Green Municipalities

Fundo Vale has been aiding efforts to control illegal deforestation in the Amazon and promoting sustainable development in the region's municipalities, supporting the Green Municipalities Program in Pará and the Sustainable Municipalities Program in Mato Grosso.

When Fundo Vale was created, the Environment Ministry had just launched its List of High-Priority Municipalities for Actions to Prevent, Monitor and Control Illegal Deforestation. Since the publication of Decree 6,321 of 2007, municipal governments have been responsible for fighting deforestation, and those on the deforestation blacklist receive penalties, such as being banned from selling products or receiving loans from official institutions. In other words, local production chains are now held liable for illegal deforestation.

As part of the Green Municipalities Program, we have been supporting a new sustainable development agenda, engaging local stakeholders and combining effective environmental management with a sustainable economy, triggering structural changes. Good results have started to appear in Paragominas, Pará.

The Green Cattle Ranching project tested a more sustainable cattle-raising model in Paragominas, Pará State, Brazil.

From deforestation blacklist
to sustainable development

The municipality of Paragominas, which is now home to 100,000 people, was founded along the Belém-Brasília highway. Its growth was based on the expansion of cattle ranching, logging and crop farming. When the municipality was placed on the deforestation blacklist, embargos and restrictions were imposed, causing an economic crisis and high unemployment.

The turning point came when the political decision was made to establish a Zero Deforestation Pact. This initiative was created by the municipal government, municipal legislature and more than 50 organizations, including companies, unions, residents' associations and NGOs. Fundo Vale was one of the mediators in forming several strategic partnerships.

To begin with, the municipal government of Paragominas started to monitor illegal deforestation through a Deforestation Warning System, created by the Institute for the Amazon's People and Environment (Imazon) and financed by Fundo Vale. In another initiative supported by Fundo Vale, the Association of Paragominas Farmers worked with NGO The Nature Conservancy (TNC) to carry out a Rural Environmental Registration Project throughout the municipality. An action plan was also drawn up, including environmental campaigns, environmental education projects for children and adults, and closer relations with farmers.

Fundo Vale's support for the Zero Deforestation Pact resulted in the design and implementation of the Green Municipality Program in Paragominas.

In a single year, deforestation decreased 90% and the proportion of rural properties registered with the public authorities reached 80%. Today this indicator is more than 90%. Green cattle raising and low-carbon crop farming techniques were implemented at the time and they remain in place in 2020. In the space of three years, Paragominas left the deforestation blacklist and set an example for the country.

What is a green municipality?

For Fundo Vale, green municipalities are those that establish an integrated plan for sustainable collective development. The projects supported by Fundo Vale are based on demands identified by the community itself and initiatives are executed together with government bodies, NGOs, companies and civil society, always aimed at long-term scalability and sustainability.

Fundo Vale's action in Paragominas has involved supporting the following projects:

- "Sustainable Amazon: Monitoring of the Amazon, Support for the Strengthening of State Conservation Units in Northern Pará and Support for Paragominas Green Municipality Initiative," led by Imazon

- "Green Municipalities in the Amazon: Rural Environmental Registration to Support Governance and Monitoring of Deforestation in Altamira, Novo Progresso, Paragominas and São Félix do Xingu," led by TNC

- "Green Cattle Ranching: Building a Ranching Model with Lower Environmental Impacts," led by the Association of Paragominas Farmers and launched in 2011

Cotriguaçu, in Mato Grosso state (Brazil), was another city involved in the agenda of Green Municipalities, through a partnership with the ICV – Instituto Centro de Vida.

Expanding impacts

The Green Municipalities Program began in Paragominas, Pará. Fundo Vale directly supported its structuring and it later turned into a statewide public policy. Today, 132 of the state's 144 municipalities are participating voluntarily in the program. Progress is tracked by a management committee composed of various institutions, including Fundo Vale.

Fundo Vale's resources have allowed university researchers, social organizations and local farmers and business people, in coordination with the public authorities, to collaboratively establish an economic model that can generate income and local development without deforestation. Furthermore, in the most forested regions, such as northern Pará, the municipalities involved in the program have received support from partners to improve their management of protected areas, whether through management plan updates, strengthening of local community investment, environmental education or encouragement of sustainable production.

In 2011, Fundo Vale supported Green Municipality initiatives in Pará (Almeirim, Novo Progresso, Paragominas and São Félix do Xingu,) Amazonas (Apuí, Boca do Acre, Canutama, Humaitá, Lábrea, Manicoré and Novo Aripuanã) and Mato Grosso (Cotriguaçu). Since then, this work has spread to other regions, and more than 50 municipalities have benefited so far.

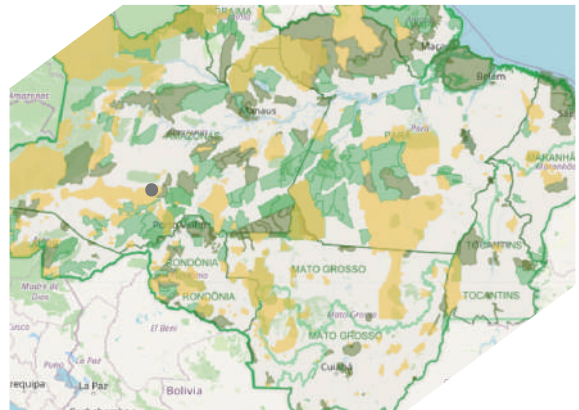## Partners in expansion of Fundo Vale's Green Municipalities Program:

- Institute for the Amazon's People and Environment (Imazon)
- The Nature Conservancy (TNC)
- Institute for Forest and Agricultural Management and Certification (Imaflora)
- Amazon Conservation and Sustainable Development Institute (Idesam)v

- Brazilian arm of International Education Bureau (IEB)
- Center of Life Institute (ICV)
- Tropical Forest Institute (IFT)
- Peabiru Institute

Mato Grosso Sustainable Municipalities Program

In Mato Grosso, municipal governments and social organizations have been mobilized to promote sustainability with the support of Fundo Vale. This led to the construction of an agenda of dialogue and cooperation marked by creation of Mato Grosso Sustainable Municipalities Program, in 2015. Since then, Fundo Vale has had a seat on its management committee. Today, 59 municipal governments are voluntarily participating in the program.

Artificial Intelligence for prevention
and control of Amazon deforestation

Access to technology has been a key factor in the implementation and maintenance of the Green Municipalities Program. We helped Imazon improve its Deforestation Warning System in the Amazon biome, enabling many municipalities to leave the deforestation blacklist. Deforestation warning bulletins are sent to public managers and institutions to support command and control measures.

In 2020, Fundo Vale renewed its support to Imazon to create a tool with the use of Artificial Intelligence to prevent and control the deforestation of the Amazon, in partnership with Microsoft. The objective is to anticipate information from regions with greater risk of deforestation to implement preventive actions. The tool will analyze data such as changes in relief, land cover, cities, construction of legal and unofficial roads, as well as socio-economic information, to identify possible trends in land use changes.

> "Our deforestation and fires risk model will allow us to predict future deforestation in the short term, that is, in the next six months. However, we don't want our risk model to be proven accurate – instead, we want deforestation and fires to be avoided"
>
> **Carlos Souza Jr.**
> Associate researcher at Imazon and the project's coordinator

The data may be used by the public authorities for preventive actions to combat and control deforestation, as well as by the financial sector and agribusiness to mitigate risks involving investments and market transactions associated with illegal deforestation. It is expected that this technology will be available by the next dry season in the Amazon, no later than July 2021.