Land Use Finance Impact Hub | Country Factsheet

Investor guide to environmental and social opportunities and risks:

# Brazil: Amazon and Cerrado

**This factsheet provides essential information for financial institutions seeking to generate measurable positive social and environmental impact in conjunction with financial returns. Specifically, the factsheet focuses on investments in sustainable land use in the Brazilian Amazon and Cerrado. These are biomes that are particularly exposed to agricultural expansion, and offer ample possibilities for investing in sustainable land use practices.[1] It forms part of a series of factsheets focusing on environmental and social risks and opportunities for investment at a country level, hosted on the Land Use Finance Impact Hub.**

**When investing in land use systems in the Brazilian Amazon and Cerrado, investors must comply with the country's legal and policy frameworks regarding the protection and sustainable use of the environment. They should also uphold the rights of Indigenous Peoples, remaining quilombo communities[2], and other traditional groups. To promote best environmental and social practices in agriculture investment across value chains, investors should also be aware of leading sector initiatives and seek to support the livelihoods of smallholder farmers and women.**


**Brazil Key Stats:**

- Population (2023): 216,422,446
- Capital: Brasília
- Language: Portuguese
- Surface Area: 8,358,140 sq. km
- Main exports (2021): iron, soy, petroleum
- Currency: Brazilian real (BRL)
- GDP (2023, current US$): 2.17 trillion

*Source: DataBank from the World Bank. World Development Indicators.*

To the left: **Map 1. Brazil's biomes and states.**
The boundaries and names shown, and the designations used on this map, do not imply official endorsement or acceptance by the United Nations.

**Factsheet developed by UNEP and UNEP-WCMC, April 2025.** Authors: Giacomo Ascenzi (UNEP-WCMC), Laura Nery Silva (UNEP-WCMC), Joanna Wolstenholme (UNEP-WCMC), Rodrigo Cassola (UNEP-WCMC), Raphaele Deau (UNEP), Raquel Da Costa (UNEP) and Thiago Paiva Grandi (UNEP).

UN environment programme WCMC

IFACC
INNOVATIVE FINANCE FOR THE AMAZON, CERRADO AND CHACO

## Environmental and Social Context

Investors financing land use projects in Brazil must consider and assess various environmental and social topics ahead of investment. This section covers these topics for the Brazilian Amazon and Cerrado.[3] Resources are listed for further reading. The four sub-sections below align with the impact areas considered in the Positive Impact Indicators Directory.

### Biodiversity and natural ecosystems

Biodiversity and natural ecosystems

Brazil is the most biodiverse country on the planet, hosting around 15-20% of all biodiversity in the world.[4] Its national territory is the fifth largest in the world by area and it is comprised of six terrestrial biomes, each bringing distinct contributions to biodiversity.

These biomes include the Amazon tropical rainforest, the Caatinga semiarid thorn forest, the Cerrado savanna, the Atlantic tropical and subtropical forest, the Pampa grassland, and the Pantanal wetland.[5]

Both the Amazon and Cerrado are particularly biodiversity-rich areas. Around 10% of all known species on Earth live in the Amazon and 5% in the Cerrado, with a new species of animal or plant discovered in the Amazon every two days on average.[6]

Amazon

The Amazon hosts the largest river basin and tropical forest in the world. It provides a multitude of ecosystem services that have local, regional and global significance.[7] The Amazon River accounts for around 16% of the world's total river discharge into the oceans. The Amazon rainforest regulates temperature and humidity, improves air quality, and protects soils.[8] An estimated 150-200 billion tons of carbon are stored in the Amazon's forests and soils.[9] Cultural and provisioning services provided by this biome, from tourism and recreation to production of timber and non-timber forest products, are also essential to sustain livelihoods.[10] The protection and sustainable use of the Amazon biome will be critical to reaching global climate, biodiversity and social development goals.[11]

The Amazon rainforest in Brazil covers around 4.1 million square kilometres (around 49% of Brazil's total land area) and spans across the states of Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Tocantins, Mato Grosso and Maranhão.[12] Generally regarded as a natural carbon sink, the Brazilian section of the Amazon rainforest is reported to have recently turned into a net source of carbon.[13] Ongoing climate change and deforestation patterns risk turning large amounts of rainforest into dry savanna.[14] **Investors should ensure that their investees avoid contributing to further deforestation by setting and enforcing cut-off dates for legal and illegal deforestation in line with guidance by the Accountability Framework Initiative . Examples of cut-off dates for the Amazon include 2008 for the Amazon Soy Moratorium and 2019 for the Indirect Suppliers Working Group for Brazilian Ranching.**[15]

Deforestation trends in the Amazon are due to a combination of unsustainable cattle ranching, agriculture, mining, illegal logging and road projects.[16] In 2023, deforestation concentrated around the states of Pará (166,577 ha of forest lost), Mato Grosso (97,409 ha) and Amazonas (87,762 ha). Municipalities with the highest deforestation levels include Altamira (20,920 ha), Apuí (18,394 ha) and Porto Velho (15,739 ha).[17] After reaching a fifteen-year high in 2021, Brazil's deforestation rate has since decreased, thanks to effective government enforcement of national legislation. In the period from August 2023 to April 2024, Brazil reduced its deforestation rate by 55% compared to the previous year and reported the lowest deforestation rate for the period in the last ten years.[18] Brazil has committed to halt all deforestation by 2030.[19] **Investors should keep up to date with deforestation trends across states and municipalities. This will help inform robust forest risk screening procedures for their investments. To this end, they can use land use and land cover information provided by Mapbiomas Brasil.**

Cerrado

The Cerrado is a tropical savanna that covers nearly a quarter of the territory of Brazil. It is the second-largest biome in Latin America after the Amazon. The Cerrado is a biodiversity-rich and heterogeneous landscape including mixed vegetation of woody plants, grasses and forested areas.[20] The Cerrado provides critical ecosystem services, such as flood control, energy security and climate regulation. It is a reservoir for 14% of Brazil's freshwater resources and holds 16% of Brazil's total stored carbon.[21]

The Cerrado spans across 11 centre-west, north and northeast states. It is greatly affected by the expansion of cattle ranching and large-scale agriculture: over the past 20 years, 50% of its native vegetation (30 million hectares) has been converted. From August 2023 to April 2024, the conversion rate increased by 27% compared to the previous year, and in 2023 the Cerrado became the biome in Brazil with the largest total converted area (1,110,326 ha).[22] Conversion was heavily focused in Maranhão (320,884 ha converted in 2023), Tocantins (229,620 ha), Bahia (194,272 ha) and Piauí (115,924 ha), which also host the largest remaining areas of native vegetation. Nine of the ten most deforested municipalities in 2023 were in the Cerrado.[23] **Investors must ensure that their investees set and enforce cut-off dates for legal and illegal native vegetation conversion, in line with guidance by the Accountability Framework Initiative. A common cut-off date for the Cerrado is 2020, in line with the Voluntary**

**Box 1 – Brazil's Forest Code (Federal Law No. 12,651 of 2012)**

Being familiar with the Forest Code is essential for those who wish to carry out any land use project in Brazil, from ecosystem restoration to low-carbon agriculture and sustainable forest management. The Code sets out a series of requirements for landowners to ensure the protection of the natural ecosystems within their rural properties.

**Key Forest Code provisions that investors should know about include**:

- Landowners **must be in possession of a license** from a competent environmental agency before they can engage in any deforestation or conversion. Conducting deforestation and conversion activities without a license is a crime.
- Landowners **must designate and maintain a percentage of their property area as an area of "Legal Forest Reserve"** (Reserva Legal). The percentage varies depending on the biome: it is set at 80% in the Amazon and between 20% and 35% in the Cerrado.
- Landowners **must leave intact areas defined as Permanent Preservation Areas** (Áreas de Preservação Permanente, APP), due to their ecological significance. These are defined by their natural features (e.g. slope, proximity to rivers and springs, and others).
- Landowners **must register their property on the federal Rural Environmental Registry** (Cadastro Ambiental Rural, CAR). This self-declaration includes ownership details, information on the property boundaries and preserved areas, and must be validated by competent government bodies.
- When found non-compliant with regulation on preserved areas, landowners **must comply with the Environmental Regularisation Programme** (Programa de Regularização Ambiental, PRA) to regenerate or restore native vegetation within the property or use the offsetting mechanism outlined below if the area was deforested before 22 July 2008.
- In specific cases, the Law also allows the use of offsetting for farmers to compensate for non-compliance with the Forest Code. If applicable, landowners with a Legal Reserve deficit **can use Environmental Reserve Quotas** (Cotas de Reserva Ambiental, CRA) **to avoid legal consequences.** These are sold by public or private landowners that have excess native forest on their lands.

**Investors should ensure that their clients are compliant with the Forest Code or provide incentives for compliance to be reached.** It is important to note that information on licensing and CAR data remains fragmented and inconsistent across states. There is limited spatially explicit data on farms adhering to PRA, and no consolidated dataset on implemented CRAs.

**References and detailed analysis at the state level can be found here**:

- Climate Policy Initiative 2015. Brazil's New Forest Code: How to Navigate the Complexity.
- Climate Policy Initiative 2023. Where Does Brazil Stand with the Implementation of the Forest Code.
- Trase 2023. Soy and legal compliance in Brazil: Risks and opportunities under the EU deforestation regulation.

**Monitoring Protocol for Cattle Suppliers in the Cerrado. Investors should also seek to promote sustainable intensification on land that was already cleared in the last 50 years instead of driving further conversion**.[24]

Legal frameworks concerning deforestation and conversion in the Amazon and Cerrado

Brazil has a series of legal and policy frameworks at the federal, state, and municipal levels that include provisions relating to ecosystem management, the protection of native vegetation and forests, and the reduction of deforestation and conversion rates.[25] At the federal level, key frameworks include:

- Brazil's Federal Constitution of 1988, whose article 225(4) provides that the Amazon rainforest is national heritage. Chapter VI, Article 225 of the constitution also lays the foundation for the country's environmental law and policy.
- Federal Law No. 9,605 of 1998, or the Environmental Crimes Act, establishes the rules and violations regarding environmental crimes.
- Federal Law No. 9,985 of 2000, establishing the National System of Protected Areas (SNUC, in Portuguese). For more information on SNUC and other lato sensu protected areas in Brazil, see the dedicated section.
- Federal Law No. 11,284 of 2006, the so-called "Forest Public Management Law." It allows for management through forest concessions and focusing on environmental licensing, forestry prices, and forest classification;
- Federal Law No. 12,651 of 2012, known as "the Forest Code." It seeks to preserve native vegetation, regulating the nationwide protection and sustainable use of native forests and other natural ecosystems. For more information, see Box 1.

Protected and Internationally Recognized Areas

Brazil has a total of 3780 protected areas, with terrestrial and inland waters protected areas covering around 30% of the country's area.[26] Protected areas are characterized by different classifications and governance types. For instance, Federal Law 9985/2000 established the National System of Protected Areas (Sistema Nacional de Unidades de Conservação – SNUC in Portuguese), which spans across federal, state, municipal and private areas. This system stipulated that protected areas, also called conservation units, can be of two categories:

1. Strict Protection Units (Unidades de Proteção Integral), aiming at conserving biodiversity and prohibiting direct use or consumption of natural resources.
2. Sustainable Use Units (Unidades de Uso Sustentável) allow human settlements and the use of natural resources in accordance with a sustainable management plan.[27]

As of early 2021, Brazil had 798 strict protection units and a total of 2500 conservation units, covering around 18.7% of its territory.[28] Over 75% of SNUC area is in the Amazon biome.[29] **Before considering investments within conservation units, investors should understand which activities are suitable to each conservation unit category. They should also evaluate how their financing will contribute to the conservation and sustainable use objectives of the area. If it does not, the investment should be avoided. It is essential to apply regulatory compliance and follow best practices in terms of safeguards and risks management, including risk analysis and due diligence, mitigation hierarchy implementation and Environmental and Social Action Plans.[30]**

Protected areas under SNUC are complemented by a number of different senso latu protected areas, such as Legal Forest Reserves and Permanent Preservation Areas under the Forest Code. Moreover, indigenous and quilombola lands are formally recognized as protected areas under the National Strategic Plan for Protected Areas. Indigenous lands make up around 13% of the national territory of Brazil.[31] Around 98% of total area recognized as indigenous is located in the Legal Amazon (which includes most of the Amazon biome and parts of the Cerrado and the Pantanal).[32] **For indigenous and quilombola lands, Free, Prior and Informed Consent (FPIC) needs to be secured before any activity takes place. More information on engaging with indigenous and quilombo communities can be found under the Livelihoods and Gender section of this factsheet**.

Brazil also abounds in internationally designated areas, including UNESCO natural World Heritage sites, UNESCO Man and the Biosphere Reserves, Ramsar Convention wetlands, and Key Biodiversity Areas. A total of 25 Ramsar wetlands have been identified in Brazil, as well as 275 Key Biodiversity Areas (KBA).[33] **Investors should be aware that not all internationally designated areas are nationally recognized as protected areas. As an example, only 45.65% of KBAs in Brazil are currently covered by a conservation unit.[34] Given KBAs are more likely than other areas to be protected in the future, investors should tread carefully when considering investments in such locations**.

*Other key resources:*

- Mapbiomas Brasil – open platform mapping and monitoring Brazil's land use and land cover. Data covers deforestation, regeneration, wildfires, water levels and crop areas.
- Bolfe, E. et al., 2024. Potential for Agricultural Expansion in Degraded Pasture Lands in Brazil Based on Geospatial Databases – study analysing publicly available databases to generate information about the potential of Brazilian degraded pastures for agricultural expansion.
- Ministério do Meio Ambiente e Mudança do Clima, 2024.Categorias de Unidades de Conservação – categorization of protected areas in Brazil (in Portuguese).

## Livelihoods and gender

Brazil is an upper-middle-income country and the largest economy in Latin America. Despite improvements across development indicators over the past decades, investors should be aware that Brazil faces high levels of inequality across regions. Social, economic, racial and gender considerations play a significant role in affecting people's welfare.[35] 36% of people living in the Legal Amazon live in poverty, disproportionately affecting Indigenous Peoples, Afro-Brazilians and female-headed households.[36] The Amazon region also fares worse than the rest of Brazil in terms of access to water and sewage treatment systems.[37]

Land Tenure

Brazil's land tenure system presents a series of challenges that have significant implications for rural communities across the country, including in the Amazon and Cerrado. For instance, ownership of agricultural land is heavily concentrated in the hands of few. The

2017 Agricultural census reports that around 4% of the farmers control 63% of farmland. On the other hand, smallholders represent 77% of all farms but hold only 23% of farmland.[38] In the Legal Amazon, the situation is more skewed: 80% of farmers own less than 100 hectares of land and account for 13% of total area.[39] Smallholders generally rely on cattle ranching as their primary activity and engage in subsistence farming, focusing on annual crops such as corn, beans and manioc.[40] **Investors should seek to promote just and sustainable production practices by providing finance and technical assistance to cooperatives and smallholders, e.g. through partnerships with organizations that are knowledgeable of the local context**.

Another issue is the fragmentation of land tenure designations at the federal and state level, facilitating the escalation of land disputes and conflicts.[41] In 2019, it was estimated that 36% of the Brazilian territory is classified as public (such as indigenous lands and conservation units), 44% as private, and 17% as either unregistered or with unknown tenure.[42] Overlaps between land tenure categories mostly occur in the Amazon and add up to 41% of Brazil's territory. Half of these overlaps are between public and private land tenure categories.[43] **When assessing a potential client's land tenure record, investors should access information reported in the Rural Environmental Registry. They should also carry out thorough due diligence to ensure that there are no significant environmental, social and reputational risks, and no history of human rights violations.**

Indigenous Peoples

The 2022 Demographic census indicates that there are 266 Indigenous Peoples' communities in Brazil, with a population of 1,693,535 people (around 0.83% of total population) speaking over 275 different languages.[44] Whilst Indigenous Peoples are present in 87% of Brazilian municipalities, more than half live in the Legal Amazon and most live in indigenous lands.[45] The Brazilian Amazon is home to the largest number of Indigenous Peoples living in voluntary isolation or initial contact in the world. The three states with most Indigenous Peoples living in indigenous lands are Amazonas (149,000), Roraima (71,400) and Mato Grosso do Sul (68,500).[46] **It is fundamental that investors understand whether proposed projects would occur on indigenous lands. When considering projects affecting Indigenous Peoples, investors should conduct thorough due diligence processes on their clients, respect Indigenous rights (e.g. right to give or withhold FPIC, customary sustainable use), as well as ensuring full and effective participation of affected communities.[47]**

The rights of Indigenous Peoples in Brazil are recognized in a dedicated chapter in the 1988 Constitution and supported by the National Indigenous Peoples Foundation (Fundação Nacional dos Povos Indígenas - FUNAI) and by the newly established Ministry of Indigenous Peoples. In 2023, government efforts have also led to the official demarcation of six indigenous lands.[48] However, the topic of territorial rights remains very complex and is subject to legislative disputes.[49] When land rights for Indigenous Peoples are not established or enforced, tensions with agribusiness and landowners can arise, especially in the Amazon and Cerrado. Armed militias composed of these interest groups can lead to land grabbing, forced evictions, and escalation of violence. They can also drive illegal deforestation and mining activities that violate the rights and jeopardize the safety of Indigenous Peoples and the environmental integrity of their lands.[50] **Obtaining legal land recognition is a complex process and indigenous lands are at different stages of identification and demarcation. Investors should ensure their investments do not exacerbate land conflicts or result in evictions of Indigenous Peoples. Investors must avoid engaging in investment projects that would affect the lands and livelihoods of Indigenous Peoples that live in voluntary isolation.[51]**

Quilombola Communities

The census also reports that there are 1,327,802 quilombolas in Brazil, with approximately one third living in the Legal Amazon.[52] As defined by Decree 4.887/2003, quilombo communities "are considered to be ethnic-racial groups that, according to self-identification criteria, have their own historical trajectory, specific territorial relations, and a presumption of Black ancestry linked to resistance against historical oppression".[53] Most quilombo communities live by subsistence agriculture, fishing and/or agroforestry, and the Federal Constitution recognizes their settlements as property and states must issue titles to the land accordingly. However, since 1995 only 186 quilombola territories have been titled (and some only partially). 1719 land-titling processes are pending, with 44% of them being open for more than 10 years. **During projects' screening and due diligence phase, investors should understand whether their project area is on or near quilombola lands and ensure that communities are consulted and engaged in projects that affect their livelihoods, and that their FPIC and customary sustainable use rights are safeguarded**.

Other Traditional Communities

In addition to Indigenous Peoples and quilombos, 26 groups are formally recognized as traditional communities under Brazilian law, a broader categorization defined in the Presidential Decree 6040/2007 as "culturally differentiated groups who recognize themselves as such, who hold their own forms of social organization, who occupy and use territories and natural resources as a condition for their cultural, social, religious, ancestral and economic reproduction, utilizing knowledge, innovations and practices generated and transmitted through tradition."[54] Under the SNUC system, traditional communities can live in and use resources in Sustainable Use Units (including so-called Extractive Reserves).[55] On terrestrial Extractive Reserves, these groups can focus on subsistence activities, agroforestry and management of non-timber forest products. **Investors could look to create sustainable supply chains for products that**

**are culturally important to traditional communities. When engaging with these groups, investors should implement community-based and inclusive governance approaches.**

Gender Equality

Gender inequality remains entrenched in rural livelihoods in the Amazon and Cerrado, manifesting in women owning fewer and smaller farms than men, and receiving unequal pay for the same number of hours worked even when they are more educated or experienced.[56] Gender inequality can lead to social and economic marginalization, limited access to formal education, and lack of participation in the decisions related to production and sale of biodiversity products.[57] **Investors should ensure that they provide women with equal opportunities to be involved in their projects' activities and benefit from their outcomes. In line with the Challenge 2X Criteria, investors could also look to ensure that at least 25% of the workforce in investable projects are women or invest in female-owned or -led businesses.**

In the Brazilian Amazon and Cerrado, there are traditional production activities that are led by women. For instance, groups of women from Indigenous and quilombo communities have cracked babassu nuts for centuries. States such as Piauí, Tocantins, and Maranhão have implemented the so-called Babassu Access Act (Lei do Babaçu Livre, in Portuguese), which aim to facilitate these women's access to babassu nuts.[58] **Given the importance of gender considerations in agricultural production systems, investors should collect and process gender-disaggregated data, as well as implement Gender-Action Plans as appropriate.**

Decent Work

Following the recommendations of the International Labour Organization (ILO), Brazil launched its National Decent Work Agenda in 2006 and its National Plan for Employment and Decent Work in 2010. These documents outline three priorities for the Brazilian government, namely 1) generating more and better jobs, with equal opportunity and treatment; 2) eradicate slave labour and child labour, particularly in its worst forms; and 3) strengthen tripartite players and social dialogue as a tool of democratic governability.[59] Despite progress, the country still faces challenges related to the promotion of decent work, with an estimated 1.7 million children aged between 5 and 17 subjected labour (the majority of which are black or pardo). A total of almost 63,000 people were found living in conditions analogous to slavery in the 1995-2023 period.[60]

Modern slavery in Brazil is observed across different economic activities, commonly within cattle farming and agriculture. Factors such as race, gender and level of education can influence the degree of vulnerability.[61] Slavery in cattle and agriculture supply chains is interconnected with deforestation and ecosystem conversion in the Brazilian Amazon and the Cerrado, driven by criminal networks operating in remote areas.[62] **Investors should be informed by the Brazilian government list of companies and individuals implicated in modern slavery. The "Lista Suja" or dirty list is an essential tool when carrying out due diligence.[63]**

*Other key resources:*

- The Nature Conservancy, 2024. Human Rights Guide for Working with Indigenous Peoples and Local Communities – guide that offers tools for how to support and uphold the autonomy, decision-making, and self-determination of Indigenous Peoples and local communities.
- Organization of American States, 2021. Situation of Human Rights in Brazil – assessment of the human rights situation conducted by the Inter-American Commission on Human Rights.
- International Finance Corporation, 2012. Performance Standard 2: Labor and Working Conditions – standard for companies to treat their workers fairly, provide safe and healthy working conditions, avoid the use of child or forced labor, and identify risks in their primary supply chain.

## Sustainable production

Over the past two decades, Brazil's economic growth has been driven primarily by agriculture and extractive sectors. In 2021, agribusiness contributed to around 28% of GDP, 20% of total employment and 39% of total exports.[64] Brazil is a top-5 producer of 34 agricultural commodities. It is a leading producer of coffee, sugarcane, soybean, beef and poultry and the world's top exporter of soy, beef and corn, as well as the second top exporter of cotton.[65]

**Investors should look to promote environmentally and socially sustainable approaches to agricultural production in the Brazilian Amazon and Cerrado, focusing in particular on smallholder farmers and cooperatives. To this end, it is important to keep abreast of relevant national laws and follow ongoing international policy developments**. Examples include joint declarations issued by the Southern Common Market (Mercosur), the Brazil-China Joint Statement on combating climate change, the Free Trade Agreement between the European Free Trade Association and Mercosur, and the EU Deforestation Regulation (EUDR).

Despite the variety of agricultural products in Brazil, initiatives such as the Innovative Finance for the Amazon, Cerrado and Chaco (IFACC) aim at informing best practice and scaling private investments into sustainable agriculture in these priority biomes. The initiative focuses on the two commodities that mostly drive deforestation and ecosystem conversion, namely cattle and soy. More recently, IFACC has spotlighted agroforestry systems and the production and management of non-timber forest products (NTFP) as bioeconomy solutions that prevent deforestation and ecosystem conversion while providing socioeconomic benefits to local communities.[66]

Soy

Brazil is the world's largest soy producer and exporter, with production concentrating in the Cerrado and Amazon biomes and exports mainly directed to China.[67] Between 2000 and 2014, soybean area in the Cerrado increased by 253% and production continued to grow in the following years, especially in the Maranhão, Tocantins, Piaui, and Bahia states. Production in the Amazon is concentrated in the Mato Grosso state and has increased by 272% since 2008.[68]

Soybean production across the Amazon and Cerrado is mostly associated with prominent agribusinesses, real estate firms and companies. It is expected to grow by another 30% by 2030 compared to 2020 to meet additional demand.[69] In 2017, the Cerrado Manifesto was released by 60 non-governmental organizations and a Statement of Support was signed by 23 global companies to take action to halt ecosystem conversion in this biome. **Investors should finance deforestation and conversion-free production of soy in the Cerrado, focusing on already-degraded pastureland. They should also incorporate soy specific environmental and social requirements into their client screening and due diligence processes. A comprehensive list of requirements was published by The Nature Conservancy and can be found here**.

In the Amazon, a voluntary agreement known as the Amazon Soy Moratorium was enacted by the soybean production chain in 2006 with the goal of preventing trading companies from buying soybeans produced in areas of the Amazon biome deforested after 2008. In 2016, the agreement entered into force indefinitely.[70] **Investors must ensure that producers adhere to accredited sustainable sourcing protocols and standards, such as those set by the Round Table on Responsible Soy Association. Furthermore, investors in soy production in the region should ensure they are not financing the displacement of cattle ranching into other forests and ecosystems.[71]**

Cattle

Producing 9.7 million tonnes of beef, Brazil was the world's second largest producer in 2021. It is also the country that exports the most beef (25.5% of total production) globally.[72] As with soy, the Cerrado and Amazon are the biomes that are most threatened by cattle expansion and related deforestation. While Mato Grosso is the biggest producing state, in 2020 the Amazon state of Pará and the Cerrado states of Goiás and Tocantins were particularly subject to cattle-driven deforestation in 2020.[73]

Unlike soy, 75% of produced beef is consumed domestically, and beef for export is primarily destined to China and Hong Kong.[74] Most cattle production is in the hands of larger agribusinesses, especially at the slaughterhouse level. However, small producers are an essential part of the beef value chain, with 74% of family farmers in Brazil indicating livestock production and pasture as their main land use.[75] Smallholders act as indirect suppliers in complex value chains, and generally have a lower production efficiency than the national average, which might lead them to seek additional income by clearing forest and native vegetation.[76] **As mentioned in the Livelihoods and Gender section, investors should look to devise financing mechanisms that support smallholders' livelihoods and enable conservation and restoration actions.**

Beef production is expected to grow 20% over the next decade.[77] Ensuring that this increase does not contribute to further environmental degradation and foster social exclusion is fundamental. Investing in sustainable intensification of cattle ranching on productive and degraded land is fundamental. **Investors should also promote good livestock practices and could seek to establish integrated systems, combining cattle ranching with crop and forestry activities. A comprehensive list of client requirements that investors can use when conducting screening and due diligence processes in cattle value chains was published by the Nature Conservancy and can be found here.[78]**

**Investors must also be aware of cattle monitoring commitments that their clients might be subject to, as well as of existing initiatives that outline best practice, such as the Voluntary Monitoring Protocol for Cattle Suppliers in the Cerrado**. More formal agreements such as the Public Livestock Commitment (also known as G4) and the Term of Adjustment of Conduct (TAC) agree that slaughterhouses should not purchase cattle from farms with deforestation in the Amazon after 2009. However, only a portion of the Cerrado in Mato Grosso is covered by these commitments, and implementation is largely limited to direct cattle purchase – thus covering only 14% of exported beef. **When working with large producers, investors should provide credit conditional on reaching environmental and social outcomes through the improvement of traceability systems. If working with small and medium producers, investors should consider providing credit coupled with tailored technical assistance to sustainably diversify while increasing production.**

Agroforestry and non-timber forest products (NTFPs)

Brazil has recently focused on promoting the Global Bioeconomy Initiative and on developing its National Bioeconomy Strategy. Under the Strategy, the bioeconomy is defined as a development model capable of generating products, processes, and services based on sustainable use, regeneration, and conservation of biodiversity.

**Box 2 – Land use opportunities linked to the bioeconomy in Brazil**

The Brazilian government, as part of it's G20 presidency, has launched the Initiative on Bioeconomy focusing on three main themes: science, technology and innovation for bioeconomy; sustainable use of biodiversity for bioeconomy, and the role of bioeconomy in promoting sustainable development.

As part of this effort, the G20 has agreed on a set of high-level principles intended to catalyse a more equitable, sustainable development of the global bioeconomy. Although these principles are voluntary and non-binding, they underscore critical priorities such as the conservation of biodiversity, the sustainable use of natural resources and the just and equitable sharing of the benefits from genetic resources and associated traditional knowledge. Additionally, these principles encourage sustainable consumption and production patterns, bioeconomy trade, and active participation from the private sector and civil society.

**For investors, Brazil's bioeconomy presents substantial opportunities, particularly in sectors such as sustainable agriculture, agroforestry, and the management of non-timber forest products (NTFPs).** These sectors not only contribute to the preservation of Brazil's critical biomes, such as the Amazon and Cerrado, but also support long-term economic resilience by fostering sustainable livelihoods and reducing the pressure on natural ecosystems.

Investment opportunities aligned with the National Bioeconomy Strategy are abundant across various value chains, including coffee, cocoa, acai, fish production, fruits, among others. **Investors should integrate robust environmental sustainability and social equity principles into their operations to ensure positive outcomes. Bioeconomy investments have large social implications, and its impact should be carefully considered. Additionally, collaboration with catalytic capital providers and local organizations will be crucial in designing and scaling effective bioeconomy solutions.**

***References:***

- Nature Finance 2024. The Global Bioeconomy
- Nature Finance 2024. Financing a Sustainable Global Bioeconomy
- The Climate Champions Team, Capital for Climate, Innovative Finance for the Amazon, Cerrado and Chaco (IFACC) and Brunswick Group 2024. The Opportunity for Investors in Brazil and Beyond.

Guided by scientific and traditional knowledge, the bioeconomy aims to add value, create jobs and income, promote sustainability, and achieve climate balance. At the state level, the Amazonian state of Pará has also launched a Bioeconomy Plan. Additional information can be found in Box 2.

Within this concept, agroforestry systems and NTFP production systems (also known as extrativistas) have received particular attention from investors.[79] While the former defines arrangements where woody perennials are integrated with crops and/or animals on the same land management unit, the latter indicates managing the collection, processing and commercialization of non-timber products originating from forests. Both solutions can improve livelihoods through revenue generation and remove pressure for further conversion of natural ecosystems.[80] The Amazon and Cerrado offer vast opportunities for bioeconomy solutions, with studies estimating that they could generate $8-16 billion in revenues per year by 2030 in the Cerrado and 8.3$ billion per year in the Amazon.[81]

On average, it is estimated that 7% of rural properties in the Amazon and Cerrado have agroforestry systems, with little difference in implementation levels between producers of different sizes.[82] In the Cerrado, most agroforestry systems are characterized by non-native trees with cattle ranching (silvopasture, better known as integrated livestock-forestry systems).[83] On the other hand, most NTFP value chains are currently located in the Amazon, with some examples being açai, cocoa, Brazil nuts, and hearts of palm.[84] There are different motivations among producers depending on their context. For instance, agroforestry and NTFP systems can support smallholders to diversify their income and monetize areas that might otherwise be legally deforested, while large-scale producers might see the benefit of agroforestry systems to comply with restoration or legal reserve requirements while accruing economic benefits. **Investors should be aware of the environmental, social, and economic benefits of agroforestry and NTFP projects and communicate with potential clients to understand how they can provide financial and technical assistance in line with investees' needs. To this end, they can refer to the Guidelines for Alignment with IFACC Environmental and Social Approach.**

*Other key resources:*

- TRADE Hub – research hub focused on making trade sustainable for people and the planet. Research on Brazil has focused, among other topics, on agriculture-driven conversion, the role of banks and traders involved in the Brazil-China soy supply chain, sustainability criteria in international trade in agricultural products and on supply chain traceability
- The Nature Conservancy, 2022. Pathways to Leverage Carbon Finance for Deforestation and Conversion-Free Soy and Beef Production in the Brazilian Amazon and Cerrado – study outlining investable strategies that generate emissions reductions and carbon sequestration

- Innovative Finance for the Amazon, Cerrado and Chaco, 2023. Finance for a Forest-positive Future – paper articulating the importance of agroforestry systems and sustainable management of NFTPs

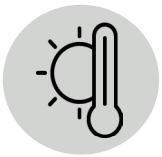
***Box 3 – Large-scale ecosystem restoration initiatives in Brazil***

Central to national climate mitigation and adaptation efforts, the topic of ecosystem restoration has gained prominence in Brazil in recent years. In 2012, the Forest Code established a series of conditions and incentives for both mandatory and voluntary restoration.In 2017, Brazil also passed the National Policy and Plan for Native Vegetation Recovery (Política e Plano Nacional de Recuperação da Vegetação Nativa, PROVEG and PLANAVEG), with an initial goal of restoring 12 million hectares of degraded areas by 2030. Other incentives for voluntary restoration include ENREDD+, the Forest+ Program, the National Policy for Payments for Environmental Services (Política Nacional de Pagamentos por Serviços Ambientais, PNPSA) and the creation of the forest restoration concession modality.

The current regulatory landscape favours restoration actions at a property level, as opposed to large-scale initiatives that would span across different restoration typologies, land tenure categories, and regulatory obligations. However, investors should be aware of a series of companies and initiatives that are seeking to achieve restoration at scale in Brazil and drive the development of carbon markets. Private initiatives include, Re.green, Mombak, Biomas and Project Alpha, and international platforms and partnerships include the World Economic Forum's 1t.org and the LEAF Coalition. **Investors interested in financing large-scale restoration should look into these examples and follow developments in this fast-moving space.**

***References and detailed analysis at the state level can be found here:***

- Climate Policy Initiative 2024. Forest Restoration in Brazil: Essential Factors for Promoting Restoration and Scale.
- UN REDD+ 2023. UNEP's Amazon Retreat Mobilizes Efforts to protect One of the Largest Forested Areas in the World.



## Climate action

Land use sectors are the main cause of climate change in Brazil, as well as some of the most negatively impacted by it.[85] According to Brazil's latest national communication to the United Nations Framework Convention on Climate Change (UNFCCC), in 2016 GHG emissions linked to the agriculture sector contributed to 33.2% of the total, while the land use, land-use change and forestry sector accounted for 27.1%.

Climate change is expected to have especially adverse consequences on the forestry and agriculture & livestock sectors through rainfall and temperature patterns, as well as issues of water scarcity, soil erosion and moisture loss, and land degradation. Maize, wheat, coffee and cocoa yields will be especially impacted, with effects on soybean and cotton yields as well.[86] **Investors should understand the impacts and dependencies of their investments on climate and how they can create a virtuous cycle on current and future climate conditions. Moreover, Brazil's emission profile highlights need for land use investments to consider outcomes for climate, nature, and people.**

National Climate Goals and Land Use Investments

Brazil's Second Nationally Determined Contribution (NDC), released in November 2024, sets the country's climate targets, as well as mitigation and adaptation priorities. Brazil's commitment to reduce its emissions compared to 2005 levels by 59 to 67% by 2035 hinges on decarbonization actions targeting land use sectors (significant sources of GHG emissions). The plan also acknowledges Brazil's coordinated and continuous efforts to achieve zero deforestation.

Other legal and policy frameworks regarding climate include Brazil's 2009 National Policy on Climate Change, Federal Decree Nos. 11,546-11,550, and the 2020-2030 Plan for Adaptation and Low Carbon Agriculture for Sustainable Development (ABC+). In particular, ABC+ is the country's main policy to tackle climate change in land use sectors. It has a mitigation target of approximately one billion tCO2e by 2030. The plan is structured around the implementation of integrated landscape approaches, the adoption and management of sustainable systems and production processes, and the integration of climate mitigation and adaptation strategies. Some of its goals

include recovering 15 million hectares of degraded pastureland and increasing the adoption of systems such as integrated crop-cattle-livestock and agroforestry by 4 million hectares. In addition, ABC+ seeks to expand no-tillage systems by 8 million hectares and planted forest areas by 3 million hectares. **Investors shoul thus look to the actions outlined by the ABC+ Plan and Brazil's NDC to evaluate financing opportunities for climate mitigation and adaptation in Brazil.**

Carbon Markets

The Brazilian government is engaged in discussions and negotiations on the use of international carbon markets to meet the country's climate targets. Forest offsets are one of the main sources of carbon credits in global voluntary markets and in Brazil's case, they could provide an opportunity for low-cost emission reductions through reforestation and restoration, while creating addition revenues.[87] Beyond voluntary markets, Brazil's government is looking to build a compliance-based emission trading scheme.[88] However, land use sectors are currently not under scope for inclusion in this non-voluntary mechanism.[89] **If involved in voluntary carbon markets, investors should ensure high levels of integrity, sound carbon-accounting methodologies and the active participation of Indigenous Peoples and local communities across project stages – in line with the highest integrity standards set by the Integrity Council for the Voluntary Carbon Market (IC-VCM) and the Voluntary Carbon Markets Integrity (VCMI). Investors should also keep monitoring the evolution of carbon markets, and keep track of how compliance markets, especially how Article 6 of the Paris Agreement may impact voluntary carbon investments.**

*Other key resources:*

- Ministério da Fazenda, 2024. Eco Invest Brasil – government initiative developed to create structural conditions to attract external private investments for the ecological transformation of the country
- Ministério do Meio Ambiente e Mudança do Clima, 2023. Na COP28, governo federal apresenta fundo para preservação de florestas tropicais – Announcement to create a multibillion-dollar global fund aimed at preserving tropical forests
- Climate Policy Initiative, 2023. Brazil Agricultural Mitigation and Adaptation Policies: Towards a Just Transition – report providing an assessment of Brazilian mitigation and adaptation policies

***Box 4 - Sustainable finance and land use investments in Brazil***

Brazil has taken active measures to strengthen and integrate sustainability into its capital market regulations. In December 2023, the Brazilian government released the Ecological Transformation Plan, which outlines the country's development strategy around a few themes, including sustainable finance. In particular, this pillar includes channelling resources towards sustainable projects through regulations on carbon pricing, sustainable sovereign bonds and corporate thematic bonds, and the creation of a sustainable taxonomy. The taxonomy is expected to be drafted and released by November 2024, with its adoption scheduled for January 2026. According to the Sustainable Taxonomy Action Plan, land use activities such as crop production, cattle and forestry will faill within the scope of this regulation, which will also strive for comparability and interoperability with other regional and international taxonomies.

The Brazil Central Bank (Banco Central do Brasil) has looked to align with the Ecological Transformation Plan, following its 2020 to include sustainability as one of the core pillars of its institutional work agenda, named Agenda BC#. For instance, the Bank has agreed to act as intermediary in running a foreign exchange hedge programme to facilitate foregin sustainable investments in the country. **Recent developments in sustainable finance regulations demontrate Brazil's aim to help investors, with a special attention to private investors abroad, channel more funds into sustainable projects in the country.**

**References**:


- Climate Policy Initiative 2024. Brazilian Sustainable Taxonomy: Inputs for Classifying Land Use Activities.
- Climate Policy Initiative 2023. Landscape of Climate Finance for Land Use in Brazil.

## Opportunities for Investors

The importance of Brazil's natural ecosystems and the scale of its agricultural production provides significant opportunities for investors interested in financing sustainable land use systems. Brazil has a robust set of E&S laws and monitoring tools, as well as capital market regulations on sustainability and experience with generating public and private climate finance for land use.[90] Current financing products in the Amazon and Cerrado biomes demonstrate that investors could focus on one or a combination of the following activities:

- **Devising incentive mechanisms that prevent deforestation and conversion of natural ecosystems beyond Legal Reserve requirements**, to help deliver global climate and biodiversity goals and support livelihoods.
  - » Monetizing the value of natural resources on farms through the offset mechanism created by the Forest Code is the solution adopted by the SIMFlor Program in the Amazon. In the Cerrado, the Cerrado Programme Fund by the Responsible Commodity Facility provides low-interest loans to soy farms committed to protect their forest cover beyond the Legal Reserve requirements.
  - » When aiming to measure and monetize carbon off farms, this should be pursued at a jurisdictional level to mitigate leakage risks and maximize positive impacts. As an example, the Amazonian state of Acre committed to sign an Emissions Reduction Purchase Agreement to supply up to 10 million high-integrity forest carbon credits to the LEAF Coalition for years 2023-2026.[91]
- **Promoting the restoration of forests and other natural ecosystems on farms and at scale**. This action could be motivated by risk mitigation factors or due to the carbon sequestration, soil, water, biodiversity and community benefits of restoration. Restoration also has positive impacts on agricultural productivity.
  - » An example of an on-farm project with a restoration component is &Green's Corn Ethanol Loan in the state of Mato Grosso, covering both the Amazon and Cerrado biomes.
  - » Examples of private initiatives focusing on ecosystem restoration at scale are mentioned in Box 3 of this factsheet.

**Financing sustainable intensification through the recovery of degraded land at scale**. Especially in the Cerrado, where there is 30 million hectares of degraded land, it is fundamental to recover degraded land to ensure sustainable levels of agricultural and livestock production without further conversion of native vegetation. Adoption of systems such as integrated crop-livestock-forestry and crop-livestock should be encouraged.[92]

- » Examples of such projects include AGRI3 restoration of degraded pastureland loan and the Reverte Program.

- **Investing in sustainable forest management projects** that reduce unsustainable and illegal exploitation of natural resources such as logging and mining, integrating environmental and social benefits such as carbon sequestration and improved livelihoods.
  - » The Brazilian government encourages private companies to participate in sustainable forest management by granting concessions for commercial use in State-owned forests in the Amazon.[93]
  - » An example of a project including sustainable forestry activities is the Mamirauá Sustainable Reserve in the Amazon, implemented in a conservation unit and using participatory governance principles.
- **Developing financing mechanisms for the National Bioeconomy Strategy and related state-level bioeconomy plans, including agroforestry systems and the sustainable production of non-timber forest products**, to improve livelihoods while contributing to the economic prosperity and sustainable development of the country.
  - » Examples of such projects include the Green CRA, a securitized agricultural receivables financial mechanism developed by Conexsus, Belterra, Gaia and Santander, the Living Amazon Mechanism, and the Horta da Terra enterprise supported by the Amazon Biodiversity Fund.
- **Supporting environmentally sustainable and socially just practices in soy production and cattle ranching** to ensure that environmental benefits such as carbon sequestration and soil health are promoted through regenerative agricultural practices in the soy and cattle sectors. Sustainable practices for soy include implementing no-tillage techniques, using cover crops and rotating crops. In the cattle sector, interventions include rotational grazing systems, incorporation of semi- or full confinement systems, and nutritional improvements.
  - » An example in the Mato Grosso state, covering both the Amazon and Cerrado biomes, is AGRI3's Locks Group Sustainable Agriculture Lending.
- **Assisting the development and implementation of environmental monitoring and other technologies to enhance resource use efficiency and achieve sustainable land use outcomes**. Examples include leveraging satellite imaging, remote sensing, and sensor networks to monitor air pollution, water quality, and soil health. These tools can detect contaminants, track changes over time, and provide data for early intervention. Precision agriculture tools and digital platforms can further support sustainable practices, pollution reduction, and restoration efforts.

**Investors should structure financial mechanisms that maximise positive environmental and social impacts and overcome the commercial barriers generally associated with land use investments.** Examples include blended finance structures, long-term loans with favourable interest rates, low-cost crop finance, and payments for environmental services schemes.

Additionally, investors could look to incorporate dedicated technical assistance into their products through strategic partnerships. Technical assistance could be used to support farmers with implementing ecosystem restoration and sustainable production practices, as well as to establish supply chains for their products. It could also help with formalizing land tenure and assisting with the implementation of Gender Action Plans. An example is AGRI3 Technical Assistance Facility, managed by IDH, The Sustainable Trade Initiative.

## References


1. This decision is also in line with initiatives such as the Innovative Financing for the Amazon, Chaco and Cerrado (IFACC).
2. As defined by Decree 4.887/2003, quilombo communities "are considered to be ethnic-racial groups that, according to self-identification criteria, have their own historical trajectory, specific territorial relations, and a presumption of Black ancestry linked to resistance against historical oppression". Land rights for remaining quilombo communities are recognized in the Brazilian Constitution.
3. Investors can expect some of the regulatory requirements and conclusions outlined in this factsheet to be applicable to other biomes.
4. CBD, 2024. Brazil Country Profile.
5. World Bank, 2007. Project Information Document: Caatinga Conservation and Management.
6. WWF, 2024. The Amazon Rainforest; WWF, 2015. The Big Five of the Cerrado.
7. TNC, 2023. Protecting the Amazon.
8. GEF, 2018. Sustainable Landscapes in the Amazon and Congo Basin.
9. WWF, 2024. Top Facts about the Amazon.
10. Brouwer R. et al., 2022. The economic value of the Brazilian Amazon rainforest ecosystem services: A meta-analysis of the Brazilian literature.
11. Azevedo, T. and Szabo I., 2023. Our climate future hinges on forest preservation.
12. Brazil is structured as a federation with twenty-seven subnational entities (twenty-six "states" and the federal district) that enjoy a degree of autonomy and have their own local government, constitution, and set of laws applicable at the state level.
13. Flores, B. et al., 2024. Critical transitions in the Amazon forest system.
14. Ibid.
15. More common cut-off dates can be found here: https://accountability-framework.org/fileadmin/uploads/afi/Documents/Common_Cutoff_Dates_Sept_2023.pdf
16. MAAP, 2023. Amazon deforestation and fire hotspots; FBSP, 2022. Cartografias das violencias na regiao amazonica.
17. MapBiomas, 2024. Relatório Anual do Desmatamento 2023.
18. Ministerio do Meio Ambiente e Mudança do Clima, 2024. Taxa consolidada de desmatamento na Amazônia em 2022/2023 é de 9.064 km².
19. Ministério do Meio Ambiente e Mudança do Clima, 2023. Plano de Ação para a Prevenção e Controle do Desmatamento na Amazônia Legal (PPCDAm).
20. WEF, 2024. The Cerrado: Production and Protection.
21. Ibid.
22. MapBiomas, 2024. Relatório Anual do Desmatamento 2023.
23. Ibid.
24. To this end, guidelines and outputs released by the Accountability Framework Initiative can be consulted. For instance: https://accountability-framework.org/fileadmin/uploads/afi/Documents/Common_Cutoff_Dates_Sept_2023.pdf
25. An overview of main environmental regulations in Brazil can be found here: https://braziliannr.com/brazilian-environmental-legislation/
26. UNEP-WCMC, 2024. Protected Area Profile for Brazil from the World Database on Protected Areas.
27. OECD, 2015. Environmental Performance Reviews: Brazil.
28. OECD, 2021. Evaluating Brazil's progress in implementing Environmental Performance Review.
29. OECD, 2015. Environmental Performance Reviews: Brazil.
30. Investors can familiarize themselves with existing initiatives related to the National System of Protected Areas, such as the Amazon Region Protected Areas Program (ARPA). ARPA aims to support the conservation and sustainable use of 15% of the Brazilian Amazon by 2039.
31. OECD, 2021. Evaluating Brazil's progress in implementing Environmental Performance Review.
32. Instituto Socioambiental, 2024. Localização e extensão das Terras Indígenas.
33. UNEP-WCMC, 2024. Protected Area Profile for Brazil from the World Database on Protected Areas; IBAT Alliance, 2024. Brazil Country Profile.
34. IBAT Alliance, 2024. Brazil Country Profile.
35. World Bank, 2023. Country Climate and Development Report.
36. Instituto Brasileiro de Geografia e Estatística, 2024. Censo Demográfico 2022.
37. Ibid.
38. Climate Policy Initiative, 2023. Smallholders in the Caatinga and the Cerrado: A Baseline Analysis for a Rural Just Transition in Brazil.
39. World Bank, 2023. A Balancing Act for Brazil's Amazonian States - An Economic Memorandum

40. Climate Policy Initiative, 2023. Smallholders in the Caatinga and the Cerrado: A Baseline Analysis for a Rural Just Transition in Brazil.
41. Earth.org, 2022. Amazon Rainforest: The Legal Battlefield for Land Ownership and Land Use Rights.
42. Sparovek, G. et al, 2019 . Who owns Brazilian lands?
43. Ibid.
44. IWGIA, 2024. The Indigenous World.
45. Instituto Brasileiro de Geografia e Estatística, 2024. Censo Demográfico 2022.
46. Ibid.
47. FOE, 2023. How Should Financiers Align with the Global Biodiversity Framework? Five Key Principles.
48. Fundação Nacional dos Povos Indígenas, 2023. Governo Federal anuncia a demarcação de seis Terras Indígenas no 19º Acampamento Terra Livre.
49. IWGIA, 2024. The Indigenous World.
50. Ibid.
51. IWGIA, 2024. The Indigenous World.
52. The World Bank, 2023. A Balancing Act for Brazil's Amazonian States - An Economic Memorandum
53. Ministério do Desenvolvimento Agrário, 2020. Quilombolas.
54. World Bank, 2023. A Balancing Act for Brazil's Amazonian States - An Economic Memorandum
55. Ibid.
56. Schwaab, K. et al., 2019. How much heavier is a "hoe" for women? wage gender discrimination in the Brazilian agricultural sector; Climate Policy Initiative, 2023. Smallholders in the Caatinga and the Cerrado: A Baseline Analysis for a Rural Just Transition in Brazil.
57. World Bank, 2022. Soluciones de Mujeres: Lecciones Para la Conservacion y el Desarollo Sostenible de la Amazonia.
58. Dominguez, S., 2024. Women Babassu Nutcrackers Demand Compliance with Legislation Protecting this Traditional Activity.
59. ILO, 2012. Brazil.
60. SmartLab, 2024. Observatório da Prevenção e da Erradicação do Trabalho Infantil; and SmartLab, 2024. Observatório da Erradicação do Trabalho Escravo e do Tráfico de Pessoas, 2024.
61. Baptista, R. et al., 2018. The invisibility of the black population in modern slavery: evidence based on conditions of social vulnerability.
62. Hobbs, S., 2023. From chains to chainsaws: Modern slavery and deforestation in the Brazilian Amazon.
63. Demirkol, S., 2024. Modern Slavery: Record Inclusions in Brazil's Dirty List
64. World Bank, 2023. Country Climate and Development Report.
65. IFAD, 2024. Brazil; USDA, 2022. Brazil's Momentum as a Global Agricultural Supplier Faces Headwinds; Barron, M., 2023. Brazil's Agricultural Industry.
66. WRI, 2023. How Brazil Can End Amazon Deforestation While Growing GDP
67. SEI, 2022. Connecting exports of Brazilian soy to deforestation.
68. Soterroni, A. et al., 2019. Expanding the Soy Moratorium to Brazil's Cerrado; WEF, 2024. The Cerrado: Production and Protection.
69. IISD, 2024. Global Market Report Soybean prices and sustainability; Chain Reaction Research, 2020. Key Cerrado Deforesters in 2020 Linked to the Clearing of More Than 110,000 Hectares.
70. Imaflora, 2016. 10-Year of Soy Moratorium in the Amazon: History, Impacts And Expansion Into Cerrado Areas.
71. Trase, 2020. Indirect land-use change deforestation linked to soy threatens prospects for sustainable intensification in Brazil.
72. SEI, 2022. Connecting exports of Brazilian soy to deforestation.
73. Ibid.
74. Ibid.
75. TEEB, 2019. Cattle and soy/maize value chains in the Brazilian Amazon; Harfuch, L. and Lemos, F., 2021. Brazilian Beef-Cattle Production and its Global Challenges.
76. Ibid.
77. AGRI3, 2022. Supporting the mobilisation of funds from commercial banks to finance forest conservation and sustainable agriculture in Brazil.
78. TNC, 2021. Environmental Framework for landing and investing in sustainable intensification of cattle ranching in the Amazon and Cerrado.
79. IFACC, 2023. The role of agroforestry and nontimber forest products in Brazil's agricultural transition and the opportunities to scale investments.
80. Within this context, the Brazilian government is working to develop the National Community and Family Forest Management Program. This Program aims to support initiatives by traditional peoples and communities, indigenous peoples, quilombolas and family farmers on the topic of multiple-use forest management, including timber, non-timber and environmental services.
81. WEF, 2024. The Cerrado: Production and Protection; WRI, 2023. New Economy for the Brazilian Amazon.
82. IFACC, 2023. The role of agroforestry and nontimber forest products in Brazil's agricultural transition and the opportunities to scale investments.
83. Ibid.
84. Ibid.
85. Ibid.
86. World Bank, 2021. Climate Risk Country Profile: Brazil
87. World Bank, 2023. A Balancing Act for Brazil's Amazonian States
88. World Bank, 2024. Carbon Pricing Dashboard.
89. FT, 2023. Brazil to launch regulated carbon market.
90. Climate Policy Initiative, 2023. Landscape of Climate Finance for Land Use in Brazil.
91. Emergent, 2023. Acre Leads the Way in Brazil with the First LEAF Coalition Term Sheet.
92. WEF, 2024. The Cerrado: Production and Protection.
93. Niras, 2022. Protecting the Amazon by promoting sustainable forest management.