



FACT SHEET

A just agricultural transition taking root in Brazil

The Indigenous practice of agroforestry is having a renaissance as the global agricultural industry looks to reach net-zero emissions without sacrificing farmer livelihoods. One enterprise in Brazil is demonstrating how to scale this nature-based climate solution, which has the potential to sequester up to 10% of humanity's annual carbon emissions and empower millions of smallholder farmers at the same time.



Summary

- Agroforestry is an ancient **practice of integrating diverse trees and crops on the same land**, and it is now being heralded as one of the leading responses to climate change - soaking up carbon, restoring soils and boosting biodiversity, all while still producing food and income.
- One recent study estimated that **agroforestry could sequester up to 3.3 gigatons of carbon dioxide every year** - roughly 8% of humanity's annual CO₂ emissions.
- **75% of Brazil's emissions come from deforestation** and land degradation. Over the past half century, **over 700,000 km² of Amazon rainforest has been deforested** - nearing a dangerous tipping point.
- **Belterra**, a Brazilian agroforestry startup established in 2019, is blending conservation and commerce to turn vast swathes of degraded farmland into productive agroforests in partnership with farmers.
- Belterra provides farmers with technical support and quality seedlings to build and **expand agroforestry systems and connect farmers to new markets**.
- Belterra's agroforests already **generate ten times more income** per hectare than soybeans and up to **forty times more than cattle grazing**.
- Belterra's bottom-up model also **connects to global markets by partnering with large corporate buyers** - seeking to shift mainstream markets toward agroforestry as the solution to land degradation and securing resilient food systems.
- With 1.7 billion people living in areas where crop yields are failing due to land degradation, there is **vast potential in scaling agroforestry across other tropical forests globally** as a powerful nature- and farmer-based climate solution.

The scale of Brazil's deforestation disaster

- Since it was colonised by the Portuguese in 1500, Brazil's rural development model has been one based on deforestation and extractivism. Today Brazil has over 100 million hectares of degraded land.
- Over the past half century, over 700,000 km² of Amazon rainforest has been deforested. Many climate scientists warn the Amazon may fall into irreversible dieback if it loses 20% of its forest cover - it is already at ~17%.
- Yet the destruction has continued: between 2019 and 2023 Amazon tree loss rose 72%. As a result, the Amazon, once one of the world's largest carbon sinks, has become a net emitter in recent years.
- Recent interventions have succeeded in cutting deforestation in the Amazon in half, but led to an increase in deforestation elsewhere in Brazil - the Cerrado region has lost a million square miles of forest.



What ITA farm looked like (top) before Belterra leased it and established a burgeoning agroforestry system 18 months ago (bottom).

Belterra's model: making nature-based just transitions a commercial reality

Belterra Agroflorestas works with farmers under two models: smallholder partnerships and landowner leases.

SMALLERHOLDER PARTNERSHIPS:

- For the farmers who have a bit of land, the **smallholder partnership model sees Belterra set up a revenue-sharing agreement with the farmer:**
 - The farmer provides the land, labour and sometimes co-investment.
 - Belterra provides the capital and know-how – seedlings, inputs, training and market access.
 - Profits are shared according to the proportion of each party's investment.
 - If the farmer can only offer land and labour, Belterra covers the capital investment costs and leases the land from the farmer, ensuring the profits are fairly divided.
 - The farmer retains ownership of the land.

LANDOWNER LEASES:

- **In Belterra's landowner leasing model, the company partners with landowners who have degraded pasture they are not using:**
 - Instead of allowing degraded land to sit idle, the farmer can rent the land to Belterra, who will turn it into a productive agroforest.
 - Belterra hands the land back to the owner to run after a defined period, having made a profit from the produce in the meantime.

Brazil's agroforestry revolution: a timeline

1920s: CAMTA - an important agroforestry cooperative in the region - was founded in the 1920s by a diaspora of Japanese farmers fleeing a failing rice crop back home. They settled in Tomé-Açu and set up predominantly pepper monocultures, which were highly lucrative for a period of time.

1960s: After a series of disastrous harvests, CAMTA started adapting historical Japanese agroforestry knowledge with the traditional practices of riverside farms of the local Amazonian people, along with modern soil analysis techniques, to create their own unique localised approach to agroforestry: the Tomé-Açu Agroforestry System - "SAFTA".

2019: Valmir Ortega, a former environmental official in Pará State, founded Belterra, an enterprise aiming to blend conservation and commerce to turn vast swathes of degraded farmland into productive agroforests in partnership with farmers.

2020: Ortega established two entities: a private company, Belterra Agroflorestas, alongside a sister nonprofit, Belterra Institute. The private company would work with farms that offered the potential to turn a profit for both Belterra and the farmer. The nonprofit would work with subsistence farmers - particularly those from Indigenous and Quilombola (historic communities of escaped enslaved people) origin - whose farms require technical support to bring up to productive levels.



João Natan Tavares de Araújo, Belterra's field manager at ITA Farm (Credit: Oliver Gordon/JUST Stories)

CASE STUDY

ITA Farm in the city of Santa Isabel do Pará

- Once a cattle ranch, decades of extensive grazing had exhausted its soil.
- The landowner leased the land to Belterra under a 12-year agreement, who have since planted a mix of fruit trees and hardwoods.
- The landowner earns lease income of 1,000 Reais a month (roughly USD \$185), and will inherit a profitable farm at the end of the contract.
- It will take Belterra three years to get the agroforest fully productive, thereby leaving nine years of revenues from selling the produce to cover the set-up costs and turn a profit.
- Meanwhile, local smallholders get jobs and training on the farm.
- The farm serves as a demonstration site, to demonstrate the quick establishment and productivity possible through agroforestry systems.

Agroforests in action

ECOSYSTEM BENEFITS

- Research shows that **agroforests outperform monocultures** on a variety of metrics: restoring soil health, conserving water and preserving biodiversity. Mixing plants also creates natural pest controls and prevents soil erosion better than single-crop farms.
- Integrating trees into pasture and cropland also turns farms into carbon sinks. The United Nations Framework Convention on Climate Change (UNFCCC) estimates that, if scaled up to its potential globally, agroforestry could sequester 1.8–4.1 gigatonnes of CO₂ every year – which is roughly **4–10% of all humanity's annual CO₂ emissions**.
- According to data gathered by Belterra, early adopters in one project - the Marajó Resiliente project - have seen a 30-50% decrease in the need to clear new land within just three years. **Organic matter in soils has risen by up to 60%** in test plots.
- In five years Belterra has so far turned 2,000 hectares of formerly degraded land across Brazil into productive, biodiverse agroforests.
- Belterra's projects are also **safeguarding 18,000 hectares** of standing native forest – by integrating crop cultivation with forest conservation, these areas remain intact rather than cleared for monocultures.
- The climate impact is also significant: Belterra estimates that **each hectare will sequester 250–300 tons of carbon over a 25–30 year cycle** – equating to roughly 500,000-600,000 tons of carbon for Belterra's existing projects.



Cacao and açai (as pictured above) are a highly productive combination for agroforestry systems in Brazil.
(Credit: Oliver Gordon/JUST Stories)

FARMER BENEFITS

- Importantly – from a just-transition perspective – agroforestry can also boost farmer livelihoods.
- A typical family farmer with 20 hectares in the Amazon earns under 20,000 Reais a year (roughly \$3,700); less than minimum wage.
- In Belterra's model, projects typically become cash-positive after three years, once early-yielding crops like fruits start producing. After ten years, a mature agroforest can generate **ten times more income per hectare than soybeans** and up to **forty times more than cattle grazing**.
- The company has directly **created over 300 full-time rural jobs**, plus another **200 seasonal jobs** during planting seasons.
- Data from other regions of the world also demonstrates the extent to which agroforestry can significantly increase yields: for example, integrating Faidherbia trees into maize fields across Southern Africa helped **500,000 farmers increase their maize harvests by 200-300%**.
- By diversifying what is grown on their land, farmers can also create multiple income streams. In parts of East Africa, for example, adopting **agroforestry contributes nearly 30% of total household income** on average, significantly reducing local poverty levels.



Erandir Pinho, a farmer and "multiplier" in the Belterra Institute's Marajó Resiliente project.
(Credit: Oliver Gordon/JUST Stories)

SUPPLY CHAIN SHIFTS

Cargill: The commodity giant is partnering with Belterra on a 1,000-hectare cacao agroforestry project in the Brazilian state of Mato Grosso just south of Pará.

- The three-year project, funded by \$6.4 million provided by Cargill and its bank, will fund the planting of one million cacao trees alongside other crops.
- For Cargill, the project supports its target of restoring 100,000 hectares of degraded land in the country.
- Cargill will also buy the cacao produced by the project – guaranteeing the farmers secure and steady income.

Natura: Belterra has previously worked with the Brazilian cosmetics brand to scale a pioneering sustainable oil palm agroforestry project aimed at restoring 12,000 hectares across Pará.

- The ‘SAF Dendê’ project has already indicated to be more productive than traditional oil palm plantations and stores more carbon in its soils.
- Supported by the Government of Pará, the project contributes to Natura’s goal of securing a deforestation-free source of palm oil for its cosmetics.

Amazon: In 2023, Belterra partnered with the US e-commerce giant to provide 90 million Reais (roughly \$18 million USD) to fund agroforestry projects in Pará as part of its Climate Pledge to reach net-zero emissions by 2030.

- The initial three-year pilot phase will restore 3,000-hectares of degraded land by planting native trees alongside cash crops like cacao.
- The project currently works with roughly 1,000 producers across the state, with each hectare also sequestering an estimated 136 tons of CO₂ over 14 years.
- Amazon plans to claim roughly 750,000 tons of high-quality carbon credits from the initial 3,000 hectares in 30 years – all certified under Verra’s new ABACUS standard, which Amazon helped develop to ensure “high integrity” forest carbon removal.



Zé Maria's 50 hectare agroforest - the scale of roughly 70 football fields. (Credit: Oliver Gordon/JUST Stories)

Financing agroforestry: Belterra's model

- Setting up an agroforest requires an upfront investment of around USD \$10,000 per hectare over the first three years – for seedlings, soil restoration and maintenance.
- To fund this, Belterra uses **blended finance; a mix of philanthropic, public and private investment**. The company has established an innovative financing vehicle to pool capital:
 - grants and “catalytic” impact funds absorb initial risks.
 - private investors (including via a Rural Receivables Certificate) provide loans that expect returns over the long term.
- This layered fund has **raised over \$60 million**.
- One challenge agroforestry faces is that trees take years to bear fruit. Belterra covers that shortfall by intercropping fast-growing crops like cassava, corn and beans to provide food and income in the shorter term.
- Belterra's also supplements revenues by **selling carbon credits**. From the second year, each hectare of agroforest begins sequestering a substantial amount of carbon – on average, 136 tonnes of CO₂ over 14 years in Belterra's projects. Belterra aggregates and certifies these emissions reductions to sell as carbon credits, creating an extra income stream to repay investors and reward farmers.
- Belterra's business model has also received the stamp of approval from financial markets. **The company has raised over \$22 million** and has **commercialised more than 300,000 carbon credits** in pilot operations.
- At the end of 2025, the national development bank BNDES approved a R\$100 million low-interest loan via Brazil's Climate Fund to help Belterra expand agroforestry in four states. This will enable the restoration of an additional 2,750 hectares of pastureland by 2027 – projected to sequester about 850,000 tons of CO₂.

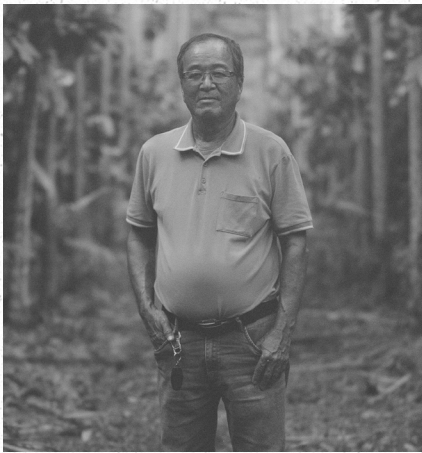
Voices of the Brazilian Amazon



Previously an environmental official in Pará State, helping oversee an 85% drop in deforestation across the Amazon, **Belterra's founder Valmir Ortega** says

“[Our] great challenge [was] providing an economic alternative that could enhance the sustainable use of the forest... as well as [its] restoration.”

“This is a transition co-created with farmers, not imposed on them.”



“We planted and saw that when we combined certain species, they grew better,” says **Michinori Konagano, an agroforestry pioneer in Brazil.**

His agroforestry system encompasses 280 hectares - nearly 700 acres or around 280 football fields - and is an important supplier of seedlings for Belterra. He sees agroforestry not just as a technical solution, but as a philosophy. *“You need to understand nature. If you understand it, you can live in harmony with it. The secret is care. You take care of the soil, it takes care of you.”*



“People sometimes think it's one or the other – agriculture or forest,” says **Zé Maria Pantoja, an agroforestry farmer in Tomé Açu and partner of Belterra.** *“They don't understand it's possible to combine the two.”*

Today, Zé Maria grows cacao pods, açaí berries, Brazil nuts, passion fruit and cassava, harvesting different high-yielding crops year-round, which has doubled the farm's production and income.



“It became unprofitable to have a 68-hectare ranch with the 10 animals it could sustain,” explains **João Natan Tavares de Araújo, Belterra's field manager at ITA Farm,** which the landowner leased to Belterra after decades of extensive grazing exhausted the land's soil.

“When we leave here, we will have more awareness, both from the landowners... and the inhabitants around,” says de Araújo, noting that Belterra insists on upskilling local people in agroforestry. *“We're not just leaving a productive farm but also people who are trained... who can organically spread the work.”*



The appeal of agroforestry for Natura goes beyond supporting their carbon commitments: it offers resilience against climate threats like drought - critical to Natura, which depends on Brazil nuts, andiroba oil and cupuaçu butter.

“Through agroforestry, it’s more certain we’ll have our ingredients for a long time,” says **Bianca Marcuartú, a sustainability lead at Natura.**



The Amazon–Belterra partnership comes to life in the form of The Carbon Sequestration Association, a collective of 16 farming families each managing their own agroforestry plots who access carbon finance collectively.

“Alone, we are small,” explains **farmer José Maria De Souza of the Carbon Sequestration Association in Brazil**, as he shows us around his burgeoning agroforest. *“Together, we are strong – and sustainable.”*

FURTHER READING:

- Belterra: <https://www.belterra.com.br/>
- ‘A just agricultural transition taking root in Brazil’ - the full story from JUST Stories: <https://www.just-stories.org/stories>
- ‘From risk to resilience: Lessons for business from an emerging agroforestry model in Brazil’ - a business brief from JUST Stories: <https://www.ihrb.org/latest/from-risk-to-resilience-lessons-for-business-from-an-emerging-agroforestry-model-in-brazil>

The story of Brazil’s agricultural just transition is being featured by **JUST Stories** – a project from the Institute for Human Rights and Business (IHRB) dedicated to finding and telling stories of people working together to advance just transitions. To read the full story and for more information please visit www.just-stories.org.

