility of the BRL-USD exchange rate.

## Evidence of Impact

A systematic review mapped over 11,000 studies between 1998 and 2019, analyzed 56 of them, and found a positive relationship between agroecological practices and food and nutritional security in 78% of cases. Despite the lack of methodological rigor in many of the analyzed studies, this positive impact was generally observed in those with higher methodological robustness using experimental or quasi-experimental methods, as well as in other more recent studies with strong methodological rigor.

The Sabiá Center's actions incorporate various agroecological principles—such as productive diversification, nutrient recycling, sustainable soil management, and valuing traditional knowledge—and connect with popular education and community participation practices, recognized in the literature as impact enhancers. Practices such as intercropping and the use of organic fertilizers align with evidence associating these strategies with improved diet quality and increased household food resilience. The institution also strengthens network connections, expanding connectivity and building local capacities for self-management and productive autonomy.

**AS AÇÕES DO CENTRO  
SABIÁ INCORPORAM  
DIVERSOS PRINCÍPIOS  
AGROECOLÓGICOS —  
COMO DIVERSIFICAÇÃO  
PRODUTIVA, RECICLAGEM  
DE NUTRIENTES, MANEJO  
SUSTENTÁVEL DO SOLO  
E VALORIZAÇÃO DOS  
SABERES TRADICIONAIS**





Image: Sabiá's Center Archive

The Sabiá Center's operating model is supported by a growing body of evidence demonstrating the positive effects of agroecology on food and nutritional security. The experiences promoted have validated agroecological backyards as a low-cost, high-impact social technology for building more sustainable and healthy territories. Its integrated, territorial, and participatory approach aligns with the best international practices identified by reference studies, with the potential to generate structural impact on the living conditions of communities in contexts of socio-environmental vulnerability.

## Cost-Effectiveness

Through cost-effectiveness analysis, **doebem** calculates the relationship between the impact generated by the intervention and its associated costs. This considers variables such as intervention characteristics, institutional solidity of the organization, health and socioeconomic conditions of beneficiary communities, and reference studies that estimate the impact of similar interventions using robust methodological strategies.

The impacts of the Sabiá Center's Comida de Verdade Transforma Program were estimated considering the combination of productive agroecological backyards with technical assistance. This approach promotes food security and its positive effects on community health and well-being through the production of healthy food and the sale of any surplus.

Simulating a donation of R\$100,000 (USD 20,000), this investment can provide 10.1 units of the intervention (agroecological backyards), benefiting 28.3 people over 22 years (or 8,030 days). Applying a temporal

discount, the Comida de Verdade Transforma Program generates 1,508 equivalent days (4.1 years) with food entirely covered per beneficiary at present value. The results show that the investment needed to provide one day of complete food for one person is only R\$2.34 (USD 0.46). Considering that one day of complete food equals 3 meals, the cost would be R\$0.78 (USD 0.15) per meal.

Summing all impacts, an estimated R\$100,000 (USD 20,000) invested in the Comida de Verdade Transforma Project can avert 34.37 DALYs, meaning a donation of R\$2,900 (USD 580) would promote one year of healthy life for an individual who would have died or suffered from the consequences of food insecurity without the benefit of an agroecological backyard.

## Funding Opportunities

Considering the territories in which the organization operates through Agroecological Backyards, the following actions are highlighted as funding opportunities for the short and medium term:

### **IMPLEMENTATION OF AGROFORESTS IN DRY REGIONS:**

there is pent-up demand for approximately 200 areas with families already identified and awaiting technical evaluation for the implementation of agroforestry systems adapted to local conditions.

### **ANIMAL HUSBANDRY ADAPTED TO THE SEMI-ARID REGION:**

technical support for 200 families, focusing on sustainable technologies and sanitary management, to balance production with Caatinga conservation.

### **TECHNICAL ASSISTANCE FOR WOMEN FARMERS:**

continuous monitoring of 200 families headed by women, strengthening the production of agroecological food, ensuring productive diversity, food security, and climate resilience.

### **TRAINING IN CLIMATE ADAPTATION AND RESILIENCE:**

training 100 women to expand female leadership in strategies for coexistence with the semi-arid region, promoting autonomy and community resilience.

The volume of resources needed to implement an integrated program combining up to 200 agroforestry backyards, qualified technical assistance, and training of women farmers in climate adaptation would be approximately R\$500,000 (USD 100,000).



# Highlights

→ **Cost-effectiveness:** cost per DALY below US\$5,000. Strategic use of resources, with clear application of funds, even in new contributions. Efficiency - The method underlying the intervention is supported by scientific literature and has proven effectiveness in promoting food security.

→ **Scale-up potential:** the actions are replicable and, with appropriate investment amplified by the organization's legitimacy in the community, can be expanded to reach more people.

→ **Operating region:** consolidated operation in territories marked by food insecurity and multidimensional poverty.

→ **Target audience:** beneficiaries and community in socially vulnerable situations.

→ **Good reputation and institutional health:** credibility demonstrated through years of operation, institutional partnerships, and legitimacy in the community. Financial sustainability.

→ **Transparency:** the organization makes reports and audits available for consultation on its website and is responsive when contacted.

→ **Technical capacity:** operational team qualified for accountability and project execution, with expansion plans.

## Points of Attention/ Uncertainties

→ **Clarity in institutional communication aimed at donors:** although navigating the institutional website is pleasant, information about the various programs and actions is not available in a clear and accessible way for potential donors. The landing page for the Comida de Verdade Transforma Program is outdated and not easily found through everyday navigation.

# Questions and Answers

## **WHY MEASURE THE IMPACT OF PRODUCTIVE BACKYARDS IN DALYS?**

DALY is a metric commonly used to evaluate and, especially, compare interventions from a cost-effectiveness perspective by encompassing both mortality and morbidity aspects in a single measure.

## **WHY IS THE INVESTMENT REQUIRED TO AVERT 1 DALY R\$2,900 (USD 580) IF THE IMPLEMENTATION COST OF A BACKYARD IS R\$9,882.00 (USD 1,976.4) AND IT DIRECTLY BENEFITS 4 PEOPLE?**

*doebem*'s cost-effectiveness analysis applies the counterfactual concept to estimate the expected impact of donation opportunities—that is, it compares what happened to people who received the intervention with what would have happened if those people had not received it. Since not all people who benefit from the gardens would have starved and suffered its consequences without receiving it, this discount is necessary to estimate the expected impact of a garden. In short, it is a rigorous way to more precisely measure the real impact of donations.

### HOW CAN I BE SURE THAT MY DONATION WILL BE USED FOR THE IMPLEMENTATION OF AGROECOLOGICAL BACKYARDS?

**doebem** monitors donations with partner organizations to verify effective use and periodically analyzes financial statements and activity reports to maintain the partnership. Additionally, it updates the evaluation of the donation opportunity every 2 years on average.


### WHAT HAPPENS TO AN AGROECOLOGICAL BACKYARD AFTER 5 YEARS?

After 5 years, the beneficiary begins to manage their productive backyard independently, equipped with the knowledge acquired during the monitoring period. The Sabiá Center remains available to beneficiaries to support them with any needs. If well-maintained, an agroecological backyard has no expiration date and can benefit future generations of that family and community.



Donate to the **Effective Fund** and support this intervention.

If you prefer, make a pix directly to **contato@doebem.org.br**



**R\$500 (USD 100)** → allows the purchase of an agroecological input kit with creole seeds and basic tools for 1 family to start planting in agroecological backyards

**R\$1,000 (USD 200)** → allows the installation of basic infrastructure for sustainable management of small animals (e.g., free-range chickens or goats) in integrated systems in the semi-arid region

**R\$2,909 (USD 581.8)** → averts the loss of 1 year of healthy life due to premature death or disability caused by food insecurity

**R\$9,882 (USD 1,976.4)** → allows the implementation and monitoring of 1 agroecological backyard for 1 family in the semi-arid region for 5 years

