



FUNDER'S GUIDE

Recommendations to funders of Cerrado ecological restoration

*This guide was prepared by **ARATICUM - Articulation for the Restoration of the Cerrado** - with the aim of helping the funder of the ecological restoration of the Cerrado to make assertive decisions so that the restoration achieves effective ecological, social and economic results.*

The Brazilian Cerrado is the richest savanna on Earth, with 12,500 species of native plants, equivalent to the biodiversity richness found in the Brazilian Amazon, with seven species of shrubs and herbs for each species of tree. Savanna and grassland formations represent 74% of the biome's original vegetation. The Cerrado is the cradle of the country's waters, housing the springs of eight of Brazil's 12 river basins, and grassland and savanna vegetation are its water reservoir. And finally, the Cerrado is home to traditional cultures and agriculture across its entire spectrum.

Restoring the Cerrado, its different physiognomies and its native species, contributes to the availability and quality of water, biodiversity and carbon storage. Restoration is a vector of sustainable development, generating work, income and dignity for thousands of people.

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It strengthens socio-biodiversity chains, with intercropped plantings of native species (such as baru, pequi, mangaba and macaúba, among others), and is necessary for the environmental regularization of rural properties.

Araticum works to increase the visibility of the Cerrado, disseminating knowledge about the best strategies, methods and management techniques for different contexts, in addition to supporting public restoration and conservation policies appropriate to the Cerrado and strengthening and connecting organizations in the regional restoration chain. We promote the inclusive restoration of the Cerrado.

The Cerrado, with its diverse and peculiar climate, vegetation types and society, demands appropriate restoration strategies. We provide below recommendations, based on the scientific and practical experiences of Araticum members, for restoration funders to consider.



Document prepared in Plenary by 40 members of ARATICUM. See the list of authors by pointing your cell phone camera at the QR code on the left or at <https://bit.ly/guiafinanciadorcerrado>.

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1 FINANCING RESTORATION PROGRAMS AND PROJECTS

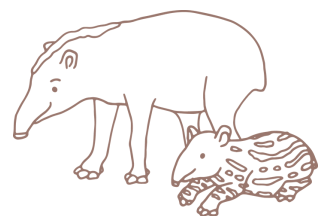


Adaptation and flexibility in restoration projects

The restoration project must include the capacity for adaptation and flexibility considering the results verified by ecological and social monitoring. Restoration is a typical case of adaptive management, requiring restoration practices to be adjustable.

A flexible and responsive approach not only makes it easier to adapt to unexpected conditions, but it also increases the effectiveness and sustainability of restoration efforts.

Staggering financing is an alternative to meet adaptive management.



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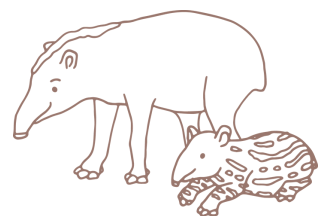
1 FINANCING RESTORATION PROGRAMS AND PROJECTS



Restoration needs enabling conditions

Until an area is available for restoration as well as supplies and services, it is necessary to look at the enabling conditions. Financing is necessary to engage landowners and rural settlements in the provision and commitment to restore areas, to diagnose the potential for natural regeneration and the context of resources and interests for the right choice of method, and to train and develop capacities in seed and seedling suppliers and restoration executors.

It is also important to look at governance in the landscape, engaging the various stakeholders so that restoration can be optimized. The financing of the enabling conditions can be done in a staggered manner, and funders can act in a consortium with co-financing.



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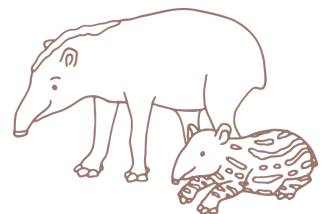
1 FINANCING RESTORATION PROGRAMS AND PROJECTS



Projects that contribute to socio-productive inclusion are better

The acquisition of seeds and seedlings, planting and maintenance, restoration planning and choice of species can be done together with communities and owners, generating engagement, work, income and reducing costs. All restoration can be more inclusive or community-based and this factor must be encouraged and strengthened. It is important that the social impact of the project is considered from the beginning, when submitting the proposal, so that it can be incorporated into its planning.

There are different ways to engage communities and landowners in restoration projects. They require investment in engagement and training, but, on the other hand, they result in greater restoration success, are more efficient and resilient, in addition to promoting rural education and socio-productive inclusion.



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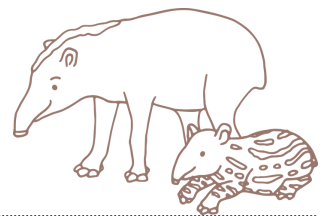
1 FINANCING RESTORATION PROGRAMS AND PROJECTS



Landscape and watershed restoration should be the scope

Restoration will have better results if it encompasses the possibilities for restoring the landscape and the watershed. This means looking at all opportunities to restore functionality in all components of the landscape, which includes APP (permanent preservation areas), RL (legal reserves) and productive areas.

Agroforestry, silvopastoral and agrocerradense systems, and soil conservation practices, suitable for Cerrado ecosystems, which include native species, must be supported in production areas. For native vegetation restoration areas (APP and RL), it is necessary to observe the gradient of possibilities, from natural regeneration to planting in total area.



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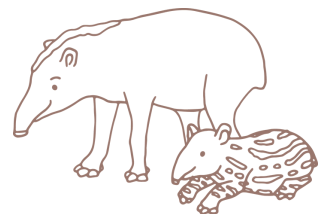
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Restoration goals can be socioeconomic

It is necessary to establish goals and indicators that encompass the achievement of enabling conditions and the socioeconomic results of projects.

Engaged landowners and squatters, autonomous communities in seed production, the generation of work and income, the training of young people and women in management and decision-making tools, and the restoration of cultural values are examples of indicators of restoration success.



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2 FINANCING RESTORATION AREAS

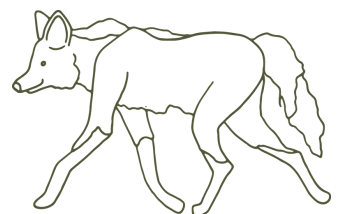


The resource must arrive at least one year before planting

Restoration begins with planning, followed by preparing the area and collecting seeds (or preparing seedlings), steps that must precede planting by at least one year.

Seed collection requires advance notice as there is not a large quantity of seeds in stock and many species cannot be stored from one year to the next.

And limiting the preparation of the area only to the moment of planting reduces the successful establishment of native plants, as, depending on the state of degradation and infestation of invasive species, the soil must be prepared for 2 consecutive years until planting.



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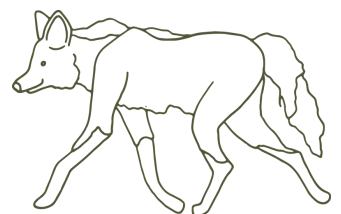
 **The resource must include maintenance for up to five years**

Restoration does not end with planting.

Grassland and savannah vegetation does not close the canopy and shade invasive exotic grasses to eliminate them (as in forests).

Therefore, in addition to soil preparation, it will probably be necessary to control exotic species for up to five years.

After this time, it is still necessary to monitor the evolution of the vegetation.



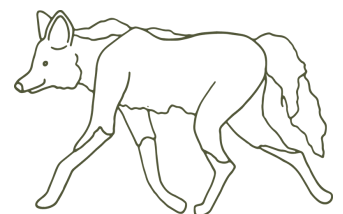
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The disbursement schedule must respect the seasonality of soil preparation, planting and maintenance

- It is only recommended to plant seeds and seedlings in the first half of the rainy season (generally from October to December).
- Maintenance of areas must also be carried out during the rainy season.
- Seed collection must be done over an entire year.
- Soil preparation must be done at least from the dry season before planting.



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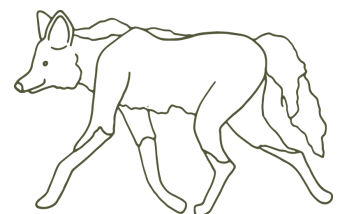
2 FINANCING RESTORATION AREAS

Monitor results, more than the implementation project

The choice of method depends on the natural regeneration potential of the area, the objectives (for example, whether the restoration is for productive purposes) and the resources available locally and regionally. If your interest is in the success of ecological restoration, the funder should not discourage the use of any available method, and should not require specific inputs, machinery or techniques.

Indicators of results of the optimal trajectory of ecosystem regeneration must be monitored, such as native vegetation coverage and number of native species, also considering the legislation to which the restoration area is subject. For Cerrado vegetation, there are good indicators established by the Distrito Federal and Mato Grosso state environmental departments.

Monitoring must be considered and funded to ensure restoration success.



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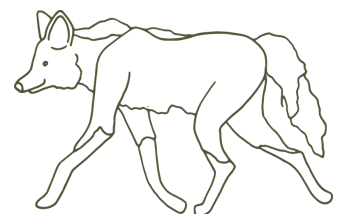
Ecological restoration is carried out with species from the original ecosystem, from savannas, fields or forests



The Cerrado has 70% of its native vegetation made up of savannas and fields.

When restoring savannah and grassland vegetation, one should consider planting native grasses, shrubs and trees.

Thus, we guarantee more habitat for native species and the improvement of ecosystem services for water regulation and biodiversity, in addition to greater resilience to degradation factors.



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The goal cannot be the number of trees, but the restored area

Restoration aims to regenerate ecosystems, not trees - they are just one component of vegetation, especially in savannah and grassland physiognomies. In a successful restoration, planted trees are replaced by others, and different restoration methods have different densities. In other words, planted or even established trees do not guarantee good restoration, especially when we talk about ecosystem services in the Cerrado.

The success of the restoration is characterized by the achievement of other important goals and indicators such as:

- restored hectares,
- species diversity,
- soil quality,
- water infiltration,
- community engagement, number of qualifications and training developed,
- ecosystem services (carbon)
- ecosystem resilience (resistance to invaders).

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There are environmental uncertainties

Restoration is subject to annual climate fluctuations, such as delays in rainfall, extensive summers and torrential rains, in addition to fires.

Plantings respond to these conditions. Therefore, the climate risk factor must be considered by the financier, and contingency resources, as well as adaptation and combat measures, must be considered.

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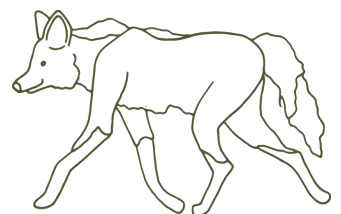
2 FINANCING RESTORATION AREAS



The resource offer per hectare must be compatible with the real cost of restoration

Following good restoration practices, there cannot be a mismatch between the value offered and the value needed for the restoration, which suffocates the implementers, directly impacting the entire restoration production chain.

An alternative is co-financing projects.



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About Araticum

Araticum, Articulation for Cerrado Restoration, is a collaborative network that promotes and monitors large-scale ecological restoration of the Cerrado.



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