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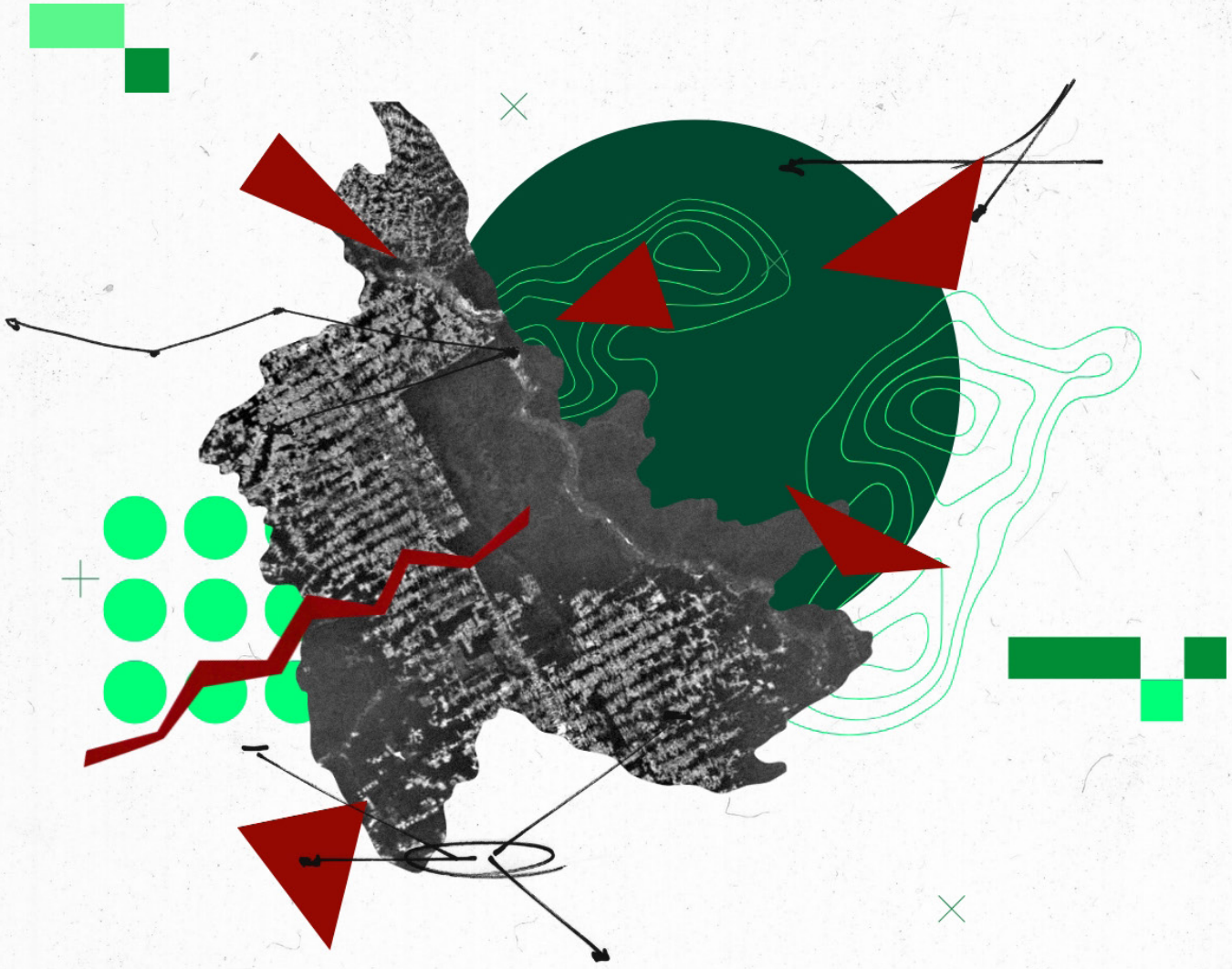

TERRITORIAL RISK MANUAL

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A note from the Nature Investment Lab

The Nature Investment Lab (NIL) was established to drive solutions within Brazil's Nature-based Solutions (NbS) ecosystem. A key part of this work is supporting and developing initiatives that create the necessary conditions for financing businesses in this sector.

One of the main challenges NIL has identified is the difficulty funders and investors face in understanding the risks associated with NbS projects—especially those without impact theses specifically focused on nature finance.

To bring the financial market closer to NbS initiatives and increase private capital participation in financing these businesses, NIL supported the development of a Territorial Risk Manual. Its goal is to consolidate strategic recommendations for risk management and measurement of NbS in the Brazilian context. This allows both national and international investors to integrate the specific risk dimensions of nature-based businesses into their internal risk analyses.

Through this initiative, NIL seeks to close the gap between financing opportunities and NbS projects in Brazil. By promoting a clearer understanding of these risks, NIL aims to unlock critical capital and accelerate the growth of nature-positive initiatives across the country.

TERRITORIAL RISK MANUAL

Executive Summary

Developed by the Igarapé Institute's Green Bridge Facility with support from the Nature Investment Lab (NIL), this manual offers a framework to help entrepreneurs and investors understand and assess territorial risks that could impact their enterprises in Nature-based Solutions (NbS) such as forest restoration, regenerative agriculture, and the bioeconomy. The goal is not to deter investment but to equip stakeholders with analytical tools to operate responsibly and effectively in Brazil's complex landscapes.

The Green Bridge Facility defines "territorial risk" as the systemic challenges that arise from conditions in a given region across five dimensions: **Environmental**, **Economic**, **Social**, **Security** and **Institutional**. These risks extend beyond individual properties or projects, encompassing broader dynamics that range from a project's area of influence to the municipality and state in which it operates. On the one hand, territorial risks can jeopardize the success of NbS enterprises by introducing unforeseen costs, legal uncertainties, or challenges in obtaining and maintaining a social license to operate. On the other hand, if not carefully designed and executed, these same enterprises can exacerbate local vulnerabilities.

The manual responds to a central problem: NbS ventures are too often evaluated through a narrow lens of site-level compliance, with insufficient attention given to the broader systemic conditions that drive risk and undermine permanence. These gaps are especially critical in Brazil, where interrelated issues (e.g., illegal deforestation, organized crime, disputed land tenure, and institutional fragility) threaten ecological integrity, human rights, and green investment. The manual addresses this challenge with practical recommendations for effective territorial risk assessments, linking big-picture insights to project-level decisions.

These recommendations are grounded in consultations with 20 NIL participants through semi-structured interviews and an online survey. These conversations revealed growing awareness of the importance of territorial risk and a consistent commitment to acting responsibly in complex areas. Most of these organizations already integrate some form of territorial risk analysis into their project planning, due diligence, or monitoring processes.

At the same time, there is still room for improvement across the five dimensions:

Environmental

Broaden risk assessments to include landscape-scale trends (e.g., illegal deforestation, use of fire) that may originate outside a project's boundaries yet pose serious threats to its integrity. Assessments should also evaluate the strength of municipal environmental governance, including enforcement effectiveness and land-use planning capacity.

Economic

Look beyond the project level to consider regional trends and map local economic organizations (e.g., cooperatives and producer associations) that could become potential partners.

Social

Complement standard checks for labor infractions (e.g., child labor, slave labor) by examining the socio-economic drivers of social vulnerability at the territory level. Evaluations should also consider traditional and Indigenous communities whose rights may not be formally demarcated in public databases but who nonetheless hold legitimate territorial claims.

Security

Include analyses of environmental crime in the territory, as well as the presence of organized criminal networks and local patterns of violence.

Institutional

In addition to verifying land tenure documentation at the property level, also analyze broader land governance systems in the territory, with particular attention to regulatory gaps and institutional weaknesses.

These insights underscore that territorial risk is structural, pervasive and fundamentally linked to the performance and permanence of NbS enterprises. Territorial risk assessment must be integrated throughout the entire project lifecycle and adapt to evolving on-the-ground realities. As highlighted in the closing section, NbS practitioners in NIL and beyond can further enhance their risk analysis by advocating for improvements to Brazil's data and land governance systems. Furthermore, they should coordinate to invest in specific areas and form clusters of green enterprises that generate significant impact across entire landscapes.

As Brazil prepares to host the 2025 United Nations Climate Change Conference (COP30), NIL participants and the broader NbS community have a unique opportunity to lead by example. By applying the recommendations in this manual, entrepreneurs and investors can demonstrate that it is possible to implement high-integrity projects that also contribute to more stable, inclusive and resilient territories.

Introduction

Launched during Climate Week NYC 2024, the Nature Investment Lab (NIL) is the product of a partnership between Bank of Brazil (BB), the Brazilian Development Bank (BNDES), the Glasgow Financial Alliance for Net Zero (GFANZ), the Climate and Society Institute (iCS) and the Itaúsa Institute. NIL aims to bridge the gap between financial capital and nature conservation, and to achieve tangible outcomes by COP30 in November 2025. To this end, it has assembled a diverse network of entrepreneurs, investors and institutional partners committed to collaboration, innovation, and results on the ground.

This manual, developed by the Green Bridge Facility (GBF, incubated by the Igarapé Institute)[1] with support from NIL, seeks to provide guidance on territorial risk to NbS entrepreneurs and investors across sectors such as forest restoration, the bioeconomy and regenerative agriculture. In highlighting the importance of these analyses, it does not intend to discourage investment but rather to equip stakeholders with the tools and knowledge needed to better understand and prepare for potential challenges.

In this way, the manual aligns with the focus of NIL Task Force on Identification and Development of Standards for Financial Instruments and Impact Management. The Task Force is particularly concerned with transaction costs incurred by nature-positive projects when locating viable project sites, conducting due diligence, and engaging local actors. By incorporating the concept of territorial risk into these efforts, high-integrity entrepreneurs and investors will be better positioned to achieve the desired impact and long-term permanence of their initiatives.

Understanding territorial risk

The Green Bridge Facility defines "territorial risk" as the systemic challenges that arise from the environmental, social, security, economic and institutional conditions in a given region. These risks extend beyond individual properties, encompassing broader dynamics that range from a project's area of influence to the municipality and state in which it is located.

Territorial risks carry multiple implications. On the one hand, they can threaten the success of NbS enterprises by introducing unforeseen costs and legal uncertainty, or by making it more difficult to maintain a social license to operate. On the other hand, these same enterprises can increase local vulnerabilities if not carefully designed and implemented. Large-scale projects can cause migration that overloads public services, displace local populations, or trigger land-use changes that affect traditional ways of life. Even small-scale NbS initiatives involve risks. For instance, an initiative that increases demand for a non-timber forest product can inadvertently lead to overharvesting or spark conflict if access to benefits is not equitably distributed.[2]

Territorial risks in Brazil are particularly acute and deeply rooted in structural issues that undermine the country's immense potential for sustainable development. From August 2023 to July 2024, 91% of deforestation in the Amazon and 51% in the Cerrado was illegal – an alarming sign of ongoing environmental crime.[3] Criminal organizations, the most powerful of which originated in the Southeast, are now active in at least 260 municipalities (34%) of the Legal Amazon, complicating governance and elevating security risks.[4] The Amazon region also contains 8,610 rural properties that illegally overlap Indigenous Lands and 11,866 within Conservation Units, further entrenching land use conflicts.[5] Despite

the legal requirements established in Brazil's Forest Code, only 3% of properties registered in the Rural Environmental Registry have undergone formal analysis in the 12 years since the law was enacted.[6] These facts point to a troubling *status quo* of illegality, institutional fragility, and inadequate enforcement, all of which create significant roadblocks for responsible investment. Reducing territorial risks and encouraging capital flows into high-integrity green ventures is essential to tackling these issues and driving sustainable, systemic change.

Increased awareness of these issues has led to the creation of corporate policies and practices to assess and manage risk. However, these often focus on mitigating direct project impacts and tend to overlook pre-existing conditions or the unintended consequences of operating in fragile institutional contexts. Territorial risk analysis can enhance these procedures by integrating a systems-level view that encourages actors to move beyond reactive risk management and toward more proactive engagement, including alignment with relevant public policies and partnerships with key local stakeholders. As a result, entrepreneurs and investors can develop nature-positive projects based on an informed understanding of on-the-ground realities.

CASE STUDY

Institutional and security-related territorial risks can severely undermine the operations of even the most well-intentioned and high-integrity companies.

In one real case, a company adhering to strict environmental and operational standards for sustainable forest management faced growing challenges as illegal logging groups became more active and sophisticated in the surrounding area. Although the company reported these activities to the authorities, enforcement remained sporadic and insufficient.

As the influence of these illegal actors grew, the company faced increasing risks to employee safety and encountered serious legal and reputational challenges, despite following best practices. Over time, territorial risks drove transaction costs to unsustainable levels. Rising expenses in crisis management, compliance, and operational security rendered the business economically unviable. Ultimately, the company chose to withdraw from the region in question.

This case illustrates how even companies with exemplary on-site practices can face setbacks due to broader territorial risks. It emphasizes the continued need for companies and public authorities to detect and address systemic territorial risks to foster environments where green enterprises can thrive.

Dimensions of territorial risk

The process of "territorial de-risking" covers three important and interconnected categories of risk: financial, operational, and reputational. Financial risks in complex territories can stem from limited investor confidence, restricted access to credit, and high cost of capital. Operational risks, in turn, may arise from inadequate infrastructure, conflicting land tenure claims, or context-specific environmental stressors like water scarcity or soil erosion. Meanwhile, reputational risks are increasingly prominent as entrepreneurs and investors face heightened scrutiny around issues such as deforestation, links to illegal activities, and human rights violations.

The evaluation of territorial risk follows a three-stage process that begins with an assessment to inform strategy design and due diligence prior to project implementation. Next, a management plan is developed to respond to the risks identified, ensuring alignment with project objectives and regional characteristics. Finally, risks are monitored throughout the project lifecycle, allowing implementers to take action and/or adapt to changing conditions and achieve permanence.

This manual focuses on the risk assessment stage and provides guidance on how to implement it effectively across five dimensions:

Environmental

The ecological and physical conditions in a given territory can either support or undermine the success of NbS projects, as well as the broader stability of the territory.

Indicators and sources for this dimension include:

Land use changes

Trends in deforestation, degradation, and biodiversity loss can signal environmental stress that weakens the ecological foundation that NbS initiatives rely on and increases the vulnerability of local communities. MapBiomas is an essential source of geospatial layers and statistical information on trends in deforestation, forest degradation, and fire hotspots. This information can be compared and cross-referenced with official data hosted on the TerraBrasilis platform from the National Institute for Space Research (INPE).

Impacts of climate change

The increased frequency and severity of extreme events (e.g., floods, heatwaves, droughts, and landslides) threaten the physical infrastructure of NbS projects and test the resilience of local communities. Historical records of disasters, compiled by the Ministry of Rural Development (MDR), offer insight into the incidence and impact of past environmental emergencies. To evaluate climate vulnerability, the Ministry of Science, Technology, and Innovation's (MCTI) AdaptaBrasil platform centralizes observed and projected data on the consequences of climate change for Brazil.

Availability of natural resources

Water scarcity and degraded soils can threaten the feasibility of NbS enterprises and heighten tensions among local stakeholders. MapBiomas Water offers an overview of changes in water availability since 1985, and the Amazon Water Impact Index highlights the most vulnerable areas of the Amazon region. The Pasture Atlas, developed by the Image Processing and Geoprocessing Laboratory of the Federal University of Goiás (LAPIG/UFG), sheds light on pasture quality across Brazil.

Economic

A resilient and diversified local economy can unlock value chains, attract investment, and provide a stable foundation for equitable benefit sharing. Substantive analysis of these conditions helps to turn risks into opportunities, bridge development gaps, and position NbS enterprises as engines of inclusive and lasting territorial transformation.

Indicators and sources to understand this dimension include:

Economic performance

Municipalities with poor economic performance – reflected in low GDP, overreliance on a single economic sector, or limited entrepreneurial activity – present risks to local market viability and the economic resilience of communities. In such areas, NbS enterprises may struggle to access skilled labor, engage local suppliers, or stimulate sufficient demand for products and services. On the other hand, they can also help diversify the local economy. The Brazilian Institute of Geography and Statistics (IBGE) provides data on municipal GDP, including contributions from agriculture, industry, and services. Dataviva's Economic Complexity Index measures the diversity and sophistication of municipal economies based on the goods and services they produce and export.

Infrastructure

Deficient transport, energy, water, and communication systems can hinder NbS ventures. Poor infrastructure raises logistical costs and also restricts access to key inputs, markets, and support services. The Social Progress Index scores municipalities based on metrics like infrastructure, public service provision, and access to information and communication technologies.

Social

The social fabric of a territory (e.g., labor conditions, community relations, cultural integrity, and access to basic services) is critical for the legitimacy and long-term viability of NbS projects. Those that fail to account for these dynamics risk operational disruptions, legal challenges and community resistance.

Indicators and sources to understand this dimension include:

Labor rights

In many countries, weak labor laws result from a failure to ratify key international conventions, leaving workers vulnerable to abuse. Brazil, however, has ratified most of the fundamental International Labor Organization (ILO) conventions[7] and integrated them into national law, creating a solid, if imperfect, legal foundation. Thus, territorial risk stems more from challenges in enforcing labor protections than from the quality of the laws themselves. For NbS initiatives, these risks can result in increased exposure to legal liabilities, reputational damage, and diminished employee well-being. For local communities, they may imply an environment of exploitation and a lack of economic security. The "blacklist" maintained by the Ministry of Labor and Employment (MTE) identifies individuals and companies found guilty of subjecting workers to slavery-like conditions. SmartLab, a collaboration between the Public Labor Ministry (MPT) and the ILO, also facilitates access to extensive data on threats to decent working conditions in Brazil (e.g., child labor, occupational safety).

Strength of civil society

Territories with few or under-resourced civil society organizations (OSC) tend to have limited capacity to mobilize communities, hold stakeholders accountable, or support inclusive development. Conversely, the presence of numerous, active OSCs (e.g., sectoral associations, private organizations focused on applied research, education, and/or social and environmental initiatives) can indicate community resilience and institutional support. The Annual Report of Social Information (RAIS) provides in-depth insights into the labor market, including the number and type of OSCs based in a given area, as well as their fields of work.

Education and Health

Inadequate education and healthcare systems directly affect the availability of a skilled and healthy labor force. As a result, communities may be limited in their ability to participate in or benefit from green economy initiatives. Low education scores or a lack of technical training institutions may require the project to import labor, fund on-the-job training, or partner with educational institutions to develop programs aligned with the organization's needs. However, this process is long and uncertain, and can raise costs to attract workers, especially given the typically high turnover in NbS sectors. The National Institute for Educational Studies and Research (INEP) offers municipal-level education data on indicators like test scores, dropout rates, and age-grade distortion.

Likewise, weak local health networks raise the risk of overwhelmed facilities and costly work stoppages during disease outbreaks. It can also lead to higher organizational spending on healthcare to compensate for inadequate public services, significantly increasing company costs. Extensive health data is available through the Ministry of Health's DATASUS system.

Security

Violence, organized crime, and illegal activities can threaten NbS projects and undermine broader conditions for sustainable development. Security risks affect the physical safety of staff and communities, as well as the legal certainty, operational feasibility, and reputation of green ventures in complex territories. Criminal networks competing for land and markets, institutional fragility, and violence against environmental defenders can combine to create volatile contexts that demand close attention.

Indicators and sources to understand this dimension include:

Homicide rates

Persistently high homicide rates signal a climate of violence that deters talent and investment, drives up security costs, and disrupts community engagement and field activities. The Ministry of Justice's National Information System for Public Security, Prisons and Drugs (SINESP) provides official crime statistics and data on institutional capacity across territories. The Igarapé Institute's Homicide Monitor also compiles data on violence in selected Brazilian municipalities.

Presence of organized crime

Organized crime groups often control access to land and resources, impose informal taxation or extortion, and undermine the rule of law. Their influence can also erode local governance by corrupting public officials, displacing legitimate actors, and solidifying violence as a form of territorial control. The Brazilian Forum on Public Security (FBSP) and Mãe Crioulo Institute track the spread of criminal organizations throughout the Amazon region, and their reports indicate which municipalities are dominated by a single group and which are the target of ongoing disputes. At the national level, the annual Criminal Organizations Map from the National Secretariat for Penal Policies (SENAPPEN) reveals the reach of organized crime in Brazil by measuring the presence of gang-affiliated inmates in correctional facilities (see here for a list of criminal organizations present in each state).

Illegal activities

Phenomena such as illegal logging and illegal mining may compete for the same land and resources as NbS ventures, as well as infiltrate formal supply chains, compromise certifications, and normalize destructive behaviors within communities facing economic precarity. A network of prominent environmental research organizations tracks illegal timber extraction in the Amazon through the Timber Harvest Monitoring System (Simex), publishing region- and state-wide infographics. The MapBiomas Mining Atlas uses machine learning to identify both illegal artisanal and industrial mining operations, including in protected areas. Earthrise Media has also developed a mining detector for the Amazon, as well as a dataset of clandestine airstrips that signal logistical support for criminal operations in remote, environmentally sensitive areas.

Institutional

The quality, integrity, and capacity of local governance structures and regulatory environments shape the trajectory of NbS enterprises in a given territory. Robust institutions can ensure land security, enforce environmental regulations, coordinate public investments, and support social inclusion. Conversely, institutional fragility, corruption, and conflicts of interest expose NbS initiatives to legal uncertainty, political interference, and community distrust.

Indicators and sources to understand this dimension include:

Public sector management and service delivery

Weak fiscal governance, inefficient public service delivery, and underinvestment in infrastructure limit the broader enabling conditions for NbS projects. Poor municipal management can result in subpar health and education systems, unreliable licensing procedures, and delays in project approvals. The Center for Public Leadership's (CLP) Municipal Competitiveness Ranking includes performance metrics such as fiscal responsibility, transparency, and the efficiency of public administration. The SICONFI Ranking evaluates the quality and consistency of accounting and fiscal reports submitted by municipalities to the National Treasury.

Land governance and tenure security

Poor land administration creates substantial risk for NbS enterprises. Projects implemented on insecure or unlawfully claimed land may face legal challenges or community resistance. These conditions also fuel deforestation and violent conflict. On this last point, the Pastoral Land Commission (CPT) publishes annual reports on land and water conflicts across Brazil. The Forest Code Thermometer exposes gaps in environmental governance and enforcement by measuring deficits in Legal Reserve requirements and quantifying the degree of overlap between protected areas and private properties within a given municipality.

Many original datasets on protected and sensitive areas are hosted by government agencies, including:

- Indigenous Lands (National Foundation of Indigenous Peoples – FUNAI): areas recognized by the Constitution as traditionally occupied and permanently inhabited by Indigenous peoples, who have the inalienable right to exclusive possession and use of the natural resources necessary for their physical and cultural reproduction according to their customs and traditions.
- Conservation Units (Ministry of Environment – MMA): areas established to conserve Brazil's biodiversity, ecosystems, and natural resources.
- Quilombola Communities (National Institute for Colonization and Agrarian Reform – INCRA): groups formed by descendants of escaped enslaved Africans who established independent settlements during the colonial period and throughout the era of slavery.
- Rural Settlements (INCRA): areas of land distributed by the government to landless farmers as part of agrarian reform policies, where families are settled to promote social development, collective organization, and sustainable agricultural production.
- Public Forests (Brazilian Forest Service – SFB): natural or planted forests located on public lands under federal, state, or municipal control, managed for the benefit of present and future generations through conservation, sustainable use, or forest concessions. This database includes undesignated public forests, which face increased risks of illegal land grabbing, deforestation, fires, and environmental crimes due to the lack of formal government designation or protection.[8]

Information on private properties can be found from sources such as:

- Rural Environmental Registry (CAR – SFB): mandatory, self-declaratory electronic registry for all rural properties in Brazil, focused on mapping environmental information to monitor compliance with environmental regulations. However, it does not serve as a land tenure or ownership registry.

- Land Management System (SIGEF – INCRA): digital cadastral platform that automates the georeferencing and certification of rural land parcels, integrating technical, spatial, and legal data to support land governance, regularization, and secure land tenure.
- Rural Property Registration (CAFIR – Federal Revenue Service): mainly used for tax and fiscal control purposes, this rural property registry contains information about the property and its owners.
- Rural Property Certification System (SNCI – INCRA): system for certifying rural properties by verifying georeferenced boundaries and legal status, now largely replaced by SIGEF for greater automation and efficiency.
- National Rural Land Registry System (SNCR – INCRA): national database of all rural properties in Brazil.

Overall, a thorough appraisal of territorial risks requires diverse information sources and methods. Publicly available data (e.g., government data, legislation, third-party resources, and reports) offer broad insights and should, whenever possible, be complemented by on-the-ground evidence. Field visits are especially important for capturing the lived realities of project stakeholders and community members. Participatory approaches, including key informant interviews, focus groups, and surveys, help uncover context-specific dynamics, perspectives, and challenges that might otherwise go undetected. By triangulating quantitative and qualitative information from multiple sources, territorial risk assessments can enhance investment decisions, project design, and risk mitigation strategies.

Perspectives from NIL participants

To complement the conceptual and methodological guidance provided in this manual, GBF interviewed thirteen NIL participants and surveyed an additional seven to understand how they assess and manage territorial risks across the lifecycle of NbS enterprises (see Appendix). We thank all participants for their valuable contributions, which grounded this work in real experience and concrete decision-making.

Motivations

For impact-driven actors, territorial risk assessment is perceived less as a box to check and more as part of a mission to act responsibly in challenging social and environmental settings. Several respondents emphasized the need to fulfill public commitments, meet stakeholder expectations, and comply with certification standards. Protecting organizational reputation is also a motivating factor, since territorial risks can lead to public controversy or operational setbacks. Ensuring project viability is equally important. Early understanding of land tenure conflicts, institutional fragility, or socio-political tensions helps prevent costly disruptions and creates the conditions for long-term success. Overall, the message is clear: **territorial risk can play a large role in determining whether ambition leads to lasting impact.**

Methods

NIL participants agreed that effective risk assessment requires a variety of approaches to capture the complexity of the territory in question. Most respondents described using a combination of public data analysis, in-depth fieldwork, stakeholder engagement, and specialized diagnostic tools.

Many pointed to site visits and direct interaction with local actors as indispensable for grasping the lived realities behind maps, reports, and remote sensing. Indeed, no amount of desk research can entirely substitute the insights gained from observing a landscape up close and hearing diverse perspectives. In this way, territorial risk analysis is growing more sophisticated not only from a technical perspective, but also as a relational process that builds legitimacy, deepens understanding, and strengthens a project's roots in the places it aims to transform.

Environmental

This dimension plays a central role in territorial risk assessments conducted by NIL participants. Deforestation and land-use change are unanimous concerns, widely regarded as the most pressing environmental risks facing NbS in Brazil. However, assessments tend to adopt a narrow focus on the area directly impacted by a given project, often overlooking broader regional dynamics that could compromise the project's integrity.

For this reason, **GBF recommends expanding deforestation analysis to include the surrounding landscape, particularly related to fire and illegal land clearing**. These pressures do not respect project boundaries and often stem from weak governance or entrenched land-use conflicts. Understanding such patterns across the wider territory helps project implementers connect the dots between existing vulnerabilities and supports the design of more effective risk mitigation strategies from the outset.

Another underexplored area in current risk assessments is the capacity of municipal environmental governance. The strength or weakness of local institutions responsible for applying land and resource regulations plays a critical role in shaping the viability of NbS initiatives. Projects that rely on ecological integrity but operate in territories with fragile enforcement or uncoordinated land-use planning may find themselves exposed to

cascading environmental degradation. **GBF strongly advises that NbS entrepreneurs and investors gauge the institutional capacity of local environmental authorities.** This could include evaluating municipal plans, enforcement capacity, budget allocations, and conducting interviews with relevant officials.

Economic

NIL participants widely consider infrastructure to be a factor that enables or constrains the economic feasibility of NbS enterprises. Access to energy, transport, logistics, and digital connectivity is routinely assessed during project due diligence. However, most analyses focus narrowly on the immediate project area, potentially overlooking systemic limitations or interdependencies that could affect long-term performance. **GBF recommends broadening this perspective to include the regional infrastructure context and its links to other risk dimensions, such as environmental stress or institutional fragility.**

Beyond physical infrastructure, the presence of productive social capital – such as cooperatives, associations, and rural technical assistance networks – is increasingly valued as a key mitigator of risk. These local organizational structures can strengthen economic resilience, improve operational efficiency, and encourage inclusive participation. **In addition to identifying these actors, GBF recommends that NbS enterprises and investors analyze the quality of these relationships and pinpoint tensions that could hinder collaboration.** This may require field visits, interviews, and other forms of engagement to understand the motivations, capabilities, and trajectories of local groups, as well as their perception of the enterprise.

Social

NIL participants recognized the protection of workers' and communities' rights as ethical imperatives and core determinants of project viability, influencing access to land, legitimacy with local stakeholders, and vulnerability to legal or reputational risks. In assessing labor rights, the current focus typically lies in identifying forced or child labor within a project. While essential, **GBF recommends going further by analyzing the institutional and socio-economic conditions that shape territorial labor dynamics.** In municipalities with limited enforcement, high poverty, or inadequate public services, exploitative labor practices may not be immediately visible but can emerge as projects scale or move into new operational phases.

Regarding traditional and indigenous communities, geospatial analysis of their proximity to NbS projects is a common approach to avoiding conflict and overlaps with sensitive areas. However, it is important to remember that the Brazilian government recognizes a total of 28 types of "Traditional Peoples and Communities," many of which are still pushing for formal demarcation of their territories.[9] To address this gap, **GBF recommends that NbS practitioners rely not only on official databases from agencies like FUNAI and INCRA, but also conduct field visits to identify these communities, understand their territorial claims, and prevent future disputes.**

Security

Comments from NIL participants revealed a divide between organizations that include security indicators in their frameworks and those that omit them, either because they perceive the areas in which they operate as "low risk" or because the topic has simply not registered as relevant to risk assessment. This variability highlights the need for more consistent integration of security risks, especially given the growing links between environmental degradation, organized crime, and land governance challenges.

GBF recommends that territorial risk assessments explicitly examine environmental crime in the area surrounding an NbS enterprise. In addition to mapping the influence of organized criminal networks and the prevalence of illegal

economies, this analysis should include an investigation into the use of intimidation against local communities and environmental defenders. Although these dynamics may not be immediately visible, they can significantly compromise project safety, create legal liabilities, and deter long-term investment. Key sources for this analysis include local and regional news outlets, interviews with community leaders and public authorities, as well as research conducted by academic or civil society institutions.

Violence and social conflict also remain insufficiently explored in current territorial risk frameworks. **GBF recommends that NbS enterprises conduct interviews with local leaders, government officials, and non-governmental organizations to better understand existing conflicts.** These insights can uncover early warning signs of unrest and support the development of mitigation strategies grounded in dialogue and collaboration.

Institutional

Among NIL participants, land governance emerged as the primary concern within this dimension. Most risk assessments focus on verifying land tenure status and documentation at the property level, reflecting a clear understanding that legal certainty and protection from future disputes are key for operational stability and investor confidence. At the same time, **GBF recommends broadening this analysis to assess the overall quality of land governance in the territory.** Projects in areas with weak or disputed land governance face higher social and operational risks that a title deed alone cannot fully mitigate.

Beyond land issues, existing risk frameworks appear to rarely consider the broader institutional environment in a given municipality. Factors such as the ease of doing business, budgetary capacity, planning processes, and service delivery impact everything from licensing timelines to conflict mediation and infrastructure development. Ignoring this layer of analysis can result in the underestimation of systemic constraints that may delay or derail project execution. To address this gap, **GBF recommends a more comprehensive assessment of the quality of public institutions in the territory.** This approach uncovers bottlenecks and identifies leverage points, recognizing that institutions can also serve as strategic allies in ensuring stability, compliance, and long-term success.

Key challenges faced

NIL participants highlighted important challenges in assessing and managing territorial risk. Chief among these is the inherent complexity of territorial contexts, especially in regions marked by polarized social and political dynamics, land conflicts, and violence. In these environments, numerous and deeply intertwined risk factors make it difficult to isolate individual issues or apply standardized assessment models that fail to account for territorial realities.

Compounding this challenge is the fragmented, outdated, or incomplete nature of public data, which hinders accurate and timely risk assessments. This issue reflects structural limitations in Brazil's territorial data governance. Nevertheless, the substantial amount of information compiled and made available by the government still holds great potential for more sophisticated analyses.

Another critical barrier is the widening gap between the complexity of territorial risk and the available technical and organizational capacity to address it. Many NbS actors – especially smaller organizations – lack the financial resources, trained personnel, or specialized tools needed for sophisticated diagnostics. As expectations for rigorous risk assessments rise, so does the risk of excluding these stakeholders from formal investment processes.

Recommendations from NIL participants

NIL participants highlighted the importance of moving beyond fragmented strategies to design systemic, collaborative approaches for evaluating territorial risk. Territorial risk management must involve coordination across sectors and stakeholders, including local communities, public institutions, and especially financial actors.

Participants also emphasized the need for a stronger territorial information and knowledge ecosystem. They viewed data availability, reliability, and integration as essential for informed decision-making. Some participants specifically called for improved tools and mechanisms to access and share knowledge on native species and ecological dynamics.

CASE STUDY

One company interviewed for this manual has made territorial risk assessment a central component of its business strategy. It combines formal analysis with direct, on-the-ground intelligence. Satellite data and official records assist in initial screening, but field visits and informal conversations are key. Interactions with local stakeholders help uncover hidden power dynamics, community tensions, potential allies, and unspoken risks. Risk assessment is ongoing, with updated impressions influencing decisions over time. In some regions, early concerns faded with experience, encouraging expansion. In others, new issues surfaced mid-project, prompting caution or even withdrawal.

Insights from risk assessments guide strategic choices about whether to invest, expand, slow down, or exit a territory. In one case, community engagement during a local cultural event eased tensions and helped establish legitimacy for the project. In another, early dialogue with neighboring property owners prevented a boundary conflict before it escalated.

Over time, the team has learned that managing territorial risks requires proximity, trust, and adaptability. Success depends not only on avoiding issues but also on staying closely connected to the territory to recognize them early.

Final considerations

Nature-based solutions offer an extraordinary opportunity to advance conservation, economic inclusion, and sustainable development in Brazil. However, as this manual shows, achieving measurable, lasting impact requires a clear understanding of the risks within the territories where these enterprises are implemented. Territorial risk – perpetuated by environmental degradation, social tensions, insecurity, economic fragility, and weak governance – is a central determinant of the success of high-integrity projects.

Against this backdrop, two key takeaways emerge. First, **territorial risks are multidimensional and systemic.** They often extend beyond a specific project site and interact in ways that increase both cost and complexity. Second, **high-quality risk analysis requires a combination of quantitative data and ground-level insight.** Whenever possible, publicly available datasets should be complemented by active engagement with local stakeholders, communities, and institutions.

To support this process, NbS practitioners need reliable tools and methodologies tailored to the realities of working in Brazil's diverse territories. One such effort is already underway. GBF is developing a free public platform to assess territorial risk at the municipal level. The tool offers dynamic maps, performance scores, and insights into key metrics across the dimensions covered in this manual. In doing so, it helps project developers and financial actors make more informed decisions in complex contexts.

Going forward, NIL participants are encouraged to consider the following courses of action to strengthen territorial risk assessment and management:

1. **Integrate territorial risk considerations across the full project lifecycle**, from initial due diligence to implementation and monitoring. Rather than treating risk assessment as a one-time exercise, build adaptive management systems that respond to evolving territorial dynamics.
2. **Expand stakeholder engagement beyond compliance requirements**. Constructive relationships with local communities, civil society, and public institutions are critical for legitimacy, resilience, and long-term permanence.
3. **Invest in local knowledge and fieldwork**, since remote data alone cannot capture the full range of nuances that shape territorial risk.
4. **Advocate for improvements in territorial governance and data ecosystems.** Individual projects can help mitigate immediate challenges, but transformative change requires collective action to address the structural conditions that drive territorial risks.
5. **Coordinate with other NIL participants and NbS enterprises –** including potential competitors – to invest in specific areas, forming clusters of green enterprises that generate significant impact across entire landscapes.

The approach outlined in this manual can help NIL participants and NbS implementers foster a more favorable environment for responsible investments and drive territorial progress. Given Brazil's potential to lead a global shift toward sustainable and inclusive development, integrating territorial risk into business decisions represents not just a methodological advancement but a new understanding of how nature-positive enterprises can thrive by understanding and responding to the complex contexts in which they operate.

Appendix: Interviewees and Survey Participants

Organization	Name
Banco Arbi	Mario Jorge Alencastro
Belterra	Valmir Ortega
Caaporã Agrosilvopastoril	Luis Fernando Laranja
CarbonNext	Jerônimo Roveda
fama re.capital	Andrea Alvares
Fundo Vale	Juliana Vilhena
Imaflora	Mariana Piatto
Itaú BBA	João Francisco Adrien
JiveMauá*	Juliana Pacheco
Pachama	João Carvalho
Projeto Amana	Marcelo Cwerner
Régia Capital	Ana Prya Bartold Gomes Bruno Bernardo
SAIL Investments	Marcela Paranhos
The Nature Conservancy	Tomás Kovensky
Tobasa Bioindustrial	Edmond Baruque Rhadija Gracyelle Costa Sousa Fredson Pereira de Sousa Filho
Violet	Bianca Zambão

*JiveMauá is not a participant in NIL

Note: This table excludes organizations and participants who did not explicitly consent to be mentioned by name.

Endnotes

1. The GBF is an initiative to de-risk territories, grow green enterprises and unlock responsible investments in Brazil and the Amazon Basin. Its method is available here

2. Rosenfeld, T., & Poschen, P. (2024). Conceitos e desafios da bioeconomia dos produtos florestais não madeireiros. In J. Marcovitch & A. Val (Eds.), Bioeconomia para quem? bases para um desenvolvimento sustentável na Amazônia (pp. 195–214). Com-Arte.

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GREEN BRIDGE FACILITY

The Green Bridge Facility (GBF) identifies and reduces territorial risks, promotes green businesses, and enables responsible investments in Brazil and the Amazon Basin. By lowering operational, financial, and reputational costs in strategic areas, it creates social impact and supports zero deforestation and a sustainable future. The initiative addresses major barriers such as land tenure insecurity, informality, illicit economies, and regulatory complexity—key challenges to investment in complex regions.

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