

AN ASSESSMENT OF TERRITORIAL PLANNING:

FINDINGS AND RECOMMENDATIONS FOR ADDRESSING
LARGE-SCALE INFRASTRUCTURE DEVELOPMENT IN THE AMAZON

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The findings and recommendations expressed in this report are those of the authors and do not necessarily reflect the views of stakeholders who participated in workshops, interviews, and surveys or the advisory group. Any factual errors are the responsibility of the team.

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I. Executive Summary

Large-scale infrastructure development threatens to transform the Amazon, with up to \$70 billion in planned project investments by 2020. Transportation, energy, and mining projects are among the top threats. This infrastructure development could lead to the loss of half of the remaining Amazonian forest and cause social and cultural impacts associated with in-migration, weakening of local governance and rights, and reduced access to natural resources.

There is growing recognition that infrastructure development must change in Latin America, and especially in the Amazon. The aim is to move beyond sector and national economic goals to a more integrated and inclusive development model that improves participation, transparency, and environmental and social considerations. Drivers for the sustainable infrastructure movement include the need to close the infrastructure investment gap, break the long cycle of infrastructure project-related conflicts, and meet national commitments for climate, forests, biodiversity, the rights of indigenous peoples, and sustainable development.

A territorial approach for the Amazon envisions integrated territorial development that supports local priorities, rights, and ways of life. To advance this vision, territorial planning considers socio-economic, cultural, and environmental conditions and priorities in a territory, with the objective of informing decisions for sustainable development, land-use, natural resource management, and conservation. Territorial plans have the potential to improve infrastructure development in the Amazon by guiding decision-making in ways that support multiple objectives and interests and address risks and impacts.

PURPOSE, SCOPE, AND METHODS

This study assesses the effectiveness of territorial planning in addressing infrastructure threats and makes recommendations for how these plans can have a greater influence on infrastructure development in the Amazon. We focused on the following set of territorial planning instruments: Economic and Environmental Zoning, Regional and Local Territorial Plans, Regional/Sustainable Development Plans, Strategic Environmental Assessments, Watershed Management and Water Resources Plans, Hydropower Inventory Planning, and Indigenous planning tools. The scope of the study centered on Brazil and Peru, including case studies for the Tapajós Basin of Brazil and the Marañón Basin of Peru. Our methods included literature and policy reviews, stakeholder interviews, surveys, and workshops in the Tapajós and Marañón Basins.

FINDINGS

Our assessment found that territorial planning instruments have had limited influence on infrastructure development in the Amazon. We identified the following key challenges:

1. Lack of legal mandates and insufficient political will

- Territorial plans lack legal requirements for their development and use.
- National government and industry and financial sector interests continue to play the dominant role in determining large-scale infrastructure development, overriding local priorities reflected in territorial plans.
- Implementation of territorial plans is often hampered by a lack of stakeholder buy-in, budget, and mechanisms for monitoring, enforcement, and conflict resolution.

2. Constraints due to limited resources, capacity, and information

- Lack of budget and technical staff limit the execution of planning processes, which need to extend across large remote and inaccessible areas.
- Information to support territorial plans is often unclear, unavailable, outdated, or difficult to collect, including information on land tenure, natural resource uses, and conservation values.

3. Insufficient integration with other planning processes

- Territorial plans are often developed in isolation from other planning processes. They are disconnected “vertically” from plans at other jurisdictional scales and “horizontally” from other plans relevant to territorial development. This limits buy-in, implementation, and the “shelf life” of territorial plans.
- Local communities are often not invited or do not have the resources to participate in other planning processes, especially at the provincial and regional government levels, leaving them feeling disengaged, and the plans incomplete.
- Challenges for integrating planning processes are exacerbated by frequent turnover in elected officials.
- Failures in the integration of planning processes lead to conflicting and competing plans and actions, with adverse socio-environmental consequences.

RECOMMENDATIONS

Given the challenges for territorial planning and the urgency of infrastructure threats in the Amazon, we recommend advancing territorial priorities by engaging directly in the infrastructure development cycle to drive reforms *within* it. This requires: (i) identifying strategic entry points for influencing infrastructure processes and decision-making; (ii) developing the necessary information, constituencies, and coalitions to support territorial priorities; and (iii) aligning these efforts with the broader principles and movement for sustainable infrastructure. We make three recommendations:

1. Engage directly in infrastructure planning processes to advance territorial priorities and drive reforms *within* these processes.

We provide a framework with the following three components to support strategies for addressing infrastructure threats in the Amazon.

- Target the appropriate scale and infrastructure planning process.
- Identify policy and planning mechanisms to influence infrastructure decision-making.
- Develop technical inputs and stakeholder engagement strategies.

2. Strengthen the *design and effectiveness* of territorial plans for influencing infrastructure planning and decision-making.

We highlight three areas for improving territorial plans.

- Develop territorial plans to be *actionable*, within the context of the territory’s political and economic drivers.
- Ensure that territorial plans have the necessary content to inform infrastructure planning processes.
- Improve the integration of territorial planning with other planning processes.

3. Advance a territorial approach for the Amazon *as part of the broader movement for sustainable infrastructure and inclusive economic growth*.

We identify key actions for aligning the sustainable infrastructure agenda with a territorial approach for the Amazon.

- Build the case for a territorial approach with the private sector and government, focusing on how it adds value and lowers costs.
- Strengthen institutional support for a territorial approach by engaging government ministries responsible for infrastructure development.
- Improve regulations and financing requirements for sustainable infrastructure across the infrastructure project cycle.

II. Introduction

Large-scale infrastructure development threatens to transform the Amazon. Planned project investments could total up to \$70 billion by 2020.¹ Transportation, energy, and mining projects are among the top threats, with the potential to impact protected areas and cause losses of up to half of the current Amazonian forest.² In addition, these projects could cause social and cultural impacts from increased migration to project areas, weakening of local governance and rights, and reduced resource access.³ Current and planned infrastructure in the Amazon includes:

- 96,500 kilometers of existing roads, with 95 percent of deforestation occurring within 5.5 km of a road due to the “fishbone effect” caused by the opening of new roads.⁴ Road development is consistently identified as a top driver of deforestation and land conversion.⁵
- Mining concessions cover 1.6 million square kilometers (21 percent of the Basin) and oil or gas concessions cover 1.08 million square kilometers (15 percent of the Basin), with many concessions overlapping Protected Areas and Indigenous Territories.⁶
- 191 existing large dams with an additional 246 dams planned or underway.⁷

There is growing recognition that the traditional approach to infrastructure development must change in Latin America and especially in the Amazon. It must move beyond sector and national economic goals to a more integrated and inclusive development model.⁸ Three main drivers underpin the movement to transform infrastructure development in Latin America to a more sustainable path.

1. Closing the Infrastructure Investment Gap

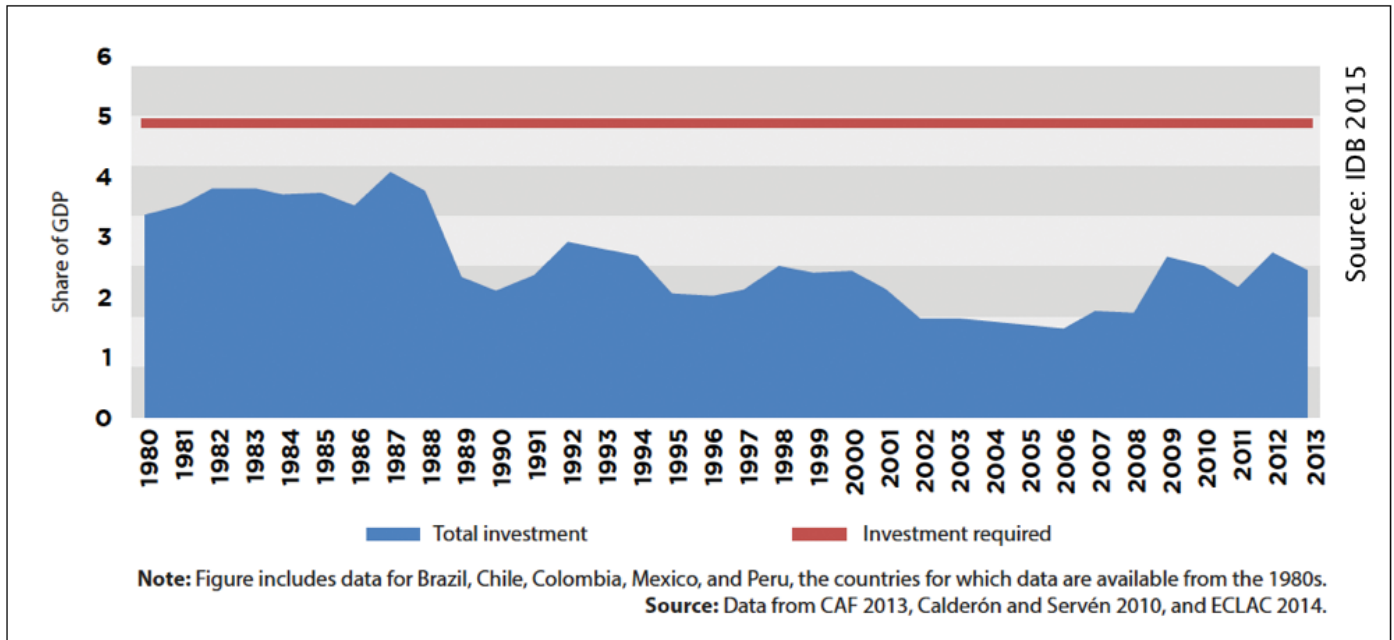
Latin America has a significant infrastructure investment gap, estimated to be about \$120-\$150 billion a year, or equal to an additional 2.0-2.5 percent of GDP (Figure 1).⁹ To close this gap, there is an increasing call to accelerate investment in “sustainable infrastructure”¹⁰ and a growing number of sustainable infrastructure initiatives.¹¹ These initiatives focus on four main barriers to increasing private-sector financing in sustainable infrastructure: (1) lack of transparent project pipelines; (2) high development and transaction costs; (3) lack of viable funding models and inadequate risk-adjusted returns; and (4) unfavorable and uncertain regulations.¹² Overall, there is a recognition that closing the infrastructure gap will require more than simply raising more resources for more projects. Investments will need to address the right infrastructure needs and services in a targeted and efficient manner, with consideration of national economic, social, and environmental goals, and the relative roles and trade-offs of projects in achieving those goals.¹³

2. Breaking the cycle of infrastructure project-related conflicts

Latin America has a long history of infrastructure project-related conflicts that have resulted in higher project costs and adverse environmental, social, and cultural impacts. A 2017 study by the Inter-American Development Bank (IDB) analyzed 200 conflict-affected infrastructure projects in Latin America over the past four decades. The study found that these conflicts resulted in project delays (81 percent of cases), cost overruns (58 percent), project redesign (42 percent) and project cancellations (18 percent).¹⁴ The average project delay was five years and the average publicly reported cost overrun was \$1.2 billion, or 69 percent of the average original budget.¹⁵

Beyond these impacts for project sponsors, conflicts have high costs for governments and communities as well. For example, conflicts increase risks and uncertainties that can cause sharp declines in investment for government development agendas.¹⁶ For communities, concerns are most commonly focused on social and environmental impacts¹⁷, with some conflicts escalating to hostile confrontations that can result in injuries and fatalities.¹⁸

FIGURE 1. Annual Investment in Infrastructure in Latin America and the Caribbean, 1980–2013



The IDB study found that disputes between project sponsors and communities have most commonly arisen due to deficient planning (86 percent of cases), lack of community benefits (84 percent), reduced access to resources (78 percent), lack of adequate consultation (74 percent), environmental degradation (72 percent), impacts on local values (70 percent), and lack of transparency (68 percent).¹⁹ These project-related conflicts were most common for the energy, transportation, and mining sectors. For many of these projects, conflicts started early in the infrastructure planning process due to the lack of a sufficient, inclusive planning process. A new approach to infrastructure planning and development is needed to break the lose-lose cycle of infrastructure project-related conflicts.

3. Meeting climate, environmental, and sustainable development goals

Infrastructure development will play a major role in how, and if, countries meet climate commitments and a range of other national environmental, social, and cultural objectives.²⁰ This is especially the case for Amazon Basin countries²¹, which have made commitments to combat climate change, promote sustainable development goals, halt deforestation, conserve biodiversity, and support the rights of indigenous peoples (see Box 1). If poorly planned and executed, new large-scale infrastructure projects in the Amazon could significantly undercut efforts to meet these commitments.

BOX 1. National Commitments of Amazon Basin Countries

CLIMATE CHANGE. As signatories to the United Nations Framework Convention on Climate Change (UNFCCC) Paris agreement, Amazon Basin countries have shared their Intended National Determined Contributions (INDCs) to reduce national greenhouse gas emissions (Table 1).¹ Some of these countries have developed internal plans, including identifying Nationally Appropriate Mitigation Actions (NAMAs) to meet these commitments.

TABLE 1. INDCs of Amazon Basin Countries: INDC Reduction Goals for Countries with Measurable and Derivable GHG Reduction Targets¹

Country	Reference Year	Reference Emissions (MtCO ₂ eq) ²	Reduction Goal (%) ³	INDC Emission Reductions (MtCO ₂)
Brazil	2005	2085	43	896.55
Colombia	2030	335	30	100.5
Ecuador	2025	76.3	45.8	34.95
Peru	2030	298.3	30	89.49
Venezuela	2030	340	20	68

¹ Additional Amazon Basin countries (Bolivia, Guyana, and Suriname) submitted INDCs that included a list of actions but no measurable GHG reductions.

² For countries referencing past emissions, we used the higher estimate that included or excluded Land Use Land Use Change and Forestry.

³ We used the higher of the conditional and unconditional reduction goals as applicable.

Source: TNC 2018

SUSTAINABLE DEVELOPMENT GOALS (SDGs). All Amazon Basin countries have adopted the 17 SDGs under the 2030 Agenda for Sustainable Development (Table 2).¹ Most have already undertaken or plan to complete “Voluntary National Reviews” to share experiences and improve their national approach to advancing the SDGs.¹

BIODIVERSITY AND FORESTS. All Amazon Basin countries have ratified the Convention on Biological Diversity and most have established REDD+ programs (Table 2). Half of the countries (and many sub-national jurisdictions of Brazil and Peru) have endorsed the 2014 UN Climate Summit’s New York Declaration on Forests (NYDF), which commits countries to contributing to 10 goals for halting global deforestation.¹

RIGHTS OF INDIGENOUS PEOPLES. All Amazon Basin countries are signatories to the United Nations Declaration on Rights of Indigenous Peoples (UNDRIP) (2007), which states the need for free, prior, and informed consent (FPIC) of indigenous people and traditional populations in relation to projects that might affect their social and environmental well-being (Table 2).¹ Most countries are also party to the American Convention on Human Rights (1969) and have ratified the Indigenous and Tribal Peoples Convention, 1989 (ILO 169).¹

TABLE 2. Commitments of Amazon Basin Countries: SDGs, Conservation, and Rights of Indigenous Peoples

	SDGs		Conservation Commitments				Indigenous		
	SDGs	Voluntary Reviews	NDC	CBD	REDD+	NYDF	ACHR	ILO 169	UNDRIP
Bolivia	✓		✓	✓	✓		✓	✓	✓
Brazil	✓	2017	✓	✓			✓	✓	✓
Colombia	✓	2016, 2018	✓	✓	✓	✓	✓	✓	✓
Ecuador	✓	2018	✓	✓		✓	✓	✓	✓
Guyana	✓		✓	✓	✓	✓			✓
Peru	✓	2017	✓	✓	✓	✓	✓	✓	✓
Suriname	✓		✓	✓	✓		✓		✓
Venezuela	✓	2016	✓	✓				✓	✓

Source: TNC 2018

TERRITORIAL APPROACH FOR THE AMAZON

The challenges for sustainable infrastructure development are magnified for the Amazon, due to its significant environmental, social, and cultural values, critical importance for global climate, vast size, and the potential for large-scale infrastructure projects to transform the region. The anticipated scale of individual projects is staggering, with proposed hydropower plants with generation capacities of up to 8,000 MW and thousands of kilometers of proposed roads and railways in the Basin.²² In a predominately ‘pristine’ Amazon landscape, these infrastructure projects can also have devastating cumulative and secondary effects—opening new frontiers to further exploit previously difficult to access resources. Table 3 shows how the cumulative impacts of planned infrastructure projects across sectors aggregate in geographies within the Basin. The potential for these multi-sector impacts provides a strong rationale for planning infrastructure development based on a territorial approach, rather than a sector-by-sector or project-by-project approach.

TABLE 3. Cumulative Impacts of Planned Infrastructure Projects across Sectors and Geographies in the Amazon

	Transport (Terrestrial & Aquatic)	Hydropower (and Transmission)	Oil and Gas (and Transmission)	Mining
Alto Putumayo & Caqueta—Sucumbios (Per, Col, Ecu)	✓		✓	✓
Corridor 319-174 (Bra)	✓	✓	✓	✓
Madeira (Bol, Bra, Per)	✓	✓	✓	✓
M.A.P. (Bol, Bra, Per)	✓		✓	✓
Marañon (Per)	✓	✓	✓	✓
Tapajós (Bra)	✓	✓		✓
Ucayalli (Per)	✓	✓	✓	✓
Xingu (Bra)		✓		✓
Consolidated Projects	✓	✓	✓	✓

Source: Infrastructure in The Amazon: Setting the Agenda for Climate Change, Biodiversity, And Human Rights. 2016. Unpublished white paper by 36 NGOs for the Moore Foundation.

Proponents of a territorial approach call for a more integrated development vision, focusing on locally-driven development processes that are spatially integrated, leverage the contribution of actors operating at multiple scales, and contribute incrementally to national development efforts.²³ The aim is to move beyond national and sector goals to a true territorial approach that supports local priorities and rights, natural resource uses, socio-economic opportunities, and local quality of life.²⁴

A recent initiative by the Center for Sustainability Studies at the Getúlio Vargas Foundation (FGV) and the World Bank Group’s International Finance Corporation (IFC) takes a territorial approach as its starting point for improving the relationship between large-scale infrastructure projects and territories in the Amazon. It sets out guidelines for territorial and land use planning (Box 2) and suggests territorial planning processes are needed to manage impacts, risks, and opportunities across multiple interests.

BOX 2. Guidelines: Territorial and Land Use Planning*

Guideline 1: Territory must be seen as a strategic element in regional planning, one that supports decision making about and the implementation of large-scale projects in the Amazon.

Guideline 2: Territorial planning processes must include mechanisms and procedures designed to achieve agreements, increase capacities, and ensure adequate funding and effective monitoring.

Guideline 3: Land-use zoning and regulation is essential for development and must therefore be carried out prior to the installation of large-scale projects.

Guideline 4: Establishing governance with full social participation is essential for planning and territorial development.

*In addition to Territorial and Land Use Planning, guidelines were also developed for Financial Instruments for Territorial Development; Institutional Capacities; Indigenous Peoples, Traditional Communities and Quilombolas; Children, Adolescents and Women; and the Legal Removal of Vegetation

Source: FGV and IFC 2017

Territorial planning instruments are intended to advance the goals of a territorial approach. Examples of such instruments include: Economic and Environmental Zoning, Regional Territorial Plans, Strategic Environmental Assessments, and Watershed Management Plans (See Appendix A for a more detailed list of territorial planning related policies, tools, and mechanisms in Peru, Brazil, and Colombia). Broadly, these territorial planning instruments consider socio-economic, cultural, and environmental conditions and goals in a territory, with the objective of informing decisions for sustainable development, land-use, natural resource management, and environmental goals.²⁵

PURPOSE, SCOPE, AND METHODS

The purpose of this study is to assess the effectiveness of territorial planning in addressing infrastructure threats and make recommendations for how these efforts can have a greater influence on infrastructure development in the Amazon. We considered challenges and opportunities for territorial planning in guiding infrastructure planning, improving project selection and design, and reducing environmental, social, and cultural impacts.

The scope of the study centered on territorial planning and infrastructure development in the two countries with the largest amount of land cover in the Amazon Basin – Brazil (64 percent) and Peru (10 percent) – with case studies for the Tapajós Basin of Brazil and the Marañón Basin of Peru. We assessed the potential of territorial plans to promote environmental, social, cultural priorities. We did not assess other possible applications of territorial plans, such as for urban development. Our methods included literature and policy reviews, stakeholder interviews, a survey in Brazil, two workshops in the Marañón Basin and two workshops in the Tapajós Basin, and engagement with an advisory group for guidance and review.

III. Findings

Our assessment of territorial planning focused on the following planning instruments: Economic and Environmental Zoning, Regional and Local Territorial Plans, Regional/Sustainable Development Plans, Strategic Environmental Assessments, Watershed Management and Water Resources Plans, Hydropower Inventory Planning, and Indigenous planning tools.²⁶ We found that these territorial planning instruments have mostly fallen short of influencing the long-term infrastructure development trajectory of the Amazon region and that the challenges for territorial planning are complex, interrelated, and systemic.²⁷ Below, we summarize this array of challenges, as well as highlight cases where territorial planning has influenced infrastructure development in the Amazon.

1. Lack of legal mandates and insufficient political will

Where legal mandates are in place we found evidence that territorial plans can influence infrastructure decisions (see Box 3). However, we found that most territorial plans are lacking legal requirements for their development and use and are generally considered voluntary tools. In some cases, where there were legal requirements for territorial plans, their oversight and resourcing have recently been rolled back, such as the Local and Regional Territorial Plans in Peru (*Planes de Ordenamiento Territorial (POT)*). In cases where territorial plans are required, we found low completion rates and a lack of support for implementation.²⁸ For example, while all 24 departments in Peru are legally mandated to have Economic and Environmental Zoning (ZEE) plans, only 13 have been completed and adopted.²⁹

Even where plans have been completed, the lack of legal basis for their use in infrastructure decision-making has limited their influence on territorial development compared to infrastructure sector and project plans. For example, Law 30230 (2014) in Peru, explicitly states, “neither the Ecological Economic Zoning, nor the Territorial Plans assign uses or exclusions of use as established by the regulations on the subject,” all but rendering these territorial planning tools as unenforceable.³⁰ Another example, the Strategic Environmental Assessment (SEA) for the Loreto Concerted Regional Development Plan (PDCR), was a collaborative planning process for addressing multiple infrastructure development concerns in the territory, including potential transportation infrastructure (waterway, highway, railway). While the SEA was officially adopted by the Ministry of Environment, the actions and programs envisioned in the SEA were never officially incorporated into the PDCR, nor budgeted (see Maraón case study below). The SEA was viewed as a voluntary reference guide that lacked a legal and regulatory mandate. As a result, it has not been effective for informing and influencing infrastructure decisions, including implementation of the proposed *Hidrovia Amazónica* (which was included in its assessment).

The perception that territorial plans are not influential in decision-making has translated into limited investment in territorial planning and significant implementation challenges. Beyond the lack of legal requirements to develop and use territorial plans, obstacles to implementation include:

- *Lack of stakeholder buy-in for the territorial plan.* Stakeholders may not support implementation if the planning process is perceived as not sufficiently inclusive, transparent and robust to address the full range of territorial development issues.
- *Dominant role of development and infrastructure plans compared to territorial plans.* Stakeholders view territorial planning as less influential than development plans and infrastructure project plans, contributing to low expectations for territorial plans to be consulted or implemented. For example, stakeholders interviewed in Loreto identified the primary planning tool for defining and organizing the territory as the Concerted Development Plans (PDCs), rather than the plans with an explicit territorial planning purpose (e.g., POTs, ZEEs, SEAs).
- *Lack of budget for territorial plan implementation.* Actions identified in plans are often unbudgeted and considered as isolated plans. Territorial plans are not consulted when governments establish annual operating budgets and integration with other policies. Stakeholders sited this disconnect as a key reason for why plans are not implemented.³¹

- *Lack of monitoring, enforcement and conflict resolution mechanisms.* Territorial plans have limited monitoring, enforcement, and conflict resolution mechanisms to support implementation. As a result, stakeholders (especially local communities) have little means of recourse if new infrastructure projects do not adhere to territorial plans and negotiated decisions.

BOX 3. Legal Mandates to Strengthen Territorial Plans: Watershed Management and Resource Plans

Colombian Watershed Management Plans (*Planes de Ordenación y Manejo de Cuencas Hidrográficas*—POMCAs), are mandated by the National Policy for Integral Management of Water Resources (PNGIRH) (2010).^A These plans are explicitly developed to coordinate the use and protection of a basin’s lands, waters, and flora and fauna in a manner that “leads to: a) The protection, conservation, use and sustainable use of renewable natural resources; b) An occupation of the territory in a safe way; and c) Avoid new risk conditions in the basin.”^B Due to POMCA’s legal authority, agency regulatory oversight and accountability, and a participatory development process, these plans are more effective in informing infrastructure decisions. For example, the Talora Central Block hydrocarbon exploratory project (which borders the mouth of the Bogota River in the Magdalena Basin) required an environmental license modification. In the licensing authority’s official modification, it requires that the project’s facilities “can only be built as long as they are located in zoning units in accordance to the *Plan de Ordenacion y Manejo Ambiental de la Cuenca del Rio Magdalena*.”^C

Likewise, in Brazil, some watershed plans are perceived as effective for influencing infrastructure development. For example, in September 2018, the National Water Authority (ANA) announced a moratorium on hydropower in the Brazilian Pantanal. ANA cited the Water Resources Plan of the Paraguayan Hydrographic Region (*Plano de Recursos Hídricos da Região Hidrográfica do Paraguai*) in their justification for the moratorium and called for additional socio-environmental studies regarding the potential for the 144 proposed hydropower projects to damage “other uses practiced in the region, especially fishing and tourism, and to preserve the Region that is home to a vulnerable biome.”^D The Water Resource Plan identified hydropower development as one of the possible threats to the Pantanal and foresaw the need to balance the multiple uses of the natural system; the additional studies required by the plan will support ANA’s future decisions on hydropower siting and considerations.

National government and industry and financial sector interests continue to play the dominant role in determining large-scale infrastructure development in Amazon territories. These interests generally supersede territorial plans, local priorities, and local development benefits.³² Frequently, they supplant constitutional rights and defer to exclusion mechanisms in national legislation; we found multiple cases where infrastructure projects deemed of “national interest” were not required to consult territorial plans or adhere to legally mandated regulations. For example, the IIRSA road projects in Peru, as projects of “national interest,” were not required to consider territorial plans or complete pre-feasibility or feasibility studies to identify and monitor potential environmental and social impacts. Likewise, in Brazil, the Belo Monte and Sao Manoel hydropower projects received special procedural waivers given their national importance. Increasingly, this “top-down” approach is eroding environmental regulations and requirements that are seen as barriers or “additional costs” to investments. This is manifested in reduced regulations and financing requirements.

This power dynamic is also reflected in the challenges to advance the emerging concept of “Integral Territories” led by Peruvian indigenous peoples. This approach has gained some local traction to define and unite territorial management based on the historical nationalities of indigenous peoples, and thus seeks greater Indigenous autonomy. The concept proposes recognized land tenure and land use designation rights for the Indigenous communities to better manage their lands and resources in the face of development pressures.³³ We found that the concept is facing significant political and legal difficulties and is perceived as a challenge to the Peruvian national government, particularly in isolated border areas.

2. Constraints due to limited resources, capacity, and information

Local and regional governments in the Amazon face the daunting challenge of executing inclusive planning processes across large inaccessible areas, engaging remotely located indigenous and traditional communities, and working (in most cases) with a limited budget and a lack of technical staff.³⁴ This can be partially mitigated by bringing in additional technical support; however, it is critical that local stakeholders play a principal role in defining a territorial vision and plan.³⁵

Planning, in general, faces challenges with limited resources, capacity, and evolving priorities. These challenges are exacerbated by the complexities of territorial planning in the Amazon and have caused delays in updating plans and contributed to poor practices. For example, many planning processes in Brazil are currently delayed, including Brazil's "Priority Areas of the Amazon", which should be updated every five years but is actually on an approximately 10-year timeframe.

We also found that information to support territorial planning in the Amazon is often unclear, unavailable, outdated, or difficult to collect. For example, a key obstacle in the Amazon is the lack of clarity on land tenure. This uncertainty amplifies challenges for identifying and planning land uses within a territorial plan.³⁶ Likewise, information on natural resource uses and conservation values may be limited, especially when considering potential impacts from proposed development (e.g., dredging for the proposed *Hidrovia Amazônica*). As a result of these information limitations, territorial planning processes often fall short in producing actionable plans that establish territorial priorities and support informed decision-making.

3. Insufficient integration with other planning processes

Territorial plans are often developed in isolation from other planning processes. They are disconnected "vertically" from plans at other jurisdictional scales and "horizontally" from other plans relevant to territorial development. This limits buy-in, implementation, and ultimately the "shelf life" of territorial plans.³⁷ While the coordination and integration of planning processes is a common governmental problem that extends well beyond territorial planning, the challenge may be more acute for territorial planning in the Amazon.

Across jurisdictional scales, we found that local, provincial, and regional plans are often not well integrated or aligned.³⁸ Although coordination may be required, local governments in the Amazon indicated that they were not invited to participate in regional planning exercises, frequently due to a lack of resources.^{39,40} Similarly, local communities reported feeling disengaged from formal planning processes, especially at the provincial and regional government levels.

We also found that territorial plans are not well integrated with other planning processes, such as development plans and infrastructure sector and project plans.⁴¹ This can lead to conflicting and competing plans and actions, with adverse socio-environmental consequences.⁴² Historically, road development in Brazil was exclusively a sectoral planning activity which prioritized transportation development and occupation without incorporating socio-environmental impacts. As a result, large road projects, such as the BR391 (between Manaus and Porto Belho) and the Transamazônica and BR 174 (between Manaus and Boa Vista), significantly contributed to deforestation, colonization, and increased access for resource extraction. The socio-environmental conflicts caused by this lack of integrated planning led to changes and improvements in transportation planning (see Box 5).

BOX 4. Technical Support for Territorial Planning: Hydropower Scenario Planning in the Tapajós Basin

The Energy Planning Company (EPE) and World Wildlife Fund (WWF) supported an effort to proactively identify hydropower scenarios that would minimize socio-environmental conflicts. This effort resulted in the temporary withdrawal of two potential hydropower projects (Simão and Salto Augusto) that were located within the boundaries of a national park from the Ten-Year Energy Expansion Plan (PDE 2026) project inventory. Unfortunately, there was no binding agreement to maintain that decision, which ultimately led to these projects relisted in the inventory years later (highlighting the importance of formalizing planning efforts and their commitments).

We also found multiple examples of infrastructure sector and project plans that have proposed development which would impact protected areas and other conservation priorities identified in territorial planning processes. For example, the original Pucallpa–Cruzeiro do Sul (IIRSA Centro) highway’s proposed route passed through the “Zona Reservada Sierra del Divisor” (now a National Park) and an area set aside for indigenous in voluntary isolation. Likewise, in Brazil, the 2013 “National Decennial Plan for Energy, 2022” proposed new hydropower projects within protected areas (São Simão and Salto Augusto—within the Jamanxin National Park), anticipating policy changes to degazette these protected areas, which would also override existing territorial plans.⁴³

BOX 5. Integration of Territorial Priorities in Infrastructure Planning: Sustainable BR-163 Plan

The BR-163 highway runs approximately 1800 km from Cuiabá, in the heart of soy production, to the Santarém port on the Amazon River. In the early 2000s, the *Avança Brasil* program to pave the BR-163 raised concerns among civil society organizations and local movements due to the historic strong correlation between road development and deforestation. These groups came together in a participatory process for development planning that in 2006 produced the Sustainable BR-163 Plan. The plan advocated for development without deforestation, setting out a broad set of demands for the recognition of land tenure rights, forest conservation, and incentives for sustainable production. It was partially implemented, with the federal government creating more than 8 million hectares in Conservation Units to protect the forest. Although other elements of the plan were not implemented, it represents a milestone in building a joint and participatory agenda to address social and environmental impacts of major infrastructure projects.

The vertical and horizontal coordination challenges for territorial plans are further exacerbated by political turnover. New elected authorities have little incentive to implement plans from previous administrations, often discarding and discrediting previous plans and starting over which may or may not align with existing plans across scales. For example, amongst several factors, government turnover in Loreto has led to a disconnect between local ZEEs and the regional development plan.⁴⁴

Based on our findings across the region, territorial planning faces many challenges for development and implementation. Key issues include the lack of legal requirements and political will to support the plans, limitations in resources, capacity, and information, and weaknesses in integration with other planning processes. To illustrate and deepen these findings, we conducted two case studies of territorial planning in the Tapajós and Marañón Basins. In Tapajós, we considered the top infrastructure sector threats to the basin and assessed related planning processes and opportunities. In Marañón, we reviewed the approaches, challenges, and effectiveness of selected territorial planning instruments.

IV. Case Study: Territorial Planning in the Tapajós Basin

The Tapajós Basin is a large region about the size of France (492,000 km²) that spans the *Cerrado* (i.e., tropical savannah) and Amazon rainforest biomes of Brazil. It has 61 municipalities and a population of over 2 million people. It is home to vast tropical forests, rich biodiversity, numerous indigenous groups, and a river system that flows into the Amazon river. The Tapajós River is the only remaining tributary on the southern bank of the Amazon River that has not been dammed for large-scale hydropower.

Considered one of the great economic development frontiers of the Amazon, the Basin is under tremendous infrastructure development pressure. While 40 percent of the Basin is protected by a mosaic of conservation units and indigenous lands, weak governance and high levels of poverty make the region, and its people, highly vulnerable to the environmental and social impacts of large-scale infrastructure development.⁴⁵ The cumulative impacts of hydropower, transportation, and mining projects could transform the Basin over the next decade (Figure 2). This includes a series of large dams that are planned to exploit the Basin's enormous potential for hydropower but could also flood indigenous lands and protected areas, as well as have significant environmental impacts downstream. A transportation corridor across the Basin could add to these impacts. It is being developed to export agricultural commodities through the "Northern Exit" of the Amazon River, with projects including the BR-163 highway, Ferrogrão railway, and ports and waterways.

For this case study, we focused on territorial planning instruments relevant for the agriculture transportation corridor and hydropower sector in the Tapajós Basin. This includes the Sustainable Development Plan (PDRS) for the BR-163 road and hydropower inventory planning for watersheds of the Tapajós Basin. We assessed these planning processes to identify lessons and opportunities for advancing a territorial approach. We also considered Economic and Ecological Zoning, which has been implemented across Brazil under the National Environmental Policy and Federal Decree 4.297/2002. We found that due to their general scope and guidance, Economic and Ecological Zoning has not been effective in influencing infrastructure development.⁴⁶ Our findings are based on survey results, stakeholder interviews, and two workshops.

SUSTAINABLE DEVELOPMENT PLANNING FOR THE AGRICULTURE TRANSPORTATION CORRIDOR

In the early 2000s, as agricultural expansion made the *Cerrado* region of Mato Grosso the largest soy producing region in Brazil, pressure increased to develop the "Northern Exit" to export soy through the Tapajós Basin. The initial focus was on paving the BR-163 highway as a priority of the *Avança Brasil* ("Forward Brazil") program and establishing the first port for export in the city of Santarém at the mouth of the Tapajós River (where it meets the Amazon River). Over time, transshipment terminals (truck to barge) have been developed with others planned. In addition, there are plans to develop the Ferrogrão railway, which will run alongside the BR-163 highway. These transportation corridor projects could bring significant cumulative socio-economic and environmental impacts that affect indigenous peoples and protected areas.

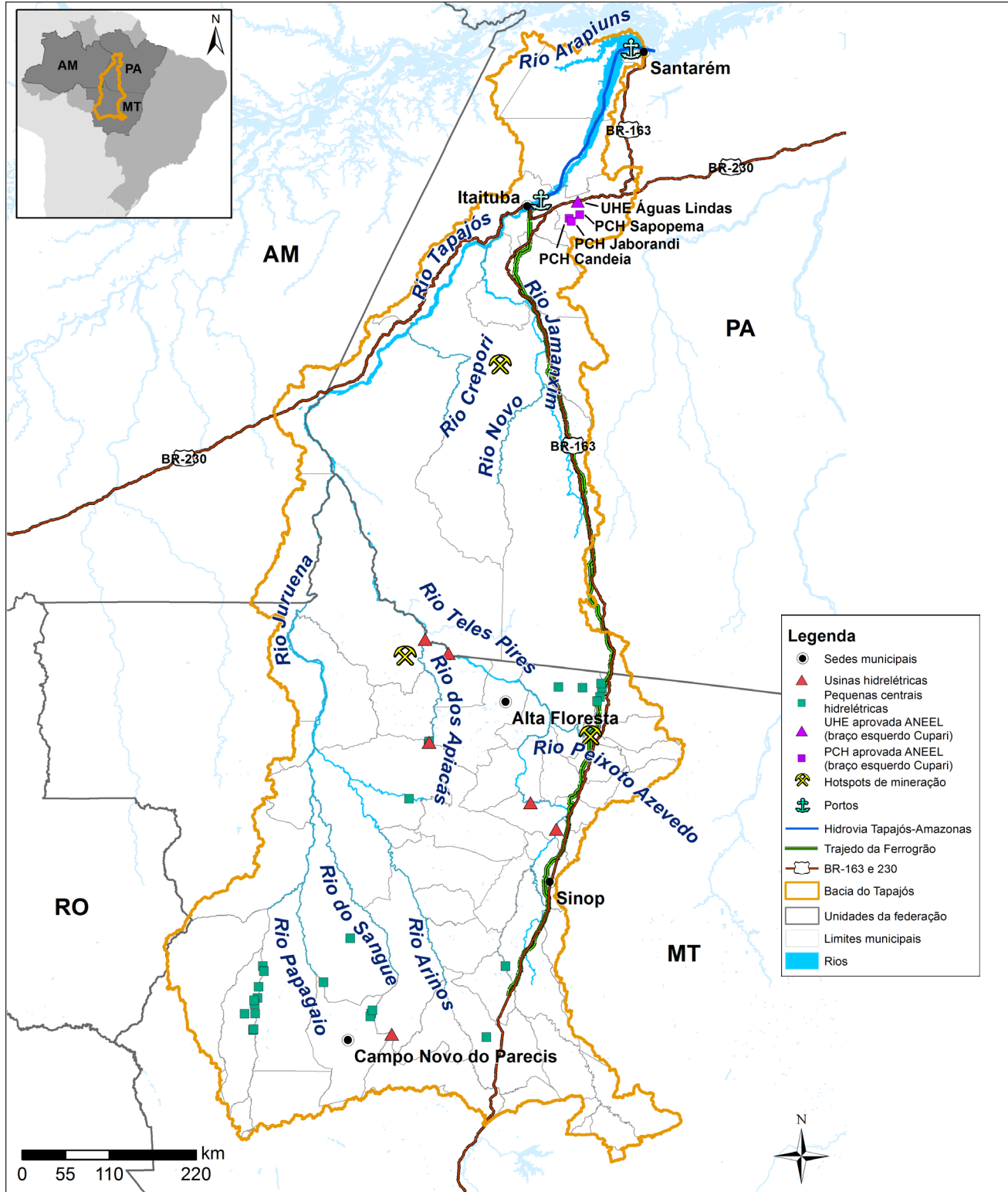
We assessed the planning processes of the main transportation corridor projects (BR-163 highway, Ferrogrão railway, and ports and waterways), with a focus on opportunities to update and expand on the approach of the Sustainable BR-163 Plan so that it addresses the full suite of transportation projects planned for the Tapajós Basin.

BR-163 HIGHWAY

As summarized in Box 5, the Sustainable BR-163 Plan was developed in 2006 through a participatory process to address concerns about the highway's potential socio-economic and environmental impacts. The plan was partially implemented, with the federal government protecting more than 8 million hectares of forest in Conservation Units. Although licensing to pave the BR-163 highway was approved over a decade ago with licenses for different sections of the road, adequate investment for the highway project has not materialized. Currently, paving occurs periodically, led by the Army's engineering program. However, paving the BR-163 remains a goal, with a public-private concession process currently

underway. The resumption of the project brings with it an opportunity (and expectation by civil society and local groups) to update the Sustainable BR-163 Plan. This is important to ensure it reflects current territorial priorities, considers the cumulative threats to the region from transportation, energy, and mining projects, and has legal requirements for implementing the sustainability plan.

FIGURE 2. Main Transportation, Hydropower, and Mining Projects in the Tapajós



FERROGRÃO RAILWAY

The Ferrogrão is a planned 1000km railway that will run alongside the BR-163 highway, connecting the north-central part of Mato Grosso to the lower portion of the Tapajós River in the city of Itaituba in the state of Pará. The railway is expected to help transport 25 percent of national grain production (about 60 million tons), which will significantly reduce the current trucking of grains to ports in the south and southeast of the country. It is a key priority of the top agricultural companies in the region and government infrastructure investment plans.

Planning for the Ferrogrão project has come under criticism due to a lack of public consultation, which is required under a public-private concession model. Although four public hearings were held, indigenous groups were denied their right to a specific consultation, raising the potential for a legal battle. The order and timing of government procedures are part of the problem. While project proponents support conducting indigenous consultations and developing cumulative impact studies (i.e., Strategic Environmental Assessment), both are proposed to be done *after* the project auction and before licensing the project. This is seen by environmentalists and the Federal Prosecutor's Office as an inadequate approach because, after the auction, the scope for adjusting or rejecting the project will be reduced significantly.

Recognizing the weaknesses of this approach, the government has indicated that an environmental impact assessment should be carried out by the Federal Government's Logistics Planning Company (EPL) as an input for the auction process. However, the scope of this environmental impact assessment does not currently include a cumulative impacts assessment for the transportation corridor.

Due to the concerns about the *Ferrogrão* railway planning process, there are a number of opportunities to reform it. These include: (i) collaborating with the Federal Public Prosecutor's office to propose guidelines for indigenous consultation in the project preparation and design process; (ii) exploring the potential for development a Strategic Environmental Assessment prior to the auction process; (iii) assessing the potential efficacy and implementation of zero-deforestation commitments for transportation infrastructure; and (iv) collaborating with EPL to develop a new structure of cost reimbursement for feasibility studies, project design, and environment impact assessment studies to incentivize completion prior to the auction process.

PORTS AND WATERWAYS

Ports and waterways are being planned and developed without broader logistics planning that considers environmental and social impacts within the Tapajós Basin. New ports are licensed at a state-level on a project-by-project basis. Waterway transport on the Tapajós River and the Amazon River takes place without environmental licensing.

Although planning and regulatory levers may be limited for addressing port and waterway impacts, public pressure can be effective in addressing these infrastructure threats. For example, conflict over the development of the Santarém port contributed to the establishment of a soybean moratorium in July 2006. This included a commitment by traders and consumers to not buy soybeans associated with deforestation in the Amazon and the creation of the Rural Environmental Registry (CAR), a tool that allows the verification of compliance with the Brazilian forest code, which became a national law in 2012.

HYDROPOWER INVENTORY PLANNING FOR WATERSHEDS

Brazil has an installed hydropower capacity of 100,273 MW, making up 64 percent of total Brazilian energy capacity and meeting more than three-quarters of the country's electricity demand in 2017.⁴⁷ Based on hydropower inventory studies conducted from 2005 to 2011, the Tapajós Basin has a total hydropower potential of approximately 26,500 MW. This includes the Tapajós River (14,000 MW), Juruena River (8,830 MW based on 22 projects), and Teles Pires River (3,697 MW based on six projects).⁴⁸ Of the inventoried hydropower projects, four have already been built on in the Teles Pires Basin and others are currently being licensed for the Juruena River.

Civil society's criticism of the inventory plans for Tapajós Basin led to a partnership between the Energy Planning Company (EPE) and WWF to review the inventory and potential environmental impacts. The aim was to bring a territorial approach to hydropower sector planning. EPE and WWF developed hydropower scenarios that resulted in the

withdrawal of two projects from the inventory (São Simão and Salto Augusto) because they would impact a national park. The projects were excluded from the Ten-Year Energy Expansion Plan (PDE 2026).

Two other hydropower projects in the Tapajós Basin have also recently been suspended. The proposed São Luis do Tapajós on the Tapajós River, a large-scale 8,000 MW project, had its environmental license suspended in 2016 due to deficiencies in its planning studies and environmental impact assessment, and expected impacts to the indigenous lands of the Munduruku people. Likewise, in 2018, the Federal and State Public Prosecutor's Offices jointly suspended the state licensing of a complex in the Rio Cupari, near Itaituba, alleging insufficient environmental studies and calling for the licensing to be carried out by the Federal agency (IBAMA) because the dams would affect federal protected areas.

In light of this history of problems with hydropower planning, major reforms are being called for that support a territorial approach. In late-2017, Brazil's Court of Auditors (TCU) published ruling 2,723/2017 requiring fundamental changes in the electricity sector planning process, with a focus on the assessment of hydropower projects. The ruling mandates that the federal government draw up a plan of action for institutionalizing a "systemic assessment, such as the Strategic Environmental Assessment (SEA)" to support improvements in planning and project selection based on "planning for the energy matrix, water use in river basins, land use, tangible and intangible assets to be preserved in view of the possible impacts caused by the construction of large hydropower dams, as well as possible alternative infrastructure projects; and also to ensure the transparency of the decision-making process, allowing the necessary involvement of society."⁴⁹ This ruling represents a significant change in the process of hydropower planning, project feasibility studies, and the relationship to territorial and local development.

The TCU ruling requires that the new assessment approach be applied as a pilot to Hydroelectric Utilization (AHE) projects, namely Jatobá, São Luis do Tapajós, São Simão Alto, Salto Augusto Baixo—three projects on the Tapajós River and one on the Marabá River. As a step towards reform, TCU's determination supports the formal review and revision of the AHE as a pilot for applying a similar process for inventories in other basins, strengthens the analysis of environmental impacts, and supports a territorial vision for the Tapajós Basin. It provides an important opportunity to revise procedures and guidance for inventory planning and feasibility studies, incorporating territorial development, environmental, and social priorities and improving participation, transparency, and monitoring processes.

However, there are also concerns about the review and revision of the AHE because the pilot includes the assessment of projects that had been suspended or removed from the inventory. These projects are the São Luis do Tapajós (suspended environmental license), and the São Simão and Salto Augusto (previously removed from the hydropower project inventory). Notably, there was no formal process involved when the São Simão and Salto Augusto projects were removed; they were simply dropped. As a result, it has been possible to add them back into the inventory with no formal process.

CONCLUSION

The Tapajós Basin is under significant infrastructure development pressure. Without a better planning approach, transportation, energy, and mining projects could transform this region over the next decade, with impacts to communities, forests, and rivers. This would undercut national commitments to climate, biodiversity, indigenous rights, and sustainable development goals, and increase the potential for conflicts, investment uncertainty, higher costs, and project delays and suspensions.

There are opportunities to make the Tapajós Basin a model for a territorial approach and sustainable infrastructure development. This includes updating and expanding a sustainable development plan for addressing the threats of the agriculture transportation corridor and reforming the hydropower inventory planning process under the TCU ruling. But this is not enough. These reform efforts must also be *integrated* in a manner that moves infrastructure planning from a siloed project-by-project, or sector-by-sector, approach to a process that appropriately considers cumulative, multi-sector impacts in a territory and the territory's environmental, social, cultural, and local development priorities. Beyond these reforms in planning, establishing a territorial approach for the Tapajós Basin will require a new form of relationships among government, infrastructure sectors, and civil society based on greater participation, transparency and multi-stakeholder negotiated processes. This will demand the active, organized, and concerted efforts by non-governmental organizations, indigenous peoples, and rural communities.

V. Case Study: Territorial Planning in the Marañón Basin

Peru's Marañón River Basin is a critical landscape within the larger Amazon biome, spanning 358,000 km² (slightly larger than Germany) and encompassing 1,400 km of river that connects the heart of the Amazon to Peru's central Andean Valley. The river network serves as a local life-line for people and wildlife. Loreto, the largest region in the Basin as well as in Peru, is the primary jurisdictional focus of our case analysis and is currently only accessible by air or small local boats. Loreto has 36 million hectares of forest cover, which is equal to 56 percent of the country's forest carbon stock. It is a region with rich cultural diversity, with 32 percent of its population comprised of members of indigenous groups.⁵⁰ Loreto also has rich biodiversity and two large protected areas designated in the region: Pacaya-Samiria National Reserve and Santiago-Comaina Reserved Zone (which is shared with the region of Amazonas).

The main infrastructure development pressure in the Marañón basin is from the mining, oil and gas, and hydropower sectors (see Figure 3). The basin has also been identified as an important hydropower resource for Peru with 82 proposed hydropower projects (equal to 25,785 MW) planned in the Marañón Basin; 20 of those hydropower projects are declared projects of "national interest."^{51,52} As a result of development pressure and other factors, deforestation across the Basin has represented 35 percent of the total deforestation in Peru; in Loreto alone, 282,767 hectares were deforested from 2001 to 2013.⁵³

We assessed territorial planning within the Marañón Basin—with an emphasis on the region of Loreto—to better understand how those planning efforts could support improved infrastructure decision-making. Through stakeholder interviews, workshops, and desktop research, we examined the primary territorial planning instruments in the region, including land use plans, strategic environmental assessments, concerted development plans and indigenous peoples planning initiatives.

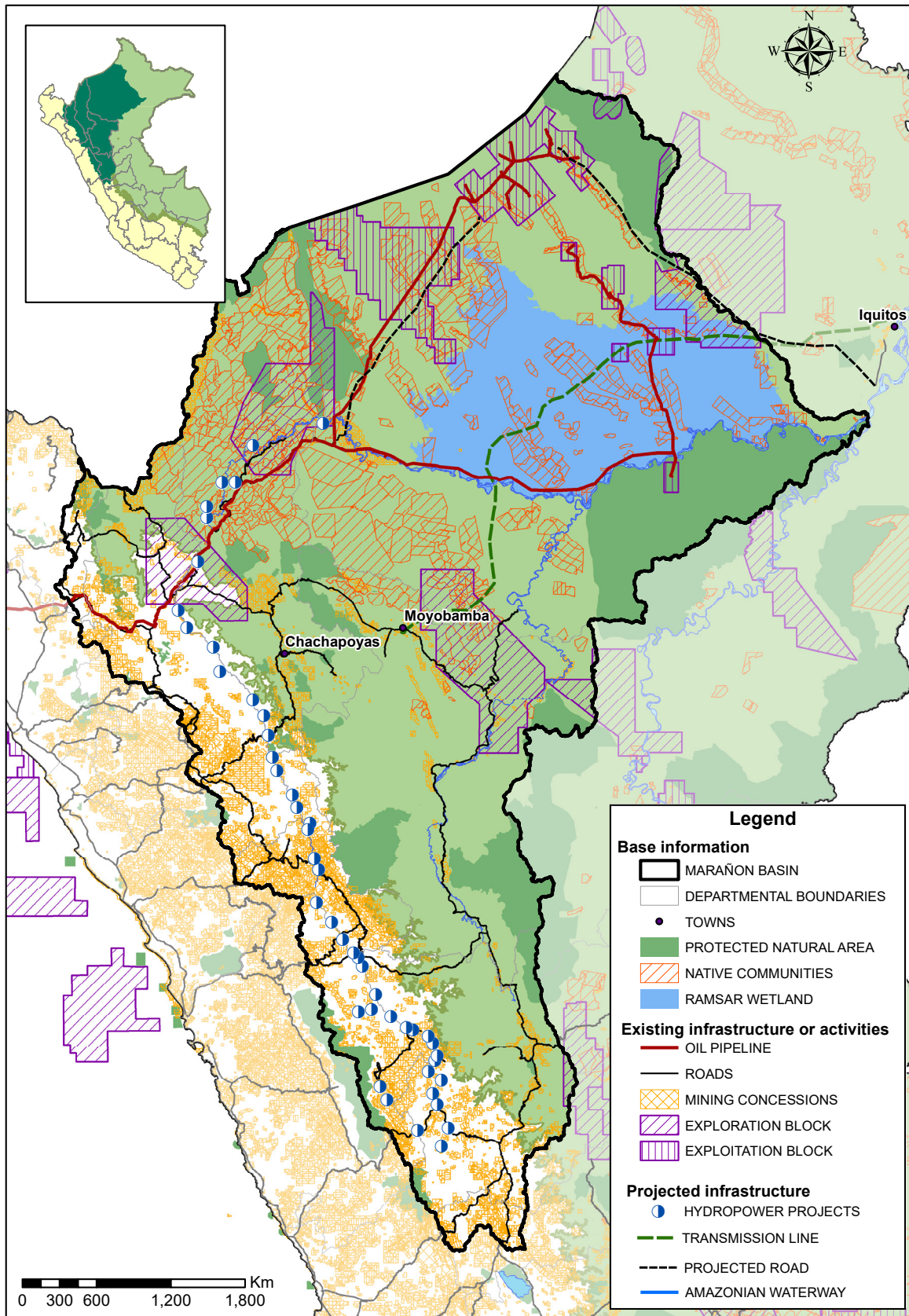
The assessment identified critical gaps, including non-binding planning mechanisms, poor coordination across governmental planning instruments, lack of implementation, and important budget discrepancies. We also found that infrastructure project financing remains directed towards supporting national development interests with deficient socio-environmental criteria. Publicly funded projects must be formulated and evaluated through the National System of Multiannual Programming and Investment Management (Invierte.pe), whose goal is to guide the use of public resources earmarked for investment in the provision of services and infrastructure. This new system seeks to reduce the times and procedures for new investments; the new procedures include simplified preliminary assessment sheets that request less information, leaving it to the applicant's discretion to determine adverse socio-environmental impacts. This simplified process undermines the environmental assessment process and further weakens the effectiveness of territorial planning efforts designed to inform such decisions.

While efforts have been made by the government to incorporate socio-environmental considerations into planning for the territory—such as the strategic environmental assessment for the Loreto region and indigenous organization's efforts to manage their territories more holistically—to date the desired results have not been achieved. Below we examine the primary territorial planning instruments in Loreto and their effectiveness.

LAND-USE PLANNING TOOLS

The promotion of land-use planning (LUP) has seen advances and setbacks in Peru since it was incorporated into the Code of the Environment and Natural Resources in 1990. Since then, a range of methodologies and legal provisions have been developed to promote the appropriate use of the territory, principally through **Economic Ecological Zoning (ZEE)** and **Territorial Plans (POT)**. However, in recent years, due to the perception that environmental regulation and LUP instruments are at odds with private investment, the binding nature of POTs has been effectively eliminated.⁵⁴ The process has also become increasingly complex for regional and local governments responsible for preparing land-use plans. While there is specific guidance for ZEEs and POTs, there are no general guidelines for coordinating these plans to establish and implement a territorial vision.

FIGURE 3. Infrastructure Threats in the Marañón Basin



TNC map; see end note E

ZEEs are still legally required in Peru and help to orient land uses at local, provincial, and regional scales; yet it should be noted that they explicitly do *not* determine uses or exclusion of uses.⁵⁵ In Loreto, ZEEs are in place for approximately 70 percent of the region. The Regional Government of Loreto (GOREL) presented a proposal to standardize existing information, complete studies for areas without them, and prepare a regional ZEE that would integrate all of this information. But this proposal was rejected by the Ministry of Economy and Finance (MEF) due to its high cost (S/19M or approximately US\$5.75M).⁵⁶ Recently, only one ZEE was developed for the province of Alta Amazonas (using tax revenue from mining) with all the required studies and participatory processes required by the Ministry of the Environment (MINAM).⁵⁷ Other provincial municipalities such as Ramón Castilla, Requena, and Maynas started their ZEE processes through the creation of the Provincial Technical Committees, but a lack of budget has paralyzed their efforts. We found that where ZEEs have been developed, their influence is limited to providing referential information. They are perceived as diagnostic instruments that characterize land-use rather than a directive territorial plan to influence decisions. We found that in cases where national development interests conflict with local plans, projects are carried out in the ‘national interest’ (e.g., IIRSA Norte, Centro and Sur; and the Manu-Purus road).

CONCERTED DEVELOPMENT PLANS

Concerted Development Plans (CDPs) are the primary planning instruments of regional and local governments. These plans can have significant influence over the use and management of a territory. Regulations require coordination of these plans across the different levels of government, from the national level to local levels.

GOREL began a process of updating its **Regional Concerted Development Plan (PDRC)** in 2013. This plan was eventually finalized after several interruptions due to changes of key personnel within GOREL and new guidelines by the National Center of Strategic Planning (CEPLAN), the principle planning governing body in Peru. In theory, the regional plan should connect to the national plan (*Plan Bicentennial*) and local CDPs. However, in practice, we found that the regional plan uses different indicators and criteria for setting objectives and goals than the national plan. We also found that very few provincial authorities participated in the process of formulating the PDRC. This was due to a lack of funding, which did not allow workshops to be held in each province during the key phases of the process and made coordination between regional and local governments difficult.

We also found that few provinces in the Loreto region have a current **Provincial Concerted Development Plan (PDPC)** in place. There are limited to no resources available for the necessary engagement processes and information gathering in order to update them. With the exception of the PDPC in the province of Requena, all the local plans were drafted before the formulation of the Bicentennial Plan and the Regional Concerted Development Plan of Loreto (leading to their disconnection from national and regional priorities and plans, as well as being outdated). Lastly, we found that the PDPC have significant methodological deficiencies in the establishment of goals and indicators, largely due to local capacity and resource challenges.

An analysis of governmental budgets identified that only a low percentage of the concerted development plans have been implemented. The budgets of GOREL and municipalities have no direct relationship to the planning documents. Although the sequence of planning and implementation according to the CEPLAN should be: “planning – supply – budget,” in practice the budget determines the prioritization of activities of the regional government, and the annual budget is based on the previous year’s budget. Through workshops and interviews with planning staff, we found that budgetary decisions and distribution are often based on immediate needs and political decisions.

STRATEGIC ENVIRONMENTAL ASSESSMENT

GOREL was the first regional government to carry out a **Strategic Environmental Assessment (SEA)** for its PDRC. The objective of the SEA was to “incorporate the socio-environmental dimension into the process of updating the Regional Concerted Development Plan (PDRC) for decision-making in territorial management” based on Article 63 of the Regulations of the National Environmental Impact Assessment System Act (SEIA).⁵⁸ The process was directed by the Planning, Budget and Territorial Development Management Office, the NGO *Derecho Ambiente y Recursos Naturales* (DAR), and the Ministry of the Environment (MINAM), and entailed a significant effort to identify the principal socio-environmental risks of the region’s projects and programs as well as measures to mitigate them.

The SEA considered the strategic actions envisioned in the PDRC, as well as projects that, due to their scope and relevance, could have significant impacts in the region. The aim of the SEA was to assess the cumulative impacts of proposed infrastructure projects and support the inclusion of socio-environmental considerations. As a result of the evaluation, 15 Socio-Environmental Management Programs (PGSA) were prepared that sought to implement a set of social and environmental measures to improve and/or maintain the environmental quality of the region in such a way as to avoid and mitigate highly significant socio-environmental impacts.

The formulation of the SEA contains important elements of impact assessment and mitigation that have also served as a model for national regulations, but ultimately, it is not being implemented. Although the formulation processes of the PDRC and the SEA were carried out in parallel, the content of the PGSA (which effectively implement the actions outlined in the SEA) were not explicitly introduced in the PDRC, which would include a justification for the acquisition of the necessary budget. Presently, there is no funding available to implement any of the PGSA, the GOREL has no implementation strategy, and only DAR is trying to raise funds for implementation.

INDIGENOUS PEOPLES

One of the primary planning tools used by indigenous peoples to determine a territorial vision and uses is the **Quality of Life Plan (PCV)**. This instrument includes a community diagnostic and subsequent prioritization and vision setting. The Life Plan takes a territorial approach to incorporate different aspects of community development (environmental, territorial, social, economic, cultural, and political issues) and fulfills two main functions: it strengthens the community's governance and planning capabilities and allows its main development ideas to be coordinated with sources of cooperation of the State and external organizations. We found that the majority of communities in Loreto lacked a PCV but regional indigenous organizations (CORPI-SL and ORPIO) expressed interest in promoting them within their scope of representation.

Additionally, CORPI-SL has developed an **“Integral Territory”** initiative, seeking to form an autonomous indigenous area for the nine indigenous peoples of the region. The initiative seeks to re-establish an integrated governance structure based on ethnic affiliation and thereby resize indigenous territories according to their ancestral occupation. In accordance, they are seeking a legislative change that recognizes the rights of use, administration, and conservation of natural resources within their territories. Each indigenous nation is taking a distinct approach concerning its intentions of sovereignty and self-government. To date, the national government has not recognized the concept and has made no formal pronouncement despite its adherence to international treaties that endorse such mechanisms.

CONCLUSIONS

Our assessment found many challenges for the development, implementation, and effectiveness of territorial planning in the Marañón Basin. Key problems include a lack of coordination among government entities and planning mechanisms, the non-binding nature of plans, budget and capacity limitations, rolling back of environmental protection measures (with the aim of promoting greater private investment), and carrying out projects in the national interest despite conflicts with local priorities.

To advance territorial priorities, our assessment suggests that territorial planning could be strengthened by ensuring plans are incorporated in local and regional budgets and by engaging indigenous peoples, who may be actively seeking formal mechanisms to determine and support their territorial vision and uses. We also see the need to engage more directly in infrastructure planning processes. This includes financing mechanisms such as improving the criteria included in the new *Invierte.pe*, the participatory budget processes, and the MEF Incentives Program, and establishing incentives for project proponents to voluntarily consider territorial planning inputs in their project planning and design.

VI. Recommendations

A territorial approach promotes a more integrated vision for sustainable development, moving beyond national and sector goals to support local priorities and rights, natural resource uses and conservation, socio-economic opportunities, and ways of life. Territorial planning is intended to support this integrated vision, including guiding decision-making for large-scale infrastructure projects that could impact territories in the Amazon.⁵⁹

We assessed the effectiveness of territorial planning instruments for addressing infrastructure threats. We found significant challenges for developing and implementing territorial plans in the Amazon. National government and industry and financial sector interests continue to play the dominant role in determining large-scale infrastructure development. This often overrides the local priorities reflected in territorial plans, as well as other national commitments for climate, biodiversity, and indigenous rights. Legal mandates and political support remain insufficient for territorial plans to guide infrastructure development.

Strengthening the legitimate role of territorial plans must remain an important long-term goal, but this will require fundamental shifts in policies and the political economy. We do not see a quick fix for territorial planning. Given the urgency of infrastructure threats in the Amazon, we believe strategies for promoting territorial priorities must engage more directly in the infrastructure development cycle to drive reforms *within* it. This requires: (i) identifying strategic entry points in the infrastructure development cycle for influencing processes and decision-making; (ii) developing necessary constituencies, coalitions, and information to support territorial priorities (environmental, social, cultural, and for local development); and (iii) aligning these efforts with the broader principles and movement for sustainable infrastructure.

We make three recommendations:

1. Engage directly in infrastructure planning processes to advance territorial priorities and drive reforms *within* these processes.

We propose a framework for addressing large-scale infrastructure threats in the Amazon (Figure 4). This can support strategies for advancing territorial priorities by focusing efforts at the right geographic/jurisdictional scale and stage of the infrastructure planning process, and on the appropriate policy and planning mechanisms, technical inputs, and stakeholder engagement strategy. This approach follows our finding that territorial planning has proven more effective when it has been integrated with infrastructure planning (e.g., Sustainable BR 163 Plan) and that infrastructure sector and project plans are more influential plans and more likely to be resourced and implemented. The framework has three main components for addressing infrastructure threats in the Amazon:

- a. Target the appropriate scale and infrastructure planning process.* Strategies should first identify the best entry points for engagement, considering the scale of the issues and stage of the infrastructure development cycle. The framework provides guiding questions to determine: What are the appropriate geographic or jurisdictional scales at which to engage: national level, Amazon regional level, territorial level, or local level/project-affected area? What are the most strategic issues and entry points in infrastructure planning for engaging and influencing outcomes?
- b. Identify policy and planning mechanisms to influence infrastructure decision-making.* With an understanding of the right scale and planning stage for intervention, strategies should determine what policy and planning mechanisms have the most potential to affect infrastructure decision-making. The framework provides examples to identify: What are the best levers and mechanisms for influencing the infrastructure planning process? What are the opportunities for fostering or engaging in a multi-stakeholder negotiated process that supports a binding legal agreement?
- c. Develop technical inputs and stakeholder engagement strategies.* For the identified policy and planning mechanisms, strategies should consider needs for additional information, stakeholder engagement, and advocacy. The framework provides examples to help determine: What technical inputs and stakeholder engagement strategies are needed to support the policy and planning mechanisms? What champions, constituencies, and coalitions are needed to support dialogue, multi-stakeholder negotiation, and decision-making?

FIGURE 4. Framework for Addressing Large-Scale Infrastructure Development Threats in the Amazon

Scale	Target the appropriate scale and infrastructure planning process	Identify policy and planning mechanisms to influence infrastructure decision-making	Develop technical inputs and stakeholder engagement strategy
	Guiding Questions	Examples	Examples
Country / national	<ul style="list-style-type: none"> What is the national need for the service of this infrastructure sector? Are projects needed in the Amazon? Are these projects the best option/lowest impact alternatives? What are the trade-offs involved? 	<ul style="list-style-type: none"> National infrastructure sector plans; Climate change commitments (NDC); Development plans to address SDGs; Investment frameworks and standards; Public comment & consultation process 	<ul style="list-style-type: none"> Assessment of sector planning methods and parameters (direct/indirect impacts & costs); National assessments of alternatives; Opportunities for social participation; Civil society demands; campaigns
Amazon (full region)	<ul style="list-style-type: none"> If infrastructure projects must be in the Amazon, what are the lowest impact alternatives? What policies should be integrating territorial priorities (infrastructure and others)? 	<ul style="list-style-type: none"> Commitments to zero deforestation; Infrastructure sector plans; Economic and Ecological Zoning; Protected area & Indigenous lands plans; Government priority to address SDGs; National guidelines and safeguards for projects in Amazon in sector regulations; Sector-based SEAs; Public comment & consultation process 	<ul style="list-style-type: none"> Protected Areas map and priorities, including free flowing rivers; Indigenous rights to the land; Territories for indigenous in isolation; Conservation priorities (last great places, pristine areas); Opportunities for social participation; Cumulative impact assessments.
Watershed/ Jurisdiction (e.g., State Department, Province)	<ul style="list-style-type: none"> What are the potential cumulative project impacts to this territory? What are the options for meeting multiple territorial goals? 	<ul style="list-style-type: none"> Territorial SEA; Participation processes; Brazilian Avaliacao Ambiental Integrada (energy sector), watershed plans; Conservation priority plans; Watershed plans 	<ul style="list-style-type: none"> Territorial blueprints; Governance and negotiation process; Social participation cases and practices; Cumulative impact assessments; Strengthening of local/social capital
Local (project affected area)	<ul style="list-style-type: none"> What are the options to minimize-project negative impacts? What are the priorities for compensation? What are opportunities to strengthen local governance and participation? 	<ul style="list-style-type: none"> Project feasibility assessments; Environmental impact assessments; License conditions, compensation plan; Regional sustainable development plan; Participation & preparation of territory; Court/public prosecutor rulings 	<ul style="list-style-type: none"> Determining local priorities (social, cultural, environmental); Assessing project documents (feasibility, detailed project design, license); Strengthening local/social capital; Governance structure, conflict management arrangements; Participation and consultation methods

2. Strengthen the *design and effectiveness* of territorial plans for influencing infrastructure planning and decision-making.

Territorial plans have a legitimate role to play in guiding decision-making for infrastructure development in the Amazon. However, our assessment found that territorial planning faces many challenges to serving that role. In the near-term, we see opportunities to strengthen territorial plans with greater technical information and actionable goals that empower stakeholders to engage in infrastructure planning processes. Over the long-term, steps are needed to improve the enabling conditions for territorial plan development and implementation, including addressing power imbalances (national-local), establishing legally binding mandates for territorial plans, defining their directive purposes, and increasing resources, stakeholder participation, and capacity.

Below, we highlight near-term actions for increasing the utility and influence of territorial plans for infrastructure planning and decision-making.

- a. *Develop territorial plans to be actionable, within the context of the territory's political and economic drivers.* Territorial plans should be designed with actionable goals and recommendations, with budgets for implementing priority activities, and governance, enforcement, and monitoring measures (e.g., monitoring group for the *Plano de Recursos Hídricos da Região Hidrográfica do Paraguai*). In plan development, it is important to consider the context of the territory's political and economic dynamics. This includes key actors, constituencies, and coalitions, resource access and control, economic and market structures, rural-urban linkages, and types and levels of public investment. Designing territorial plans in this manner can improve their effectiveness in influencing infrastructure planning.
- b. *Ensure that territorial plans have the necessary content to inform infrastructure planning processes.* Territorial plans should support the assessment of opportunities, impacts, and trade-offs for potential territorial development scenarios. Territorial priorities should be clear, with the necessary supporting content. The focus should be on existing information, unless planning resources or other capacity (e.g., NGOs) can support new information gathering and data development. For example, a territorial plan might include the following information related to conservation: conservation priorities “blueprint” for the territory; protected area plans and management actions; indigenous lands (formally recognized, claims, and disputed areas) and conservation areas; land-use governance; water quality and watershed management; and conflict resolution mechanisms to address potential conflicts over resource use and conservation.
- c. *Improve the integration of territorial planning with other planning processes.* Territorial plans will be more influential if territorial priorities are aligned with the priorities of other plans, both “vertically” to plans at other scales and “horizontally” to plans relevant for territorial development. Given the wide range of planning processes and resource limitations, this should be a targeted effort focused on the more influential planning processes (i.e., infrastructure, development plans). The focus should also be on specific decision points within these planning processes for incorporating territorial priorities, with the aim of supporting multi-stakeholder negotiation and legally binding agreements for the territory and infrastructure development.

3. Advance a territorial approach for the Amazon as part of the broader movement for sustainable infrastructure and inclusive economic growth.

Sustainable infrastructure is being promoted as essential for achieving inclusive economic growth. There is increasing momentum for the approach, as evidenced by the sharp growth in sustainable infrastructure studies and initiatives, including the G20 focus on “quality infrastructure.”⁶⁰ Territorial planning has often been treated as a separate process that is disconnected from infrastructure planning. However, for the sustainable infrastructure agenda to be successful, it will require aligning with a territorial approach for the Amazon. Indeed, a wide range of sustainability goals – for climate, biodiversity, forests, indigenous peoples, and sustainable development – cannot be met if large-scale infrastructure development transforms the Amazon. Below, we identify key actions for aligning the sustainable infrastructure agenda with a territorial approach for the Amazon.

- a. *Build the case for a territorial approach with the private sector and government, focusing on how it can add value and lowers costs.* Taking a territorial approach is currently viewed as adding costs for infrastructure development. Studies of infrastructure project-related conflicts and associated costs⁶¹ are helping to change this perspective, but it is critical to build on these studies of sustainability measures to make clear how a territorial approach can be better for business. Benefits include improving project selection, design, and development in ways that reduce costs either through concessional finance or through approaches to risk management that lower the costs of capital (e.g., reduced conflicts and delays). Moreover, as market demand for sustainability increases, companies are better positioned to meet market and regulatory requirements (e.g., deforestation-free commodities). For governments, a territorial approach adds value by reducing project conflicts, supporting local priorities, and advancing national commitments for climate, environment, indigenous peoples, and sustainable development.
- b. *Strengthen institutional support for a territorial approach by engaging government ministries responsible for infrastructure development.* Institutional support for a territorial approach for the Amazon must move beyond the Ministry of Environment and regulatory agencies to involve the ministries responsible for infrastructure planning, investment, and procurement. This includes the Ministries of Planning, Economy and Finance, Energy, Mining, and Transportation. This engagement must happen across multiple levels of government (national, regional, and local).
- c. *Improve regulations and financing requirements for sustainable infrastructure across the infrastructure project cycle.* Current regulatory mechanisms do not sufficiently incorporate sustainability in infrastructure planning and development in ways consistent with a territorial approach. Opportunities for improving regulations and financing requirements across the infrastructure project cycle include:
- **Sector planning.** Improve strategic environmental assessments and cumulative impact assessments to consider multi-sector impacts, development scenarios, and alignment with territorial priorities. Identify development options and project portfolios that minimize project impacts and maximize benefits for sustainable development.
 - **Project selection.** Apply the mitigation hierarchy to avoid the selection of poor projects with significant environmental, socio-economic, and cultural impacts, and to ensure projects that are developed minimize and compensate for impacts.
 - **Pre-feasibility and feasibility assessments.** Require local stakeholder consultations as part of pre-feasibility assessment in order to introduce project intentions and plans and establish an on-going consultation process for feasibility, impact assessment, and compensation measures.⁶² Ensure that environmental and social impacts and associated compensatory actions are identified early in the infrastructure planning process and incorporated into project costs. This helps avoid the common problem of back-casting mitigation actions around an already defined project, which can make mitigation actions look like an “additional project cost” that project sponsors may be reluctant to implement.
 - **Project licensing.** Strengthen the licensing process and conditionalities so that sustainability measures and territorial priorities are incorporated into environmental and social impact assessments, compensation plans, and the license. Ensure there are sufficient monitoring plans and baseline indicators, governance for compliance and transparency, and conflict resolution mechanisms.

Conclusion

The time has come for government, finance, and business sectors to make good on commitments to sustainability by taking a new approach to infrastructure planning and development for the Amazon. Large-scale infrastructure projects threaten to transform the Amazon. There is simply no way to develop all the planned projects for the Amazon—up to \$70 billion in planned project investments by 2020— while also meeting national commitments to combat climate change, halt deforestation, conserve biodiversity, support the rights of indigenous peoples, and promote sustainable development goals. “Business as usual” will mean a continuation of the long cycle of infrastructure project-related conflicts in the Amazon.

There is an urgent need to move beyond national and industry sector goals to a more inclusive development model in the Amazon. This should be guided by a territorial approach that supports local priorities and rights, natural resource uses, socio-economic opportunities, and ways of life. While our assessment finds significant challenges for territorial planning, we see promise for engaging directly in infrastructure planning and development processes to drive reforms and advance territorial priorities. These strategies are needed to address immediate infrastructure threats, support a systemic shift to a sustainable infrastructure approach, and secure long-term conservation for the Amazon.

Endnotes and Citations

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13 The World Bank. 2017. Rethinking Infrastructure in Latin America and the Caribbean: Spending Better to Achieve More.

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17 For example, there were over 200 infrastructure project-related conflicts in Peru in 2015, of which two-thirds were over social and environmental concerns. Defensoría del Pueblo del Perú (2105). Adjuntía para la Prevención de Conflictos Sociales y la Gobernabilidad. “Reporte de Conflictos Sociales No. 133,” Lima, Perú. March 2015.

18 Davis, R., and Franks, D. (2014). Costs of Company-Community Conflict in the Extractive Sector. Corporate Social Responsibility Initiative, Harvard Kennedy School of Government, Report No. 66.

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21 Amazon Basin countries include: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela. This study focuses on Brazil and Peru, which have the greatest proportion of the Amazon Basin within their borders of 64 percent and 10 percent, respectively.

22 For example, the proposed, and all but effectively cancelled, Sao Luiz do Tapajos hydroelectric project was 8,000 MW and would have been Brazil’s second largest hydropower project (after Belo Monte), and one of the largest in the world. Riddled with conflict, the license was cancelled.

23 Romeo, L. 2015. What is territorial development? GREAT Insights Magazine, Vol. 4, Issue 4, June/July 2015.

24 FGV EAESP and IFC. 2017. Large Scale Projects in the Amazon: Lessons learned and guidelines. Sao Paulo. March 2017.

25 Definitions of territorial planning tend to be broad and abstract. Latin American governments often cite the 1983 European Charter on Regional/Spatial planning, which states: “Regional/spatial planning gives geographical expression to the economic, social, cultural and ecological policies of society...It is at the same time a scientific discipline, an administrative technique and a policy developed as an interdisciplinary and comprehensive approach directed towards balanced regional development and the physical organisation of space according to an overall strategy.” Likewise, Peru’s Ministry of Environment defines territorial planning broadly as: “a technical, administrative and political decision-making process arranged with the social, economic, political and technical actors for the orderly occupation and sustainable use of the territory. It considers the social, environmental and economic conditions for the occupation of the territory, as well as the use and exploitation

of natural resources to guarantee a balanced development and in conditions of sustainability. Territorial Planning seeks to manage and minimize the negative impacts that could be caused by the various activities and development processes carried out in the territory, thereby guaranteeing the right to enjoy a balanced and adequate environment for the development of life.” See also: Glave Testino, M. 2012. Spatial planning and development in Peru: conceptual notes and balance of achievements and limitations. In: (Ed.); GRADE Group for the Analysis of Development (Ed.): Rural development and natural resources. Lima; For definitions of land use planning and its many variants, including rural territorial land planning, regional land use planning, and ecological land use planning, see: Metternicht, G. 2017. Land Use Planning. Global Land Outlook Working Paper. September 2017.

26 For a list and short description of selective territorial planning related policies and tools in Peru, Brazil, and Colombia, see Appendix A.

27 FGV EAESP and IFC. Pgs. 9-10.

28 Glave Testino, Manuel: Ordenamiento territorial y desarrollo en el Perú: Notas conceptuales y balance de logros y limitaciones. In: (Ed.) ; GRADE Group for the Analysis of Development (Ed.): Desarrollo rural y recursos naturales. Lima, 2012. - ISBN 978-9972-615-63-4, pp. 123-165. <http://nbn-resolving.de/urn:nbn:de:0168-soar-51781-3>. In pages 155-156, Glave argues that even though territorial planning instruments, such as ZEEs are mandated and recognized for their importance, they are ineffective and widely vary across geographies. He further goes on regarding their lack of application within development plans.

29 Ministry of Environment, Peru, Geoservidor website tracks management tools. This webpage, updated as of 2017, includes a National Registry for ZEE processes and shows 13 regions with ZEEs in approval process. Access the page here: <http://geoservidor.minam.gob.pe/herramientas-de-gestion/registro-nacional-de-zee/>. Also see Glave, 2012. p. 157. Glave details that even where the ZEEs may have been completed, that very few were formally adopted through a Regional Ordinance, and none had led to the formal approval of a Plan de Ordenamiento Territorial Regional (which, at that time, was legally mandated and would have held more influence than the ZEE).

30 Ministerio del Ambiente. July 2016. INSTRUMENTOS TÉCNICO NORMATIVOS DEL ORDENAMIENTO TERRITORIAL. Section 4.1. De los lineamientos estratégicos de carácter permanente, states “La Zonificación Económica Ecológica, ni el Ordenamiento Territorial asignan usos ni exclusiones de uso, tal como lo establece la normativa en la materia.” Available at http://www.minam.gob.pe/ordenamientoterritorial/wp-content/uploads/sites/18/2013/10/Instrumentos_Tecnicos_Normativos_OT.pdf.

31 In interviews with local and regional government officials, as well as during the two workshops in the Marañón, participants consistently identified this as a key challenge. Departments responsible for budgeting and planning are often operating in isolation and officials reported that annual budgets were often assessed based on previous years rather than on identified actions or needs from planning processes. This disconnect weakened the ability for plans to proactively be implemented and further reduced their shelf life.

32 Berdegue', J. A. et al. Explaining Spatial Diversity in Latin American Rural Development: Structures, Institutions, and Coalitions, World Development (2014), <http://dx.doi.org/10.1016/j.worlddev.2014.10.018>. In this assessment of 11 Latin America countries, the authors evaluate a series of conditions that influence development dynamics in territories, including that acceptance of the “territory as a provider of environmental service to the rest of the country has been the result of the interaction between external investment decisions (first, a large hydroelectric dam and, later, a major highway, both works of national significance) and the attempts of local actors and coalitions to resist, influence and take advantage of, the flow of resources. What is clear is that while these investments have changed the ecological and the economic landscape of the territory, they have not resulted in any kind of virtuous cycle of localized economic growth with social inclusion and environmental sustainability.” (p. 5). Also see FGV EAESP and IFC. Pg. 10. The ‘clash’ between top-down mandates and local priorities was also a common discussion point with stakeholders interviewed and in the case study workshops. It is also described in “Resumo Das Discussões, Planejamento Territorial e Monitoramento de Desenvolvimento” from FGV Centro de Estudos em Sustentabilidade and the International Finance Corporation sponsored workshops from July 2016, available online at http://consulta-grandesobras.gvces.com.br/wp-content/uploads/2016/12/revista_planejamentoterritorial_jul2016.pdf.

33 Information on “Integral Territory” was distilled in stakeholder interviews and workshops. Additional information was accessed online at “CORPI San Lorenzo: una propuesta de Territorio Integral”. Accessed at http://www.territorioindigenaygobernanza.com/per_13.html.

34 FGV EAESP and IFC. Pg. 9. Glave, 2012. p 162-163. Metternicht, Graciela. Land Use Planning. Global Land Outlook Working Paper. September 2017. Available at https://static1.squarespace.com/static/5694c48bd82d5e9597570999/t/593a42d7197aea88458703df/1496990441721/Land+Use+Planning+_G_Metternicht.pdf. P14.

35 Berdegue', J. A. et al. Conceptualizing Spatial Diversity in Latin American Rural Development: Structures, Institutions, and Coalitions, World Development (2014), <http://dx.doi.org/10.1016/j.worlddev.2014.10.015>. The authors argue about the importance of “extra-territorial” actors for “opening space” institutionally, but stress the need to bring together local, territorial actors for “assuring and crafting the actual change that occurs within the territory and whether it will be viable and sustained.”

36 This point was stressed in both case study geographies. Land tenure conflicts and ambiguity exacerbate challenges for land use planning and establishing territorial visions. This is a global issue and further evaluated in Metternicht, G. 2017.

37 Glave, 2012. P163. Glave argues that its imperative for mechanisms, such as the ZEE and POT to be intergrated “into other public territorial management instruments (in particular with the Territorial Development Plans and the future Watershed Management Plans)” as an effective means to incorporating the territorial vision into the decision-making process.

38 Vargas, Sofia. Análisis de los criterios ambientales y territoriales de la planificación en el Perú. Unpublished report for TNC. January 2018.

39 Article 22.3 of the Peruvian of the General Environmental Law, Law No. 28611, explicitly states that regional and local governments must coordinate their territorial planning efforts, specifically their related planning processes including the ZEE and POTs. Exact text: “22.3 Los gobiernos regionales y locales coordinan sus políticas de ordenamiento territorial, entre sí y con el gobierno nacional, considerando las propuestas que al respecto formule la sociedad civil.”

40 This is a common challenge across planning as noted in an assessment of planning in Latin America and the Caribbean by CEPAL (see pages 81-84); while the case studies used for this specific challenge included Mexico, Ecuador, Argentina, and the Dominican Republic, the findings are aligned with our assessment in Brazil, Peru, and Colombia: Jorge Máttar y Luis Mauricio Cuervo, Planificación para el desarrollo en América Latina y el Caribe: enfoques, experiencias y perspectivas, Libros de la CEPAL, N° 148 (LC/PUB.2017/16-P), Santiago, Comisión Económica para América Latina y el Caribe (CEPAL), 2017.

41 Glave, 2012. p. 155.

42 Finer M, Jenkins CN (2012) Proliferation of Hydroelectric Dams in the Andean Amazon and Implications for Andes-Amazon Connectivity. PLoS ONE 7(4): e35126. doi:10.1371/journal.pone.0035126. In this paper, the authors assess impacts from proposed dams across the Amazon Basin and find that current planning efforts are short-sighted, focusing on individual projects. They argue that “a shift towards more strategic, multi-factor planning and assessment could reduce potentially profound ecological impacts” and lead to improved conservation outcomes.

43 While the National Decennial Plan for Energy, 2022, issued in 2013, proposed these two projects, in subsequent years they were removed and then re-added. This case is explored further in the Tapajós Case Study.

44 Only the ZEE of Alto Amazonas province has maintained some consistency with the Loreto regional development plan.

45 The Human Development Index is below 0.640 in most of the Basin's municipalities.

46 Other commonly cited challenges for ZEE are: (i) limited funding for developing, implementing, maintaining, and updating plans; (ii) lack of integration of ZEE with other policies and plans relevant for the territory; (iii) uncertainties regarding local socio-economic dynamics, land tenure, and development scenarios; (iv) lack of local community consensus on goals and uses for the territory; and (v) vulnerabilities to political interference in the planning process.

47 International Hydropower Association 2017.

48 Previous Hydropower Inventory Studies (Planos Decenales de Expansão de Energia) are available at <http://www.epe.gov.br/pt/publicacoes-dados-abertos/publicacoes/plano-decenal-de-expansao-de-energia-pde>.

49 Unofficial translation.

50 Loreto Valuable Vulnerable Fact Sheet. DAR. Available at http://www.dar.org.pe/archivos/docs/Loreto_Valuable_Vulnerable_eng.pdf.

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52 Ministry of Energy and Mining. DECRETO SUPREMO N° 020-2011-EM. Declaran de interés nacional y social la construcción de veinte (20) centrales hidroeléctricas en la Cuenca del Río Marañón. Accessed at http://www.cepes.org.pe/apc-aa/archivos-aa/4a15e4303d8c04dde2018292e444138c/DS_020_2011.pdf.

53 Loreto Valuable Vulnerable Fact Sheet.

54 While POTs are still “required” there are no official procedures and or governance system to support this process. No agency or governmental institution is responsible for overseeing their development and implementation. Stakeholders all cited these institutional challenges as not only weakening these plans but effectively eliminating their requirement.

55 See Ministerio del Ambiente. July 2016. INSTRUMENTOS TÉCNICO NORMATIVOS DEL ORDENAMIENTO TERRITORIAL. Section 4.1.

56 One of our findings across the Basin is that the true cost of undertaking these types of efforts is frequently undervalued and underbudgeted. As we see in this case, when the actual costs are anticipated the project is deemed too expensive, significantly hindering local government’s ability to effectively carry out these types of planning mechanisms.

57 In Peru, half of a mine’s income tax is redistributed from the national government to local and regional governments where the mine is located as a ‘canon’.

58 Evaluacion Ambiental Estrategica: Al Plan de Desarrollo Regional Concertado (PDRC) del Departamento de Loreto al 2021. Available at http://www.dar.org.pe/archivos/docs/EAE%20PDRC%20Loreto%202021_preliminar.pdf.

59 FGV and IFC. 2017.

60 Mercer and Inter-American Development Bank (2017). Crossing the Bridge to Sustainable Infrastructure Investing; Inter-American Development Bank and IDB Invest (2018). What is Sustainable Infrastructure? A Framework to Guide Sustainability across the Project Cycle. IDB Technical Note 1388; OECD. 2016. The New Climate Economy. 2018. Unlocking the Inclusive Growth Story of the 21st Century: Accelerating Climate Action in Urgent Times. The Global Commission on the Economy and Climate.

61 Watkins, G., et al. 2017. Lessons from four decades of infrastructure project related conflicts in Latin America and the Caribbean. Inter-American Development Bank.

62 “Acuerdos Voluntarios de Pre-inversion” provides a model for this approach in Chile.

Appendix: Selected Plans and Policies Related to Territorial Planning, by Country

TABLE 1. Examples from Peru*

National	<ul style="list-style-type: none"> • No national level TP⁶³ • <u>National mandate to develop Regional Economic and Environmental Zoning</u> (<i>Zonificación Ecológica Económica Regional ZEE</i>) • <u>Sector Strategy Plans</u>⁶⁴ (<i>Planes Estratégicos Sectoriales</i>) • National Strategic Development Plan⁶⁵ (<i>Plan Bicentenario</i>) • Strategic Environmental Assessment (<i>Evaluación Ambiental Estratégica EAE</i>) • National Protected Areas System Director Plan⁶⁶ (<i>Plan Director de las Áreas Naturales Protegidas</i>) • Forest Zoning⁶⁷ (<i>Zonificación Forestal</i>)
Regional (State)	<ul style="list-style-type: none"> • Regional Economic and Environmental Zoning (<i>Zonificación Ecológica Económica Regional ZEE</i>) • Regional Specialized Studies (<i>Estudios Especializados EE</i>) • Regional Integrated Territorial Diagnostic (<i>Diagnóstico Integrado del Territorio DIT</i>) • <u>Regional Territorial Plan</u> (<i>Plan de Ordenamiento Territorial POT</i>) • Strategic Environmental Assessment for singular sector or multi-sectorial • Regional Sector Strategy Plans • Regional Forest Zoning³ • <u>Concerted Regional Development Plan</u> (<i>Plan de Desarrollo Concertado Regional</i>)
Provincial (Local)	<ul style="list-style-type: none"> • Provincial Economic and Environmental Zoning (<i>Zonificación Ecológica Económica Provincial ZEE</i>) • Provincial Specialized Studies (<i>Estudios Especializados EE</i>) • Provincial Integrated Territorial Diagnostic (<i>Diagnóstico Integrado del Territorio DIT</i>) • <u>Provincial Territorial Plan</u> (<i>Plan de Ordenamiento Territorial POT</i>) • Provincial Territorial Condition Plan (PAT)⁶⁸ • Sector Strategy Plans • <u>Concerted Provincial Development Plan</u> (<i>Plan de Desarrollo Concertado Provincial</i>)
District (Local)	<ul style="list-style-type: none"> • District Economic and Environmental Zoning (<i>Zonificación Ecológica Económica Distrital ZEE</i>) • District Specialized Studies (<i>Estudios Especializados EE</i>) • District Integrated Territorial Diagnostic (<i>Diagnóstico Integrado del Territorio DIT</i>) • District Territorial Plan (<i>Plan de Ordenamiento Territorial POT</i>) • <u>Concerted District Development Plan</u> (<i>Plan de Desarrollo Concertado Distrital</i>)
Basin	<ul style="list-style-type: none"> • Watershed Plans (agriculture-based plans)
Indigenous Territories	<ul style="list-style-type: none"> • <u>Quality of Life Plans</u>⁶⁹ (<i>Planes de Calidad de Vida</i>) • Integral Territories⁷⁰ (<i>Territorios Integrales</i>)
Protected Areas	<ul style="list-style-type: none"> • Protected Area Management Plans (environment sector) (<i>Plan Maestro de las Áreas Naturales Protegidas</i>)

***Influential plans** identified with bold underline are based on stakeholder input from interviews and workshops regarding the perceived influence of the plans on territorial decisions.

DESCRIPTIONS OF KEY PLANNING PROCESSES OR TOOLS IN PERU:

Regional, Provincial and District Concerted Development Plan (*Plan de Desarrollo Local Concertado—PDC*):

Document drawn up by Regional and Local Governments for their respective territorial areas. Furthermore, in the case of Local Governments, they must contribute to achieving the objectives established in the Concerted Regional Development Plan, as appropriate.

Economic and Environmental Zoning (*Zonificación Ecológica y Económica—ZEE*): A dynamic and flexible process for identifying different sustainable use alternatives for a particular territory, based on the evaluation of its capabilities and limitations per physical, biological, social, economic, and cultural criteria. Once approved, the ZEE becomes a technical and guiding instrument for the sustainable use of a territory and its natural resources.

Forest Zoning (*Zonificación Forestal*): Technical document containing the methodological framework for delineating forest lands and assigning Forest Zoning categories, guides this process at the national level.

Integral Territories (*Territorios Integrales*): An autonomous indigenous region that seeks to re-establish mechanisms for integrating native communities according to their ethnic affiliation, in order to resize indigenous territories in accordance with their ancestral settlement. Likewise, it seeks a change in legislation that recognizes the rights of use, administration, and conservation of natural resources within their territories.

Integrated Territorial Diagnostic (*Diagnóstico Integrado del Territorio—DIT*): A technical instrument that aggregates and analyzes the information generated in the EEZ and the specialized studies, allowing knowledge of environmental and social conditions and characteristics to be gained, as well as the dynamics and trends of economic growth in a particular geographical area, and its implications for ecosystems.

National Agreement (*Acuerdo Nacional*): A forum that develops and approves guidelines on State policies based on dialogue and agreement between the three levels of government and Peru's political and social institutions. The 4 objectives of the agreement are: Strengthening Democracy and Rule of Law; Equity and Social Justice; Country Competitiveness; and Efficient, Transparent, and Decentralized State.

National Protected Areas System Director Plan (*Plan Director de las Áreas Naturales Protegidas*): The highest instrument for guiding and planning the development of NPAs, at whatever level, i.e., the scope for review and revision corresponds to the categories of national-level NPAs, Regional Conservation Areas (RCAs), and Private Conservation Areas (PCAs).

National Strategic Development Plan (*Plan Bicentenario*): A flexible, open, and permanent guiding instrument that is enriched by the country's social and economic dynamics.

Provincial Territorial Condition Plan (*Plan de Acondicionamiento Territorial—PAT*): The technical-normative instrument for comprehensive physical planning at the provincial level that guides and regulates the physical-spatial organization of human activities in terms of the distribution, hierarchy, roles, and functions of population centers in urban and rural areas; the conservation and protection of natural and cultural resources and heritage; the development of public and private investment in the urban and rural areas of the provincial territory; and the settlement and planned use of the territory, with the aim of improving the standard of living and quality of life among urban and rural populations, under a forward-looking, competitive, and sustainable territorial approach.

Quality of Life Plans (*Planes de Vida*): A collective, distinct, and comprehensive instrument for strategic planning of an indigenous or native community, people, or organization, starting from a discussion of their worldview and history to determine their desired vision of the future, notion of development and living well, and to define strategies and actions to reach it.

Regional and Local Territorial Plans (*Plan de Ordenamiento Territorial—POT*): A territorial planning and management instrument that promotes and regulates the organizational and sustainable management processes of that territory, integrated with environmental plans and economic, social, and cultural development plans, and other development policies in force in the country. The POT links the Territorial Planning process with other plans and instruments related to territorial management and development, which are handled by other sectors and levels of government within their competencies and duties.

Sectoral Plan (*Planes sectoriales*): Planning instruments that indicate the objectives, strategies, lines of action, and scheduled goals of a given sector of social development, economic security of the entity, and describe, with greater precision, the public policies considered.

Specialized Studies (*Estudios Especializados—EE*): Technical instruments of a strategic nature, which emphasize the analysis of the dynamics, relations, and functionality that are evident in the territory under study and its interactions with other territories. They meet the need to understand the relationship of societies with their natural environment, evolution, as well as current and projected situations, thus making it possible to coordinate the management and settlement of the territory in accordance with their natural characteristics, needs, and economic development.

Strategic Environmental Assessment (SEA) (*Evaluación Ambiental Estratégica—EAE*): A systematic, active, and participatory process whose purpose is to incorporate the environmental variable in the proposals of policies, plans, and development programs formulated by State institutions, used as a preventive tool in environmental management at the relevant decision-making levels. The results of the SEA should be oriented to preventing significant negative environmental consequences, as well as to the knowledge of the flows, trends, and patterns of development, as well as the preventing possible socio-environmental conflicts, of national or international importance, that could lead to such decisions.

Territorial Planning (*Ordenamiento Territorial*): A political and technical-administrative process of concerted decision-making involving social, economic, political, and technical stakeholders for orderly inhabiting and sustainably using territory; regulating and promoting the sites and sustainable development of human settlements, economic and social activities, and physical-spatial development; on the basis of identifying opportunities and limitations, while considering environmental, economic, socio-cultural, institutional, and geopolitical criteria.

TABLE 2. Examples from Brazil*

Federal	<ul style="list-style-type: none"> • National Economic and Environmental Zoning (<i>Zoneamento Econômico Ecológico—ZEE</i>) • Priority Areas for Conservation of Brazilian Biomes • Forest Code • <u>Sector Strategy Plans</u> <ul style="list-style-type: none"> ◦ Energy National Plan ◦ Logistic National Plan ◦ Mining National Plan ◦ Hydropower Inventory Planning • Integrated Environmental Assessment • Technical, Economic and Environmental Feasibility Studies (EVTEA)
State	<ul style="list-style-type: none"> • <u>State Economic and Environmental Zoning</u> (<i>Zoneamento Econômico Ecológico Estadual—ZEE</i>)
Municipal	<ul style="list-style-type: none"> • Municipal Economic and Environmental Zoning (<i>Zoneamento Econômico Ecológico Municipal—ZEE</i>) • Municipal Master Plan (<i>Plano Diretor Municipal</i>)
Basin	<ul style="list-style-type: none"> • <u>Integrated River Basin Management Plan</u> (<i>Plano de Recursos Hídricos da Região Hidrográfica</i>)
Indigenous Territories	<ul style="list-style-type: none"> • Territorial and Environmental Management Plan for Indigenous Lands (<i>Planos de Gestão Territorial e Ambiental de Terras Indígenas—PGTA/ PNGATI</i>)
Protected Areas	<ul style="list-style-type: none"> • Protected Area Management Plans (<i>Plano de Manejo</i>) • Nature Conservation Units Mosaics and Ecological Corridors

***Influential plans** identified with bold underline are based on stakeholder input from interviews and workshops regarding the perceived influence of the plans on territorial decisions.

DESCRIPTIONS OF KEY PLANNING PROCESSES OR TOOLS IN BRAZIL:

Economic and Environmental Zoning (ZEE): Instrument of the National Environmental Policy (Law No. 6.938 / 1981) that identifies environmental zones and compatible uses and activities. The objective is the sustainable use of natural resources and the balance of existing ecosystems. It is developed at the federal, state and municipal levels.

Priority areas for conservation of Brazilian biomes: Decree 5.092 / 2004 defines the rules for identifying priority areas for conservation, sustainable use and sharing of benefits of biodiversity in Brazilian biomes. The results are consolidated on a map and updated by the Ministry of the Environment every six years.

Forest Code: Law 12.651/12 establishes the general rules for forests and native vegetation of the Brazil, determining the areas that must be preserved (Permanent protected area - APP and Legal Reserve) and regions that can be used for production.

Energy National Plan (PNE): The PNE supports long-term planning for the country's energy sector, guiding trends and expansion alternatives for the future. It has a subdivision that is the Decennial Energy Expansion Plan, an informational document aimed at the whole society, with an indication, not determination, of the potential future expansion of the energy sector over a 10-year horizon.

Logistic National Plan: Planning instrument for (i) identifying, optimizing and rationalizing the costs involved in the entire logistics chain adopted between the origin and destination of transport flows, and (ii) adjusting the current matrix of cargo transportation in the country, seeking a permanent productive efficiency.

Mining National Plan: Strategic planning instrument to guide the medium and long term policies in the mineral sector in the next 20 years.

Hydropower Inventory Planning: Hydropower Inventory Studies are one of the initial phases of the Generation Expansion Planning process. The location of the inventory studies at the beginning of the planning decision-making process makes these studies strategic for considering alternatives and multiple goals, as resources have not yet been committed to implementation of hydropower projects in the watershed.

Integrated Environmental Assessment: The Integrated Environmental Assessment (AAI) of hydropower projects located in basins aims to evaluate the environmental situation of the basin with the implemented hydropower projects, considering their impacts on water and other natural resources and human populations. The AAI considers the need to reconcile energy generation with potential impacts to biodiversity conservation, cultural aspects, and socioeconomic development, and with laws and government commitments.

Technical, economic and environmental feasibility studies (EVTEA): It aims to identify the most viable alternatives for the execution of large infrastructure projects. It is considered the most important and complete study prior to the development of a project. It involves gathering data and information, field research, identification of problems and impacts, and evaluation of potential options for the proposed project. It analyzes the social, economic and environmental impacts and benefits, determining the most viable alternative for the project.

Municipal Master Plan: Under the Federal Constitution, the Master Plan is the basic instrument of the development policy of the Municipality. Its main purpose is to guide the provision of essential public services, aiming to ensure better living conditions for the population.

Integrated river basin management plan: Under the National Water Resources Policy, water resources plans should be developed by basin, ensuring water supply and quality for all points of the river basin.

Territorial and Environmental Management Plan for Indigenous Lands: Under the National Policy for the Management of Indigenous Lands (PNGATI), the National Plan for Territorial and Environmental Management (PGTA) postulates that development on indigenous lands must be accompanied by the sustainable use of natural resources and establishes the fundamental role of effective participation from indigenous peoples in the planning and management of their lands.

Protected Area Management Plans: Under the Law of the National System of Nature Conservation Units (SNUC), the Management Plans establish the zoning and norms that govern the management and use of the protected area.

Mosaic of Nature Conservation Units: According to the SNUC Law, for sets of conservation units that are adjacent or in close proximity and other public or private protected areas, management should be done jointly in an integrated manner.

Ecological Corridors: According to the SNUC Law, the ecological corridor or biodiversity corridor are areas that bring together forest fragments or protected areas separated by human interference, such as roads, agriculture, and logging. The objective of the ecological corridor is to allow the free movement of animals, the dispersion of seeds and the increase of the vegetative cover. It reduces the effects of ecosystem fragmentation by promoting linkages between different areas and allowing gene flow between species of fauna and flora. This transit allows the restoration of degraded areas and supports biodiversity conservation and the environment in the region.

TABLE 3. Examples from Colombia*

National	<ul style="list-style-type: none"> • Fundamental Law on Land Use⁷¹ (<i>Ley Orgánica de Ordenamiento Territorial</i>) • Strategic Sector Plans⁷² (<i>Planes Estratégicos Sectoriales</i>) • National Development Plan⁷³ (<i>Plan Nacional de Desarrollo</i>)
Department (State)	<ul style="list-style-type: none"> • Territorial Plan (POT—<i>Planes de Ordenamiento Territorial</i>)⁷⁴ • Territorial Development Plans (<i>Planes de Desarrollo Departamentales</i>)
Municipal (Local)	<ul style="list-style-type: none"> • Territorial Plan (POT—<i>Planes de Ordenamiento Territorial</i>)⁷⁵ • Land Use Scheme (EOT—<i>Esquemas de Ordenamiento Territorial</i>) • Decreto 3600/2007—<i>Estructura Ecológica Principal como Determinante del Ordenamiento Territorial</i>. • Municipal Development Plans (<i>Planes de Desarrollo Municipal</i>)
Basin	<ul style="list-style-type: none"> • National Program for Water Resource Monitoring (<i>Programa Nacional de Monitoreo del Recurso Hídrico</i>) • Macrobasin Plan (<i>Planes estratégicos de macrocuencas</i>) • Regional Water Resource Use Plan (PORH—<i>Planes de Ordenamiento del recurso hídrico</i>) • Watershed Management Plans (POMCA—<i>Planes de Ordenación y Manejo de Cuencas Hidrográficas</i>) • Aquifer Environmental Management (<i>Planes de manejo ambiental de acuíferos</i>)
Regional Autonomous Corporation (CAR) ⁷⁶	<ul style="list-style-type: none"> • Long-term Action Plan (<i>Plan de Gestión Ambiental Regional</i>) • Institutional Action Plan⁷⁷ (<i>Planes de Acción Institucional</i>) • Land Use Plans for Special Areas⁷⁸ (<i>Plan de Manejo para Ecosistemas Estratégicos: humedales, páramos</i>)
Indigenous Territories	<ul style="list-style-type: none"> • Life Plans⁷⁹ (<i>Planes de vida de comunidades indígenas</i>) • Ethno-Development Plans for Collective Territories⁸⁰ (<i>Planes de etno-desarrollo para territorios colectivos de comunidades negras</i>)
Protected Areas	<ul style="list-style-type: none"> • Protected Area Management Plans (<i>Planes de Manejo de Áreas Protegidas: nacionales y regionales</i>)
Post Conflict Zones	<ul style="list-style-type: none"> • Development and Land Use Plan (PDOT <i>Planes de desarrollo territorial</i>)⁸¹ • Development Plan with Territorial Focus (PEDET <i>Planes de Desarrollo con Enfoque Territorial</i>) • Post-conflict Environmental Zoning

***Influential plans** identified with bold underline are based on stakeholder input from interviews and workshops regarding the perceived influence of the plans on territorial decisions.

Appendix Endnotes and Citations

63 There is the “National Agreement” (Acuerdo Nacional) which includes a specific policy related to territorial planning, however, it is non-binding. Additionally, there is no national-level territorial plan to orient regional or local plans (as opposed to sector or development plans).

64 The most relevant and influential sectors include: (1) Transportation, (2) Energy, (3) Mining, and (4) Agriculture

65 Regional development plans are based on the National Strategic Development Plan (currently the “Plan Bicentennial”). Within each Regional Concerted Development Plan, the regional government must show how their development objectives align with the national plan. ZEE and POTs (if developed) are potential inputs for regional development plans, however, they are not mandatory.

66 This plan includes prioritization for new protected areas.

67 Forest Zoning is a new tool that is obligatory from the national level and implemented at the regional level. Plans identify Permanent Production Zones, Protection Zones and Ecological Conservation Priority ecosystems for the conservation of biodiversity (including areas Natural Protected Areas), Recovery Areas, and Special Treatment Areas.

68 Note that within the scope of this assessment we are including urban development planning. However, we have listed “Provincial Territorial Condition Plans (PAT) which are focused on urban development because they are obligatory and many municipalities are doing these types of plans instead of a Territorial Plan.

69 Within Quality of Life Plans, the ‘territory’ is seen as the base of everything. It encompasses all human interactions and dependencies with which Indigenous peoples define and use their lands.

70 This is a new concept being led by several Indigenous nations. It is a broader plan to define and determine territorial uses (and beyond) for the nation, including many communities.

71 Known as ‘[ley orgánica de ordenamiento territorial](#)’. In 2011, the National Colombian Government adopted this law that outlines the key guidance for territorial planning.

72 Agencies (ANI, ANH, ANM, UPME) define national sector based plans on a 4-year term. The primary sectors include transportation, infrastructure, mining, hydrocarbons, and energy. Example plan: [National Mining Planning Plan](#) (PNOM).

73 These National Development Plans are based on a government’s administrative cycle (e.g., Presidential term of 4 years). This ensures that the plan is truly aligned with the government’s intentions and is more likely to be followed and implemented than a plan that has a lifespan beyond any one government administrative period where there may be a change in political power and will. All government agencies are required to use the National Development Plan as the basis for their plans.

74 Departmental POTs are for an 8 year period.

75 Municipal POTs are developed for a period of 12 years, lasting 3 political cycles. POT and EOTs are obligatory for local decisions but not for national level projects or sector plans. This weakens the plans effectiveness to influence large, national level infrastructure projects (e.g., roads).

76 Corporaciones Autónomas Regionales y de Desarrollo Sostenible (CAR) are a unique structure in Colombia. Under the Ministry of Environment and Sustainable Development (MADS), are organized 33 CARs, which are autonomous entities determined by territorial limitations (i.e., they are not aligned with geo-political designations) that are responsible for sustainable development planning. They are responsible for developing and contributing to a variety of territorial plans, including establishing the environmental indicators and data that should be included in all POTs.

77 These are triannual plans

78 These are habitats under special protection, such as wetlands or paramos that are protected and require their own territorial plan.

79 For a list of current plans, see Colombia’s Indigenous Information System within the Ministry of the Interior, [Planes de Vida](#).

80 Under Colombian law, certain minority groups (in addition to Indigenous peoples) are given additional protections. This includes the 'comunidad negra', 'poblacion negra/afrocolombiana', 'poblacion palenquera', and 'poblacion raizal'. Ethno-Development Plans for Collective Territories help define both reparations for and plans for these minority communities who have been victims of the conflict. Approximately 1/3 of land in Colombia is designated as 'territorios etnicos' with special rights and standings. For an example of a plan, see ["Plan de Etnodesarrollo de la Poblacion Afrodeseendiente que Reside en el Municipio de Pereira"](#).

81 Part of the negotiated peace agreement with the FARC included provisions for improving livelihoods in post-conflict zones, including establishing PDOT and Environmental Zoning with the purpose of confronting the expansion of agriculture, protecting areas of special environmental interest, and benefiting local communities with sustainable productive projects. The environmental zoning was piloted in several municipalities and as of January 2018 has now been completed in 108 municipalities. It is being carried out centrally. There has been some criticism that it is not as participatory as it should be. Its an expensive process. Currently being carried out through desktop analysis as travel to all municipalities is not cost effective. MADS sees this as first step in long-term process to address very complicated issues.