CHINA AND THE AMAZON:

Toward a Framework for Maximizing Benefits and Mitigating Risks of Infrastructure Development

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This paper is the result of a partnership among five institutions—Inter-American Dialogue, Boston University's Global Development Policy Center, China-Latin America Sustainable Investments Initiative at the Bank Information Center, Paulson Institute, and Field Museum. It was inspired by a series of strategic planning sessions held by the Gordon and Betty Moore Foundation in 2016 and 2017, considering the relationship between infrastructure development and the conservation of forest, water, and biodiversity in the Amazon. The Moore Foundation provided valuable financial support and guidance to initiate an assessment of China's current and possible future role in infrastructure finance and development in the Amazon basin, identifying opportunities to improve environmental and social outcomes. Over the course of a year, the partners worked with the Foundation and engaged more than two dozen additional institutions and experts in the field through webinars, workshops, and interviews to consider strategies for minimizing or eliminating environmental and social damages. All findings and final materials are available through this paper and its addenda.

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Foreword

The last twenty years have seen a broad expansion of China's overseas investment and financing. Reports indicate that these investments have had mixed effects on recipient nations, including in the economic, social, and environmental realms. The anticipated uptick in Chinese infrastructure development and finance in Latin America could reap similarly uneven results. In especially biodiverse regions such as the Amazon, Chinese companies already have engaged in a handful of projects and expressed interest in others. There is urgent need for Chinese, host country, and other actors to coordinate in pursuit of best environmental and social outcomes.

With this in mind, Boston University's Global Development Policy (GDP) Center, China-Latin America Sustainable Investments Initiative (CLASII), Field Museum, Inter-American Dialogue, and Paulson Institute are pleased to co-publish this assessment of Chinese infrastructure investment in the Amazon, authored by representatives from all five institutions and funded by the Gordon and Betty Moore Foundation. This paper—the product of a year-long effort with input from many experts—identifies critical junctures in the infrastructure cycle where Amazon basin countries, Chinese institutions, and other stakeholders in infrastructure development in the Amazon region can consider and shape their respective efforts to minimize or eliminate environmental and social damages and maximize benefits.

When done without appropriate planning and safeguards, infrastructure finance and development can do significant harm to Amazonian ecosystems and its peoples, including many indigenous communities. However this study also suggests some reasons for hope. China has positioned itself as a world leader in combating climate change, and has worked in recent years to develop responsible sectoral and voluntary standards for overseas investment. Multiple windows of opportunity exist for improving environmental and social outcomes of infrastructure investment in the Amazon—both at the project level and through bilateral and institutional commitments. With growing trust, understanding, and commitment among all actors, we see a pathway for greener development practices in the Amazon and potential for Chinese leadership in resilience and sustainability in the Belt and Road Initiative and beyond.

Michael Shifter
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EXECUTIVE SUMMARY

The emergence of China as a new economic partner for Amazon basin countries has brought benefits to South America and China alike. In less than two decades, China has become an important market for the region's products and an essential source of finance and investment. The burgeoning relationship has granted China access to new products from the Americas and provided a new market for Chinese exports, financing, and overseas investment. In this time, China has become South America's lead trading partner, and China's policy banks—the China Development Bank (CDB) and Export-Import Bank of China (CHEXIM)—together constitute the largest source of development finance for Latin America.

This new scenario presents tradeoffs in the form of impacts on the Amazon Basin's unique biological and cultural diversity, global climate stability, and wellbeing of local people (see Nobre 2014). Without special care to avoid and minimize ecological and social impacts, the costs of development run the risk of outweighing its gains. The Amazon Basin—Earth's largest forested expanse—is particularly sensitive to infrastructure growth that leads to deforestation and forest degradation. Shrouded in dense rainforests and wetlands beyond the steep Andean slopes, the Amazon region sustains a complex mosaic of habitats that nurture a rich and evolving library of diversity, along with information for new products and medicines. As one of the world's largest storehouses of carbon, the Amazon plays a fundamental role regulating and stabilizing global climate and producing rain, which is crucial for agriculture and cattle farming locally and beyond (Nobre 2014). And the region is home to diverse peoples, including indigenous communities with cultural heritage that the United Nations and others have earmarked for special care and attention.

This report assesses the potential for Chinese-supported infrastructure development in the Amazon to minimize negative consequences to the peoples and ecosystems of the region. Host-country governments are essential players in improving infrastructure development and have been the focus of studies and detailed recommendations elsewhere (see for example Monzoni et al. 2018). Our specific focus in this paper is on interactions with Chinese actors.

We conducted an investigative foray into four case studies of Chinese infrastructure engagement in the region to draw insights for answering the following question: *what are the best strategies for Chinese actors and Amazon basin countries to maximize the benefits of infrastructure developed together while minimizing or eliminating the social and environmental risks?*

The four large infrastructure projects we examined included three hydroelectric dams and one navigable waterway in Bolivia, Brazil, Ecuador, and Peru. We also examined similar projects in Ghana, Argentina, and Myanmar for regional comparison. Our general findings show that Chinese investment is:

1. **Becoming a central force.** Chinese policy banks are poised to become major players in infrastructure finance and development in the Amazon basin.

2. **Flowing toward risky projects.** Chinese finance in the Amazon has tended to flow toward the more socially and environmental risky infrastructure projects in the Amazon—including a number of projects that had been pre-screened as too risky by other international financial institutions.

3. **Lacking in strong due diligence.** Although some Chinese policy banks and commercial enterprises have their own voluntary social and environmental guidelines, they rarely are applied or enforced, and the stated overarching policy for Chinese overseas investment is to defer to the host country regulations and risk assessment on such matters.

Our case study analyses reveal that the benefits of infrastructure development are maximized and the risks are minimized when the following are in place:

1. **Risks are incorporated holistically.** All aspects of the infrastructure development process minimize risks, including in design, siting, implementation, and monitoring.

2. **Planning is inclusive.** Host-country planning processes and regulations that engage multiple stakeholders and values are in place.

3. **Risk assessment is internalized and shared.** Development banks and commercial enterprises have built-in due diligence tools that assess and monitor the social and environmental implications of a project, fine-tuned in collaboration with host governments, key stakeholders, and regional planning bodies.

4. **Performance is independently monitored.** Civil society organizations and independent researchers monitor progress toward these broader goals and are enabled to ensure that projects continue to be calibrated toward sustainable, low-impact development.

We make specific recommendations in the report to host-country institutions and communities, as well as to Chinese policy banks, commercial enterprises, and embassies, so they can incorporate these lessons into future policy-making. Countries and communities of the Amazon basin will need to convene and calibrate appropriate social and environmental criteria for an effective, sustainable infrastructure planning process. Chinese policy banks will need to strengthen and enforce their own policies and guidelines. And other entities, from civil society to academia, will have to develop a shared vision for progress, and create tools that enable stakeholders to maximize the benefits and minimize the risks of major new infrastructure investment in the Amazon. Underlying every recommendation is the need to build strong relationships and cultural understanding between stakeholders and Chinese counterparts. Without substantive and trusting relationships, development will likely devolve into antagonistic, one-off skirmishes over projects, rather than building toward a stronger future with a shared framework for mutually beneficial development.

INTRODUCTION

Over the past 15 years economic engagement with China has brought significant benefits to Latin American economies, with subsequent environmental and social challenges. During that period China became one of the region's most important sources of trade, foreign direct investment, and development finance. China is now South America's largest trading partner and the second largest for Mexico and Central America. China's economic engagement with Latin America between 2003 and 2013 coincided with the fastest economic growth rate the region had experienced since the 1970s. Today China provides more sovereign financing to Latin American governments on average than does either the Inter-American Development Bank or the World Bank.

The emergence of China as a new major economic partner with Latin American countries provides great opportunity for the region. Yet if not managed properly, this investment will accentuate an array of risks that have plagued the region for decades. Chief among these risks is damage to Amazon basin ecosystems. The Amazon concentrates the greatest biological and cultural riches worldwide, is the natural asset base for more than 30 million people including many indigenous cultures, and is a principal factor stabilizing the planet's climate and local rain regimes (see Nobre 2014). Without thoughtful and careful planning and mitigation, a new wave of infrastructure development in the Amazon will pose severe environmental and social threats to Earth's most extensive and diverse forested landscapes.

There is a lot at stake in making infrastructure environmentally and socially benign in the Amazon. Tropical forests are recognized for the irreplaceable role they play in stabilizing climate, providing for human livelihoods, and hosting exceptional concentrations of biological and cultural diversity. Among tropical forests, the Amazon is the largest and most biologically diverse. The diversity of cultures and languages in the basin is remarkable, and many forest peoples still hold deep, traditional and spiritual knowledge of the region's ecology. The Amazon is also a giant carbon reservoir, a significant factor in atmospheric circulation worldwide, and a crucial rain producer continent-wide.

Overarching Question

What are the most promising strategies for Chinese institutions and other actors to achieve systemic improvement and leadership in greening infrastructure development in the Amazon?

The future of the Amazon and its forest cover is of fundamental concern to the planet. Expanses of forests remain unfragmented in the basin, allowing vital evolutionary and ecological processes to continue. These contiguous forests are essential for the survival of humans and other species, locally and beyond. Yet these forests are extremely vulnerable to fragmentation and subsequent degradation. If unchecked, deforestation will lead to dry conditions that transform the landscape from humid forest to semi-deserts or dry savannas.

Through a series of case studies and expert input, our initiative draws lessons—for policy-makers, regulators, development finance institutions, civil society organizations, and commercial actors—about the extent to which all players have a role in helping maximize the benefits of infrastructure, while clearly identifying, minimizing, and mitigating associated social and environmental risks. Our focus is specifically on Chinese-

funded infrastructure. China has been active in providing investment and finance for infrastructure development in the Amazon region for more than a decade, including a series of hydroelectric projects in Ecuador, electricity transmission deals in Brazil, and a handful of road, rail, and port development bids in Bolivia, Colombia, and Peru. China has additionally expressed interest in a variety of infrastructure projects in these countries and others in the Amazon basin that have yet to move forward.

Our premise is that we can learn from past experiences and develop tools and collaborations that ensure quality growth that supports both people and nature in the Amazon, in the era of China's growing role in global infrastructure development. Our goal is to identify paths for collaboration with Chinese institutions that result not only in environmental sustainability, but in China's global leadership of green infrastructure financing in the Amazon.

Through a series of economic reforms over the past 40 years, China has succeeded in lifting many of its citizens out of poverty and producing significant wealth in its rapidly urbanizing mega-cities. This growth came at a heavy environmental cost, producing air pollution that exceeded health guidelines and leaving large swaths of water and soil across the country too damaged for use. In recent years China has become increasingly focused on addressing not just growth, but the quality of growth, and on developing concepts for "eco-civilization." There has been tangible improvement in the sustainability of China's domestic development. The question is how this new model can apply beyond its own borders.

There are reasons for hope. With the antagonistic pivot of the US in the global climate conversation, China has become the presumptive leader on the topic—both the largest producer of carbon emissions and the primary developer of renewable energy. For its overseas investment, China has worked with partners to institute sustainability standards at the Asian Infrastructure Investment Bank (AIIB), launched the Green Credit Guidelines in 2012, provided the Guidance on Promoting Green Belt and Road in 2017, and promoted a greener international finance system through its leadership in establishing Green Bond guidelines.

But recent history shows that China continues to struggle with how to achieve a green vision overseas. China has seen projects derailed as local citizens protested poor social or environmental performance. In some cases, these problems have resulted from actions by project companies, in other cases from China's deference to host countries to manage these problems on their own.

Our paper addresses the following questions:

1. Where along the process of project identification, selection, finance, development, and operation can entities work with Chinese institutions to promote greener practices on a project-specific basis and in broader engagement with the region?

2. How can Amazon basin civil society and third-party actors (entities not involved in transactions) engage and inform infrastructure development decisions by Chinese institutions and government?

3. What opportunities exist for China to expand on its climate leadership and ecological civilization concept in ways that green overseas development, particularly in the Amazon?

We note that host-country governments are crucial players in improving infrastructure development. But because they have been the focus of studies and detailed recommendations elsewhere (Monzoni et al. 2018), we concentrate specifically on interactions with Chinese actors that can lead to initiatives that complement or reinforce those by host-country governments.

BACKGROUND

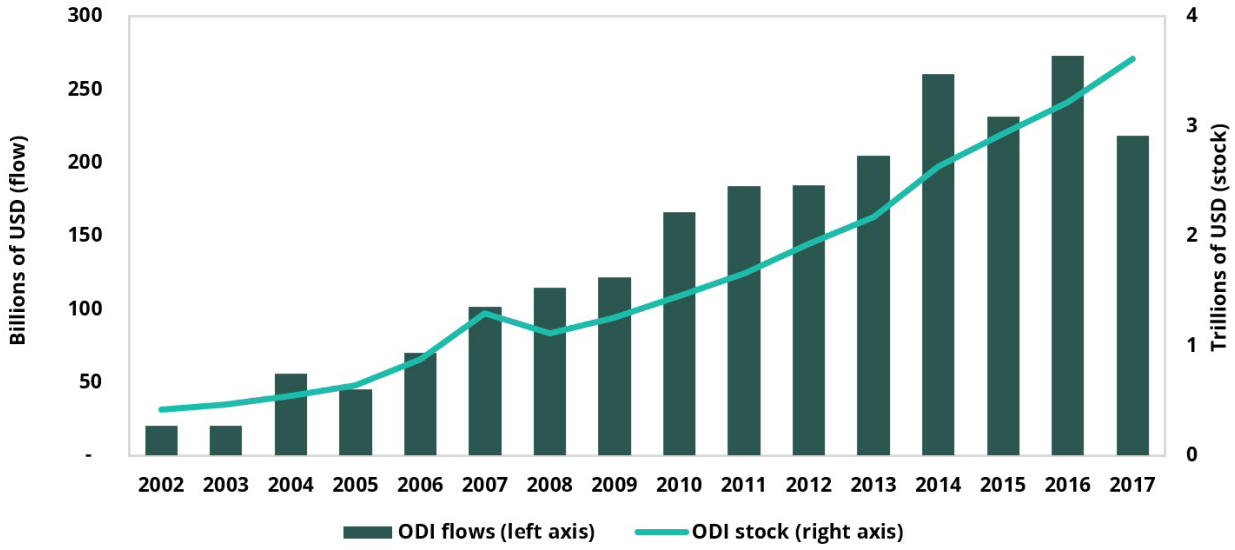
China's overseas economic engagement has been on an upward trajectory since the country released its "Going Out" strategy in the late 1990s, which promoted overseas resource-and market-seeking activity by Chinese entities (Figure 1). At the time, China's national oil companies, other large state-owned enterprises, and the country's policy banks—China Development Bank (CDB) and China Export-Import Bank (CHEXIM)—led the charge, establishing a presence on nearly every continent.

Although many Chinese companies headed to nearby regions, some sought opportunity as far away as Latin America, focusing on oil-rich countries, such as Venezuela and Ecuador, and the region's largest export markets, including Brazil and Mexico. China's policy banks became active in the Latin American region in the mid-2000s with a series of loans to Argentina, Brazil, Ecuador, Jamaica, and Venezuela. CDB and the CHEXIM offered oil-backed and commercial loans for a variety of purposes, including energy and transport infrastructure development and export financing. In the case of Venezuela, Chinese finance was used at the discretion of the Hugo Chavez and Nicolás Maduro administrations through the China-Venezuela Joint Fund.

Infrastructure development has become a main feature of Chinese activity in Latin America in just the past decade—prompted in large part by the 2008 global financial crisis. At a time when many multinationals and creditors were scaling back their global activity, Chinese companies and financial institutions were comparatively well positioned to acquire foreign assets, including existing ports and rail, or to launch their own overseas projects. In the aftermath of the crisis, Chinese companies, often backed by policy bank finance, took part in hydroelectric projects in Ecuador, electricity transmission investments in Brazil, and a handful of bids on road, rail, and

FIGURE 1: CHINA'S OUTWARD DIRECT INVESTMENT (ODI)

Source: UNCTAD Data Center. Includes ODI for mainland China, Hong Kong, Macao, and Taiwan.[1]



[1] In 2017 the Chinese government, out of concern of capital flight, took extraordinary measures to rein in outward investment in undesirable sectors. As a result, the foreign direct investment (FDI) volume dipped. This, however, is more a short-term aberration than an indication of a long-term trend.

port development ventures in places like Chile, Colombia, and Peru.

Ecuador, Bolivia, and Peru have been the main recipients of infrastructure loans that directly impact the Amazon Basin. In these countries, Chinese construction firms—such as Sinohydro, Gezhouba, China Harbour Engineering, and China Communications Construction Company (CCCC)—and China's policy banks have engaged in energy and transportation projects in the Amazon. CHEXIM has been active in financing several dams in Ecuador as well as the Hidrovía Amazónica dredging project in northern Peru. CDB provided a $2 billion credit to the Ecuadorian government in 2016 for broad infrastructure support. And Chinese construction firms are building several roads and bridges in Bolivia, also with Chinese financing.

China has sought to diversify its economic activity in Latin America through policies such as the 1+3+6 Cooperation Framework.[1] This Framework outlines priority sectors for future trade, finance, and investment. Chinese activity continues to focus on infrastructure and extractive sector projects in the Amazon and elsewhere in Latin America, though, and host-county governments often welcome this approach. As these sectors have sparked environmental degradation and social conflict, Chinese construction firms engaging in them have encountered their share of resistance across the region. China has relied primarily on Latin American governments to identify and vet priority projects, without doing much of their own analysis of the potential for environmental conflict or public opposition. The result has been costly delays for some firms. In some cases, low-cost financing buffers companies from the risks associated with project setbacks.

More to Come

All signs point to more Chinese infrastructure engagement in Latin America in the coming years.

[1] In the 1+3+6 Cooperation Framework, the "1" means one plan, referring to the China-CELAC Cooperation Plan (2015-2019); the "3" refers to the economic engines of trade, investment, and financial cooperation that will drive China's relations with the region; and, the "6" refers to the six industries in which China will focus its attention: energy and resources, infrastructure construction, scientific and technological innovation, agriculture, manufacturing, and information technologies.

Although the region continues to be viewed by many Chinese companies as a difficult investment destination—the result of Latin America's sometimes strict investment regulations, language and cultural barriers, active civil society, and geographic distance from China—the region's massive infrastructure deficit is attractive to Chinese builders and contractors, who have accumulated almost unrivalled expertise and experience in mega-project development. The combination of perceived "no-strings-attached" financing and engineering know-how are compelling to Latin American governments.

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Latin America's gradual incorporation into China's Belt and Road Initiative (BRI) is expected to drive much of China's future infrastructure investment in the region, including in the Amazon Basin. First announced in 2013, the BRI is a centerpiece of President Xi Jinping's foreign policy. The BRI was originally conceived as an effort to promote interconnectivity and transfer China's excess capacity to roughly 60 countries along a series of Eurasia-based corridors—a modern Silk Road of sorts. It has since expanded to encompass nearly every region of the world. Beginning in 2018 Chinese officials began referring to Latin America as a "natural extension" of the BRI and an "indispensable partner" in the initiative's development. The BRI framework is also evident in China's policy toward the region. Chinese Foreign Minister Wang Yi outlined five proposals for future China-Latin American and Caribbean (LAC) cooperation at the 2018 China-Community

of Latin American and Caribbean States (CELAC) Ministerial Forum that mirror the BRI's "five links:" policy cooperation, infrastructure development, investment and trade facilitation, financial integration, and cultural and social exchange. China has begun working throughout the region to achieve these aims by expanding financial services, forging people-to-people connections, and developing transport and other infrastructure.

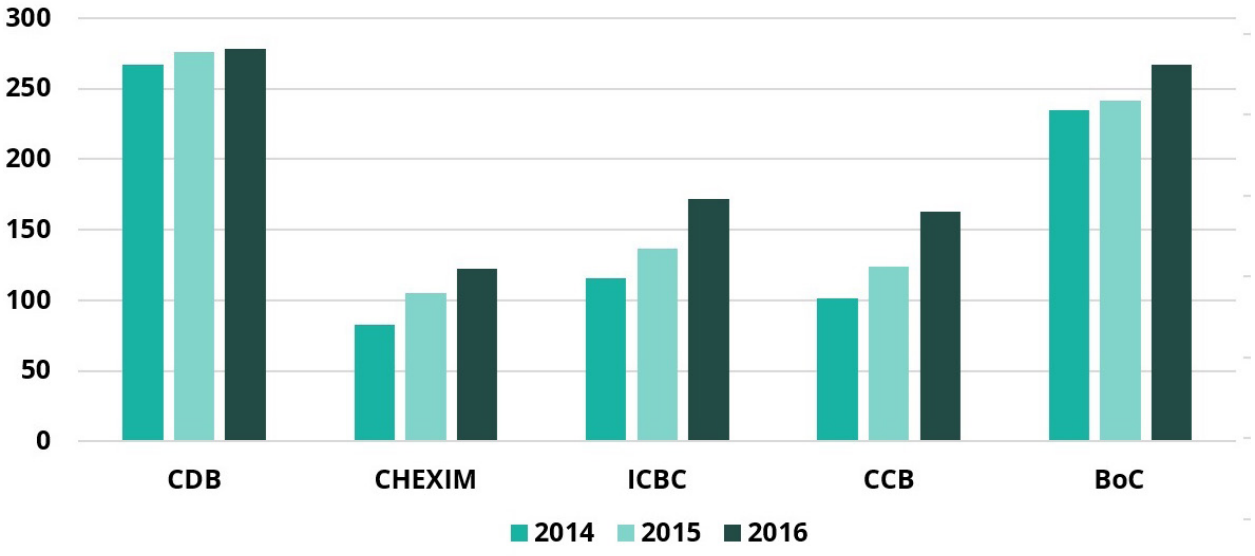
The BRI is also popular among Latin American government officials, and some view ties to the initiative as a precondition for Chinese infrastructure investment. At the request of Chinese diplomats, more than a dozen Latin American and Caribbean countries have signed bilateral Belt and Road Cooperation Agreements with China, often in conjunction with high-level visits. Some of these countries also have received confirmation of Chinese investment in connectivity-enhancing infrastructure projects, such as the construction of a Panama City-David railway in Panama.

New sources of Chinese finance might also boost infrastructure investment in Latin America over the next few years. In addition to China's two policy banks, China's largest state-owned commercial banks—such as the Industrial and Commercial Bank of China (ICBC), People's Bank of China (PBoC), and China Construction Bank (CCB)—are increasingly active in Latin America, whether through conventional lending or financial consulting and investment banking services (Figure 2). China's recently established regional funds (e.g., the China-Latin America Cooperation Fund and the China-Latin America Infrastructure Fund) are another potential source for infrastructure finance, though responsible for only a few deals so far. In other instances, Chinese companies provide their own finance for projects, albeit infrequently in the Amazon.

While Chinese financing accounted for only five of the 64 infrastructure projects funded by international development finance institutions in Bolivia, Peru, and Ecuador from 2000 to 2015, it is expected to facilitate 14 of the 58 projects completed since then or currently in the pipeline (Ray, Gallagher, and Sanborn 2018). Furthermore, while China financed just three of the 39 projects in the Amazon basin, its participation is expected to expand to 14 of 43 new projects (ibid). This boom in Chinese-financed infrastructure in the Amazon basin will be an important test for recent reforms that we describe in the next section.

FIGURE 2: OUTSTANDING BALANCE OF OVERSEAS LOANS BY CHINESE BANKS (USD BILLIONS)

Source: Calculated from annual reports published by each bank.



[1] Note: Each bank presents its balance of international loans portfolio differently and some numbers cannot be disaggregated. For example, in this chart, CHEXIM's numbers are approximated by adding its overseas investment loans and loans supporting overseas contracting (concessional loans and preferential export buyer's credit not included), while BoC's excludes loans to individuals overseas. For simplification purposes, Chinese RMB is converted to USD at an exchange rate of USD 1=RMB 6.5.

Shaping Overseas Investment: Chinese Reforms, Guidelines, and Concepts

As the BRI takes shape, the Chinese government has sought to encourage outward investment, and China's leadership has aimed to simplify the approval process for foreign ventures. China's National Development and Reform Commission (NDRC) and Ministry of Commerce (MOFCOM)—the two organizations with primary responsibility for approval of overseas deals—have moved from a formal "review and approve" process simply to recording transactions in most cases. The main exceptions are for deals in countries and regions that are at war or do not have diplomatic ties with China, or where investment is restricted by China's commitments to international treaties, conventions, or resolutions.

At the same time, regulatory bodies are focusing increasingly on improving oversight of overseas activities. For example, the NDRC indicates that it is monitoring overseas investment through online searches, formal inquiries and interviews, and random inspections. "Major negative events," such as casualties, asset loss, or incidents that affect China's image, require a formal report from the companies involved. Several other supervisory entities have indicated that they also are monitoring firm behavior. They include MOFCOM, the People's Bank of China (PBoC), the State-owned Assets Supervision and Administration Commission (SASAC), the China Banking and Insurance Regulatory Commission (CBIRC), the China Securities Regulatory Commission (CSRC), the China Insurance Regulatory Commission (CIRC), and the State Administration of Foreign Exchange (SAFE). In addition, Chinese embassies and consulates have a role in the Ministry of Foreign Affairs to report violations of NDRC guidelines.

Several Chinese entities have issued guidelines to orient, promote, and control the flow of Chinese financing abroad. The voluntary guidelines apply to banks and state-owned contractors, and, in some cases, to private Chinese companies. Most of the guidelines have been issued by government regulators, financial institutions, and business associations. The most significant environmental and social guidelines did not appear until the mid-2000s, when Chinese policy banks began engaging overseas with greater frequency. Even though most of these guidelines are broad and vague, many call for environmental and social impact assessments ex-ante and ex-post, other prior due-diligence assessments, hiring third-party evaluators, respecting workers' rights, making information publicly available, and providing opportunities for civil society participation (Garzón 2018a, Appendix A).

Since then the guidelines have expanded to include a wider range of best practices and greater accountability (see Appendix A for more on these guidelines). The Green Credit Guidelines, released in 2012, point out that China's banking institutions should ensure that due diligence is "complete, thorough, and detailed." In 2014 Chinese bank regulators published further details regarding how banks should measure and implement the Green Credit Guidelines, providing over 100 key performance indicators (KPI) for each of the Guidelines' 26 articles. Banks are now required to report their progress in meeting these KPIs to Chinese bank regulators annually.

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The Guidelines for Social Responsibility in Mining Investments Abroad (2014) direct companies to respect free, prior, and informed consent of local communities affected by new operations. And the Environmental Risk Management for China's Overseas Investments guideline (2017) notes that improved analysis of environmental costs and benefits should be part of investment

Box 1: Motivations for Greening Chinese Overseas Development Practices: Incentives, Risks and Obstacles for Latin America

Incentives

China's "green movement." When investing abroad, some of China's more prominent companies might be encouraged to take into account China's impressive steps towards greening its domestic economy. During the recent 19th Party Congress, President Xi Jinping took steps to emphasize environmental policy, referencing it 89 times, compared with 70 for the economy. China's latest green policies include a commitment to restricting coal-fired power production, providing state support for the largest solar panel factory in the world, and remaking Hainan island into an ecological development pilot zone.

Environmental groups in China are evidently also being given more freedom to police companies. In two high-profile lawsuits on April 2018, Friends of Nature and China Biodiversity Conservation and Green Development Foundation (CBCGDF) sued Chinese companies for environmental damages. Friends of Nature alleged that State Grid had refused to purchase clean energy despite being required to do so under China's Renewable Energy Law. And CBCGDF claimed that a local glass company was in violation of emissions laws. The government's prosecutor is reportedly also searching for cases of environmental malfeasance.

Growing focus on CSR. The Chinese government also has worked to promote corporate social responsibility, largely in an effort to ensure sustainable and profitable overseas operations. A major milestone was the incorporation of CSR principles in the 2006 Company Law. Also in 2008, SASAC, which has authority over Chinese state-owned enterprises, mandated that all SOEs set up a CSR mechanism. In addition, eleven industrial associations have jointly put forth the Social Responsibility Guide of the China Industrial Companies and Industrial Associations. Some Chinese companies have embraced certain elements of corporate social responsibility and are applying them in overseas ventures.

South-South ethos. Chinese activities in Latin America are viewed by many Chinese and Latin Americans as genuine opportunities to advance the South-South cooperation. The Chinese leadership has portrayed the country's overtures as working toward a "community of Common Destiny" with Latin American nations. For this vision to become reality, Chinese companies and banks must increasingly take into account the environmental and other needs of local communities and governments.

Risks

Having witnessed the negative fallout associated with some of their projects in Latin America, Chinese actors increasingly understand the consequences of low standards and inadequate community engagement. Some have begun taking into account reputational, operational, and other sources of risk when considering and implementing projects.

Reputational Risk. New Chinese infrastructure deals in the Amazon will be subject to considerable public scrutiny, regardless of company performance. Those that are managed poorly, or will have an especially

extensive environmental footprint, will likely encounter public backlash, putting both China's and the firm's reputations at risk. The Nicaragua Canal, for example, attracted the attention of environmentalists across the globe. Noting growing controversy, the Chinese government eventually distanced itself from the project and even suggested that Chinese companies refrain from involving themselves in the venture.

Operational Risk. Failure to address local concerns also affects some companies' ability to complete projects on time and on budget. In the case of state-owned enterprises, poor operational performance can negatively impact their SASAC assessments.

Legal Compliance Risk. Some Chinese companies have learned that if a deal is deemed to be environmentally or socially unsustainable, a host government may withdraw permits and other licenses, commence enforcement action, impose legal penalties, or tighten requirements. Though not part of the Amazon region, Argentina's 2016 judgment on the Cóndor Cliff – Barrancosa Hydro Complex (then called the Jorge Cepernic and Nestor Kirchner dams) is illustrative. After the election of Mauricio Macri, the Argentine Supreme Court ordered Chinese construction company Gezhouba to conduct an environmental impact assessment and public hearing before resuming construction of the dams. This considerably delayed Gezhouba's operations.

Obstacles

Weakening regulations in host countries. The recent trend among Latin American governments to weaken their own investment regulations could very well counter any progress on best practices being made by Chinese companies. If laws are weakened, Chinese company performance may worsen. Many Chinese companies adhere only to the standards and regulations put forth by host country governments, whether or not these standards sufficiently protect environmental resources and local communities.

Low priority for Chinese firms. Most companies—including Chinese ones—continue to attach more importance to the views of direct customers, investors, host-country governments, and China government institutions than those of local communities, industry associations, local media, international organizations, and NGOs. Even those who understand the importance of high standards may have problems implementing them. MOFCOM has noted that while 52% of companies have invited a third party to conduct social impact assessments, only 10% of the companies have made reforms in response to their recommendations (CAITEC et al. 2015). In general, more staff and financial resources are needed to implement existing guidelines and to monitor impacts.

Limited implementation of overseas investment and lending guidelines. Little progress has been made to enforce environmental and social guidelines and to integrate them in bank and company operations. Chinese regulators are starting to put penalties in place for companies that do not perform adequately abroad, including in aspects related to the environment; however, there are few rewards for high-performing companies.

Limited implementation/interpretation of Corporate Social Responsibility (CSR). There are recurring structural and definitional challenges to higher-level CSR implementation. One of these is a reactive approach to CSR, wherein CSR programs are initiated in response to a scandal or to enduring problems, rather than in an effort to prevent negative impacts in the first place. Also, few of the recently proliferating CSR rules are strictly enforced, and some companies have avoided taking action through workarounds. Many Chinese companies still tend to view CSR as donations to charity or participation in disaster-relief efforts, and not as a broader effort to do business in a sustainable and responsible manner.

decision-making. Several guidelines issued in 2017 and 2018 list troubled projects and create punitive mechanisms such as "black lists" to identify Chinese companies that violate laws and regulations. Guidelines also call for ad hoc inspection visits, third-party evaluations, and due diligence (Garzón 2018a, b).

Application of these guidelines has been far from universal. The guidelines are non-binding and are not accompanied by institutional mechanisms for implementation or monitor compliance. But they appear to be a meaningful step toward improving environmental and social outcomes.

In addition to the guidelines outlined above, a concept that may have implications for China's overseas investment is "ecological civilization." First officially introduced into China's political discourse in 2007, it was seen by many as a response to the mounting environmental challenges already faced by the Chinese government after 30 years of breakneck economic development at home. A worsening domestic natural environment was giving rise to more mass protests and demonstrations, causing social stability concerns. At the same time, wasteful and inefficient use of natural resources called into question China's long-term economic prosperity. Since then the ecological civilization concept has informed China's new policies and efforts in conservation and ecological restoration, moving up the global value chain and taking domestic actions against environmental violations.

As an overarching policy, ecological civilization extends in some cases to China's overseas investment. For example, the Guidance on Promoting Green Belt and Road Initiative, jointly released by the Ministry of Environmental Protection, Ministry of Foreign Affairs, NDRC, and MOFCOM, called on Chinese investors to apply ecological civilization to their BRI activities. Like many guidelines issued by Chinese government agencies, this concept is heavy on general principles and light on enforcement, and it remains to be seen how much of this good intention will be translated to actions on the ground, domestically and overseas. China's efforts to promote ecological progress at home could even lead to the export of environmental impact elsewhere (see, for example, Box 1).

Amazon-basin Country Reforms in Context

Over the last 30 years Amazon-basin governments have enacted legislation to enhance environmental integrity and protect the rights of communities—especially indigenous communities—affected by new development projects. New constitutions in Colombia recognize environmental conservation and sustainable development as goals and responsibilities of the central government. Ecuador's constitution goes so far as to recognize rights for nature itself, effectively allowing all parties to sue on behalf of nature in cases of environmental degradation, without having to show that their private property was damaged in the process (Art. 71). Peru established its Environment Ministry in 2008 and tasked it with overseeing national environmental policy and performance and providing technical assistance in environmental management to national and sub-national governments. The constitutions listed in Table 1 recognize indigenous rights, though they vary in their specificity.

Over the last 30 years Amazon-basin governments have enacted legislation to enhance environmental integrity and protect the rights of communities—especially indigenous communities—affected by new development projects.

International Labour Organization: Convention 169

Colombia, Ecuador, Peru, Bolivia, and Brazil have all ratified the International Labour Organization's Convention 169 on Indigenous and Tribal Peoples,

TABLE 1: MAJOR MILESTONES IN THE CODIFICATION OF INDIGENOUS CONSULTATION RIGHTS

Sources: Asamblea Constituyente de Bolivia (2009), Asamblea Nacional Constituyente (1991), Asamblea Nacional del Ecuador (2010a), Congreso Constituyente Democrático (1993), Congresso Nacional do Brasil. (1988), Congreso de la República (2011), ILO (1989), Morales Ayma (2007), Presidência da República (2004), UN General Assembly (2007).

COUNTRY	CONSTITUTION	ILO 169 RATIFICATION	NATIONAL LEGISLATION	
			YEAR	MECHANISM
Bolivia	2009	1991	2007	Ley 3760, giving the United Nations Declaration on the Rights of Indigenous Peoples status of national law
Brazil	1988	2002	2004	Decreto No. 5051, giving ILO 169 status of national law
Colombia	1991	1991		
Ecuador	2008	1998	2010	Ley Orgánica de Participación Ciudadana
Peru	1993	1994	2011	Ley del Derecho a la Consulta Previa a los Pueblos Indígenas u Originarios, Reconocido en el Convenio 169 de la Organización Internacional del Trabajo (OIT)

recognizing the right to free, prior, and informed consultation for indigenous communities where proposed legislative or administrative measures could affect them. As Baluarte (2004), Larsen (2016) and Sanborn, Hurtado, and Ramírez and (2016) note, the convention brought a seismic shift in how governments and communities approached resource disputes. ILO 169, as it is known, enshrines the rights of indigenous communities to be consulted by the State regarding decisions that could directly affect them.

China's Reforms in Parallel

During these past 30 years, China also enacted and expanded the environmental standards that apply to overseas investments, particularly through reforms in CHEXIM. The China Banking and Insurance Regulatory Commission (CBIRC), together with China's Ministry of Environmental Protection, published a new "Green Credit Policy" in 2007, calling on banks to take environmental responsibility for their projects (Aizawa and Yang 2010). CHEXIM did so that same year, enacting its "Guidelines on Environmental and Social Impact Assessment of Loan Projects." In 2016 CHEXIM published its White Paper on Green Finance, which makes specific commitments to "foreground" and mitigate social and environmental risks.

While China Development Bank has not developed the same level of comprehensive standards, it participated in the CBIRC process of developing the 2007 "Green Credit Policy." CDB was also the first Chinese institution to join the United Nations Global Compact, a corporate sustainability initiative (Shijun 2016).

METHODS

This paper was developed to answer the following question: What are the most promising strategies for Chinese institutions and other actors to achieve systemic improvement and leadership in greening infrastructure development in the Amazon? To address the question, we developed a conceptual framework and methods (Figure 3) that allows us to do the following:

1. understand the current state of evidence and expert knowledge from global experiences,

2. draw out lessons to apply to the conditions in the Amazon basin countries, and,

3. guided by explicit hypotheses, identify promising strategies to engage actors and actions that could lead to systemic reductions in environmental impacts of infrastructure development with Chinese involvement in the Amazon. These strategies and actions we refer to as "recommendations" throughout the paper.

Our Process

Over the course of a year we researched the environmental and social outcomes of China's increasing investment and contributions to infrastructure development around the world. The lessons in this paper (see "Key Lessons" section) are insights drawn from published and unpublished case stories and the experiences and research described by experts and practitioners in the field. We collected them over the course of roughly a dozen interviews and four webinars that addressed the impacts of Chinese overseas development and finance, emphasizing infrastructure projects and emerging engagement in the Amazon basin (see Figure 4). Webinar 1 assessed trends in Chinese and international policy bank finance in the Amazon; Webinar 2 considered Chinese corporate social responsibility in Latin America; Webinar 3 took a closer look at Chinese involvement in the global and South American hydropower sector; and, Webinar 4 scanned China's overseas

FIGURE 3: CONCEPTUAL FRAMEWORK

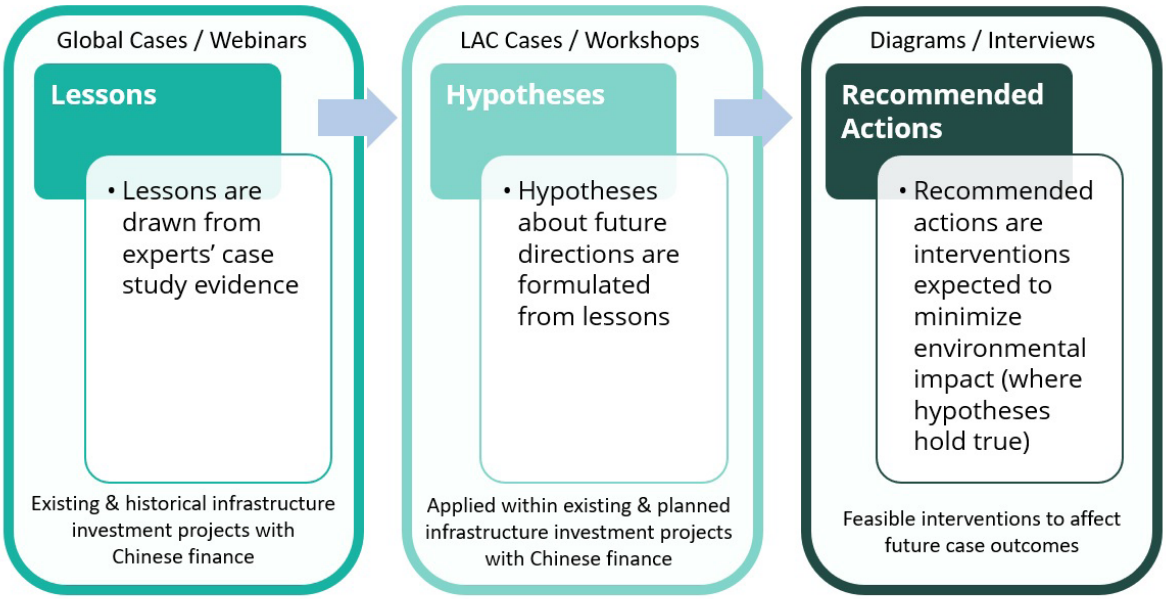
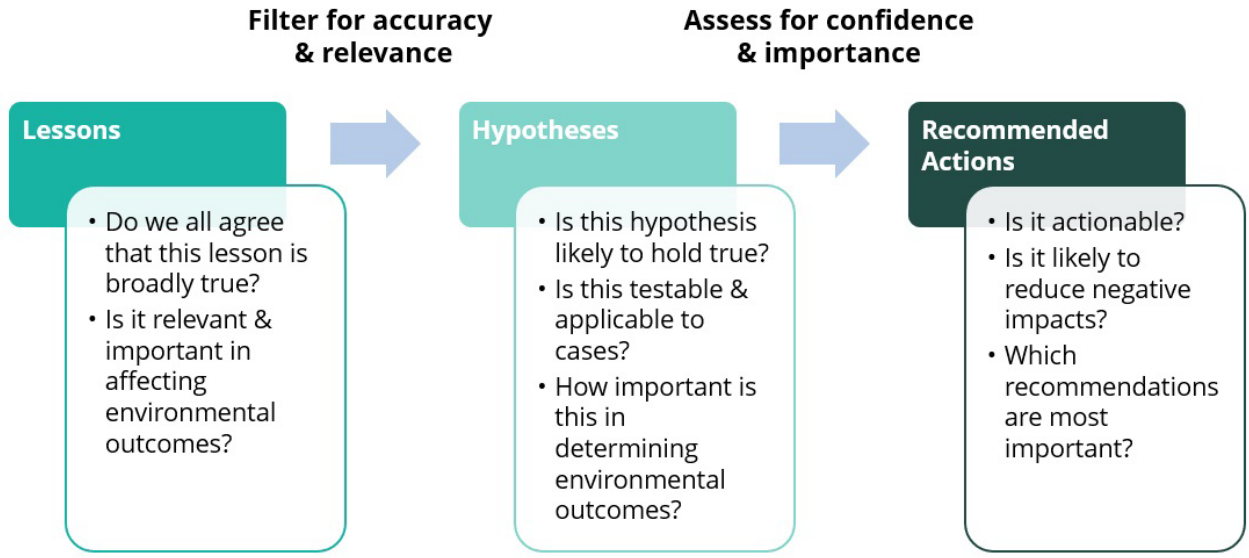


FIGURE 4: OUR PROCESS



development guidelines and their implementation (see Appendix G). We then developed our hypotheses through two workshops with co-authors based on analysis of those cases and lessons, comparison with environmental, social, economic, and geopolitical factors relevant to the Amazon and the globe, and recent reforms in China's regulatory system and national party.

Over the course of three workshops, we developed thorough case studies of select infrastructure development projects in the Amazon where Chinese actors have been involved (see "Cases" section). These cases were selected to represent a range of countries of origin, infrastructure, and actors involved. Through expert input, desktop research, and legal and business analysis, we prepared Decision Process Diagrams of these cases (see Box 2 and Appendix F). We identified recommendations (refer to Appendix F), which we collated and synthesized into a set of the most promising recommended actions for key actors involved in infrastructure development (see Figure 4). We passed these recommendations through a live peer-review workshop with diverse experts, researchers, and professionals (see Appendices H1 – H5). The results are our top recommendations (see "Top Recommendations" sections).

Cases

We selected seven primary cases of infrastructure developed with the engagement of Chinese financing or companies, including four in Amazon countries, one in Argentina, one in Ghana, and one in Myanmar. We also considered Chinese-funded infrastructure projects in Sri Lanka and Chad. The projects were selected to understand Chinese investments in the energy and infrastructure sectors in the Amazon region, an area characterized by the global importance of its biological and hydrological resources, the diversity of indigenous peoples who inhabit it, and an active civil society. We sought the conditions outlined below.

Projects at different stages in the project cycle: Of the six projects selected, only one—Coca Codo Sinclair—has been completed. As of 2018, the Belo Monte Second Transmission Line is under construction, the Myitsone Dam and the Ekumfi Coal Plant have been suspended prior to project implementation, the Cóndor Cliff – Barrancosa Hydro Complex is under construction, and the Amazon Waterway (Hidrovía Amazónica) and Rositas Dam are undergoing Environmental Impact Assessments (EIAs) for approval. Looking across

Box 2: Decision Process Diagrams

A **decision process** includes the steps involved in reaching a decision, defined as "a set of actions and dynamic factors that begins with the identification of a stimulus for action and ends with the specific commitment to action" (Mintzberg, Raisinghani & Theoret 1976).

The decision is framed in an **action situation** (Ostrom et al. 1994; Ostrom 2009), which includes the participants in a decision, their positions on decision-related issues, and the actions that they take.

In an action situation, "actors who participate in action situations have preferences, information-processing capabilities, selection criteria for making decisions, and individual resources that shape their range of feasible options" (Tucker and Ostrom 2005), and these are represented and explicitly considered in a **Decision Process Diagram**.

A Decision Process Diagram is characterized by the following key elements:

- Includes all decision-making actors
- Is framed around the investment/finance decision
- Illustrates some information about
  - comparable influence of decision-makers
  - timing of decisions and actor engagement

stages allowed us to identify the key actors and entry points in the decision-making process and confirm that the earliest stages in the project cycle hold the most promising opportunities to avoid or reduce environmental and social impacts.

Projects representing a diversity of locations, covering environmentally and socially sensitive areas: Six of the seven projects selected have special environmental and social implications because of their location. Four are located in Amazon basin countries, including sites in Brazil, Bolivia, Ecuador, and Peru. One additional project is in South America, one in Asia, and one in Africa. Siting is a crucial factor in project impacts, local response, regulatory scrutiny, and costs.

Projects in the energy and transport sectors: Six of the seven projects selected are in the energy sector, related to hydropower, and one is in the transport sector. These two sectors—energy and transport—are the focus of this research because of their documented impact on the Amazon region's habitats and indigenous communities, and because of the projected increase in Chinese companies and bank engagement in these sectors in Amazon basin countries. It is important to note that roads represent a notable gap in our analysis, because of the lack of available information on emerging road-building projects.

Projects representing a variety of stakeholders and decision-makers: Projects selected include (i) public-private partnerships (PPPs) with a Chinese company (the Amazon Waterway in Peru), (ii) Chinese bank-funded projects (the Cóndor Cliff – Barrancosa Hydro Complex and Rositas Dam), (iii) nationally financed projects contracting Chinese companies (Belo Monte Transmission Lines), and (iv) joint China-host region funds (the Ekumfi Coal Plant). Some projects have significant third-party engagement through subcontracts or financing; most do not. Many illustrate a strong presence of civil society, and some indicate an absence

of local actors in the decision process. Each of the host countries has a different set of national regulators, permitting processes, and enforcement agencies involved.

Projects with differing outcomes: Projects were selected to investigate what made them viable or not, resulting in implementation or suspension, and which factors affected project timing, design, pace, and approval. Two of the projects, the Myitsone Dam and Ekumfi Coal Plant, were suspended because of public discontent. Interestingly, the Chinese Green Credit Guidelines and Ghana's climate commitments under the Paris Agreement proved to be important for decision-makers in the Ekumfi case. In the Rositas Dam and Cóndor Cliff – Barrancosa projects, legal action and advocacy by members of host-country Congresses slowed project development. In several of the Amazon basin projects, free, prior, and informed consent (FPIC) and consultation processes influenced the pace and shape of projects.

Sufficient information available to understand these projects: Deep case study analysis requires detailed information. Yet one of the most frequent challenges to research on Chinese investment is limited public information. To overcome this issue, the team selected cases where project partners had conducted previous research or had access to national and local information sources (Table 2).

TABLE 2: SELECTED PROJECTS

Authors compiled the information from several sources.

COUNTRY	PROJECT DESCRIPTION	STATUS	COST	CHINESE PARTICIPATION
Ecuador	The Coca Codo Sinclair Dam in the Coca river basin and indirectly affects five protected areas and two ethnic groups. It is the largest energy project in Ecuador's history. The installed capacity of project is 1500 megawatts (MW).	Completed	US$2.0 billion	The dam was built by Sinohydro Corporation and financed with a sovereign loan of US$1.68 billion from CHEXIM.
Brazil	The second Belo Monte Transmission Line will be 2500 km in length. Belo Monte is the world's third largest dam, located on the Xingu river. It has an installed capacity of 11.2 gigawatts (GW). The first and second transmission lines will affect the Amazon and Cerrado ecosystems and will run near ten conservation areas and several ethnic groups.	Under construction	US$2.8 billion	The transmission line is being built by a consortium composed of State Grid Brazil Holding, Brazilian utilities, Furnas and Eletronorte, and is financed by BNDES.
Ghana	The Ekumfi Coal Plant project was proposed to be located in the Ekumfi Aboano District in Ghana's central region. The coal plant was planned to have an installed capacity of 700 MW.	Suspended	US$1.5 billion	The plant was to be built by a consortium of the Volta River Authority and Shenzhen Energy Group. The China Africa Development Fund (CADFUND), a private equity fund housed under China Development Bank, was linked to the coal plant.

COUNTRY	PROJECT DESCRIPTION	STATUS	COST	CHINESE PARTICIPATION
Peru	The **Amazon Waterway** is located in the northern Peruvian Amazon. The dredging project seeks to increase navigability across 2,687 km of three rivers (Huallaga, Ucayali, and Marañón), all with important fish stocks. The Waterway will directly affect 15 ethnic groups.	EIA is being developed	US$95 million	The waterway concession has been granted to the Consortium Hidrovías II, composed of Sinohydro and Construction and Administration S.A. The project is co-financed by the Peruvian government under a private-public partnership.
Bolivia	The **Rositas Dam** is part of a larger hydro complex comprised of eight dams in the Rio Grande Basin. Rositas is located in a conservation area and will affect a dozen ethnic groups. The dam will have installed capacity of 400 MW.	EIA is being developed	US$1 billion	The dam concession has been granted to the Consortium Asociación Accidental Rositas comprised of China International Water & Electrical, China Three Gorges Corporation, and Company REEDCO SRL. CHEXIM has offered a sovereign loan to cover 85% of the project cost.
Myanmar	The **Myitsone Dam** project is on the confluence of the Mali and N'Mai rivers, the largest of seven planned dams in the area. It would be the 15th largest dam in the world. The area has been described as the world's eighth most biodiverse. One ethnic group has been affected. The dam would have installed capacity of 6 GW.	Suspended	US$3.6 billion	The project was to be built by Upstream Ayeyawady Confluence Basin Hydropower Company, a joint venture among the China Power Investment Company, the Burmese Government's Ministry of Electric Power, and the Asia World Company. The project was expected to be financed by CHEXIM.
Argentina	A multi-project scheme, the 1,740-MW **Cóndor Cliff – Barrancosa** (previously Néstor Kirchner- Jorge Cepernic) Hydro Complex is under construction on Santa Cruz River in the Patagonian province of Santa Cruz. The dams, which will be located about 80 km apart and have capacities of 1,140 MW and 600 MW respectively, will affect Argentina's Los Glaciares National Park and 13 ethnic groups.	Under construction	US$4.7 billion	The project—granted to Electroingeniería, China Gezhouba Group Corporation, and Hidrocuyo—was financed with a sovereign loan from the China Development Bank, the Bank of China, and the Industrial and Commercial Bank of China.

KEY LESSONS

Case studies of China's overseas development, finance, and investment indicate that Chinese developers are typically not among the world's worst—nor best—performers in terms of environmental and social outcomes. In Latin America they tend to end up in the middle of the pack, following the signals provided by host-country governments' legal requirements and levels of enforcement. In contrast to the World Bank and other global institutions that develop their own standards and safeguards to reduce negative impacts (e.g., International Finance Corporation Performance Standards), Chinese investors and lenders select and implement projects solely according to in-country legal requirements. As a result, many observers of China's overseas finance emphasize the preeminent importance of interventions within host-country decision-making and enforcement processes to improve environmental outcomes.

This deference to host-country laws by Chinese institutions seems to stem from three principal motivations, as follows.

First, China has sought to differentiate its overseas development from that of other international financial institutions—primarily based in Europe and the United States—that apply a layer of norms in addition to local law. This stance relates to the country's stated foreign policy of non-intervention of domestic affairs. Chinese institutions generally have applied no additional screening or standards for social and environmental performance.

Second, as China's domestic economic growth has slowed, the country's state-owned enterprises (SOEs) have been looking for new sources of revenue. Latin America—including the Amazon basin—presents a good potential match for Chinese energy and infrastructure SOEs. To overcome barriers to market entry, these SOEs tend to bid low and accept a low profit margin to outcompete bidders with higher standards and additional screening of high-risk projects. Some observers report that representatives of Chinese institutions feel that they also face cultural, linguistic, and ideological barriers (or prejudice) to entering these markets, which in turn increases their commitment to competitive bidding.

Third, China-financed infrastructure projects in Latin America are often the result of high-level negotiations between national governments, though project execution falls to policy banks and contractors. Chinese representatives of policy banks and companies tend to see their sole counterpart as the host country's national government. Engaging the complex array of local actors, including local governments or civil society, is an unfamiliar and possibly daunting or undesirable prospect. The national government's priorities and positions are viewed as a comprehensive reflection of—or at least the sole authority on—the country's values and expectations regarding the environment and social issues. Only if senior government leaders measure success in terms of environmental and social outcomes, will Chinese institutional partners dedicate special attention to those issues.

Many observers of China's overseas finance emphasize the preeminent importance of interventions within host-country decision-making and enforcement processes to improve environmental outcomes.

For the reasons stated above, Chinese institutions consistently take on environmentally and socially riskier infrastructure projects than do other developers and banks.

Research suggests that environmental and social outcomes of infrastructure finance are improved for all developers—Chinese and others—when four mechanisms are present: (1) stakeholder consultation and free, prior and informed consent, (2) active oversight of subcontractors, (3) grievance processes, and (4) high-quality pre-feasibility and environmental impact assessments (Ray, Gallagher, and Sanborn 2018).

By consensus, experts agreed that early intervention in infrastructure design and investment will have the most influence on environmental outcomes, whether by avoiding poorly planned projects, or by improving design, siting, or operation. Upstream planning processes are important points for intervention for significantly improving the environmental outcomes of infrastructure development.

There are emerging indications of change. China has more than 60 policies and guidelines regarding overseas development, many of which as we note above, have environmental or social components (see Appendix A). To date these various guidelines and standards have rarely included enforcement mechanisms or monitoring, and have rarely resulted in improvements at the project level. However, in a number of cases in Asia, Latin America, and Africa, Chinese overseas guidelines have been used successfully to critique and inform the behavior of project sponsors and host-country stakeholders, and to engage with Chinese regulators, banks, and companies.

Chinese firms—SOEs and private actors—have taken up corporate social responsibility (CSR) through mergers and acquisitions of other firms and in industries like mining, where they have a longer history of work overseas and early lessons about social unrest. These firms tend to define CSR broadly and differently than do Western institutions. In the Chinese approach, CSR includes the company's contribution to host-country GDP, employment of local people, and technology transfer. CSR also includes support for education and the arts in places like Brazil and Central America, but incorporation of environmental conservation is still unusual. Where companies do conduct CSR reporting for overseas projects, the communication is typically directed back to

Principal Motivations for Chinese Institution Deference to Host-Country Laws

- First, China has sought to differentiate its overseas development from that of other international financial institutions—primarily based in Europe and the United States—that apply a layer of norms in addition to local law.
- Second, as China's domestic economic growth has slowed, the country's state-owned enterprises (SOEs) have been looking for new sources of revenue.
- Third, China-financed infrastructure projects in Latin America are often the result of high-level negotiations between national governments, though project execution falls to policy banks and contractors.

Box 3: Case Study Findings on Levers that Influence Environmental Outcomes

Chinese audiences (e.g., information is published only in Chinese) or to the national host-country government, rather than to local communities and employees.

Chinese policy banks and companies appear to be most receptive to improving practices when driven by requests from host-country governments, or when reputations or corporate ratings are at risk. Of five proposed approaches to improving environmental outcomes for Chinese companies assessed in our case studies, two have been demonstrated to be effective. There are cases where (1) host-country regulations and (2) civil society mobilization, publicity, or protest have stopped dam development. However, (3) private sector tools and standards (e.g., the Hydropower Sustainability Assessment Protocol) have not shifted hydropower development to less damaging placement or design. There is insufficient evidence to indicate whether (4) best-practice safeguards from partner financial institutions (i.e., in joint investments) lead to better environmental outcomes. In a few cases, (5) the use of Chinese overseas guidelines, such as the Green Credit Guidelines, appears to have influenced the behavior of Chinese and non-Chinese investors and developers (see Box 3).

HYPOTHESES

From the lessons in the previous section, we generalized a set of hypotheses about pathways to improve the environmental and social outcomes associated with infrastructure development financed or implemented by Chinese institutions in the Amazon Basin. Like the lessons, these hypotheses took shape through a series of expert consultations, webinars, workshops and analysis by the authors of this paper. In the recommendations sections to follow, these generic hypotheses are translated into specific interventions that can be taken up or supported by conservation agents and funders to bring about the desired outcomes.

Institutional Planning

Chinese investors do not take comprehensive account of project risks early in their decision-making processes. When they come to see the operational scope and degree of risk, project planning is often at an advanced stage—such as during formal environmental impact assessments—at which point it is more difficult to withdraw from a project. Our hypothesis is that if Chinese regulatory and financing institutions fully accounted for the environmental and social risks of projects at an early stage, they would avoid more high-risk projects, provided that alternative investments were available.

Best Practices

Once projects are identified and in planning stages, we hypothesize that good environmental and social outcomes for Chinese investors primarily depend on the same factors that drive results for any developer: (1) thorough, on-the-ground due diligence, (2) stakeholder consultation and FPIC, (3) high-quality environmental and social impact assessments, (4) active oversight of sub-contractors, and (5) grievance mechanisms.

Incentives and Catalysts

Elsewhere in this paper we note the explosion in voluntary environmental and social guidelines developed in China. Implementing the Chinese guidelines for overseas development would improve environmental performance in infrastructure projects. Our hypothesis is that effective implementation would be more likely to occur by creating targeted awareness and incentives, for example, by (1) establishing Chinese and host-country awareness-raising campaigns of existing guidelines; (2) supporting local monitoring at the project level; and, (3) creating reputational, financial, professional or other incentives—for institutions and employees—to improve performance.

Decision Makers and Influencers

Successful interventions to improve environmental and social outcomes system-wide will require consideration of the whole chain of decision-makers, from upstream regulators in China to local employees of firms. Our hypothesis is that engagement with these actors tends to be most effective where it builds on existing relationships, provides objective and trusted information, precedes a decision that affects environmental outcomes, and reinforces engagement and decisions at other points in the decision-making chain or process.

Education and Communication

We hypothesize that better preparation and more frequent encounters among Chinese developers and host-country stakeholders will improve chances of convergence between these actors on concepts and goals for sustainability and economic development. A comprehensive bilateral

relationship in which increasingly bilingual actors exchange on a variety of relevant topics throughout planning and development processes should improve outcomes for all parties.

Actors and Roles

Better environmental and social outcomes will be obtained if actors play roles that take Chinese expectations into account. We hypothesize that Chinese institutions will be most receptive to constructively framed technical input and tools from research institutions, national governments, Chinese NGOs, and international financial institutions. Environmental organizations, communities, and the press appear to be most influential and effective as monitors of Chinese project planning and implementation, holding banks, companies, and host governments to account, and celebrating good practices. There are, of course, exceptions and institutions that straddle categories, for example scientific research and advocacy.

These hypotheses are general strategic ideas intended to be robust to variations over time and in national conditions within the Amazon basin, across types of infrastructure, and across banks and companies involved. The recommendations sections later in this paper suggest interventions that are suited to current institutional and political realities.

GENERAL RECOMMENDATIONS

Host countries and Chinese actors have the opportunity to channel and implement infrastructure finance and development in the Amazon basin in a way that maximizes benefits while minimizing environmental and social risks. Such efforts build on China's "five principles of peaceful co-existence," which support due diligence as a pillar of international commerce and cooperation. Minimal-impact efforts also have precedent in the constitutional principles set forth by Amazon basin countries and the international cooperation agreements to which they are signatory parties. The sections that follow outline a number of recommendations that key actors can take to eliminate or minimize negative environmental and social outcomes. Our recommendations result from the study's research methods (see Methods section). Over the course of a year, we drew out lessons from global cases of China's overseas infrastructure engagement (see Appendix G), translated those into hypotheses that fit the conditions and emerging cases known in the Amazon (see Hypotheses section), and applied those hypotheses to detailed case studies developed using Decision Process Diagrams (see Appendix F). Each case study delivered a set of case-specific recommendations, which we analyzed together to establish general recommendations by key actor engaged in the infrastructure development process. These actor recommendations were then vetted by experts in the field; those deemed most feasible and effective are identified as "top recommendations" in this paper.

A Brief Note about Host Countries

Host-country governments are arguably the critical player in improving infrastructure development. Even where international finance is concerned, a host country's government is the rule-maker and regulator of environmental and social performance. The breadth of recommendations for this actor is extensive and goes beyond the scope of our paper. Such recommendations have been addressed by many studies elsewhere; one example is the Center for Sustainability Studies at the Fundação Getúlio Vargas business school, which developed an exhaustive set of guidelines for large Amazon projects in Brazil (http://diretrizes-grandesobras.gvces.com.br/; see also Alamgir et al. 2019, Moran 2016). Our focus, instead, is specifically on interactions with Chinese actors.

When investing overseas, Chinese companies are subject to the host country's legal and regulatory oversight. At the same time, Chinese policies, regulations, and guidelines are intended to provide guidance to Chinese banks and institutions operating overseas. They are not equivalent to additional and independent standards such

Key Recommendations

- Instituting early and effective risk assessment and management

- Building trust between Chinese and host-country actors

- Improving information access and capacity for relevant stakeholders

- Providing evidence and incentives for decision-makers

as the International Finance Corporation's Performance Standards, indicating a potential need for different forms of dialogue and actions to improve environmental and social outcomes of infrastructure investment.

Recommendations: Themes and Hypotheses

There are significant opportunities for Chinese actors to collaborate with their host-country partners (and vice versa) to improve environmental outcomes of infrastructure development. The recommendations in the next sections fall into four categories, building on the paper's hypotheses.

First, institutional planning, and specifically early and **effective environmental and social risk assessment tools and management**, are essential components in the recommendations for all actors. Chinese actors, including policy banks and state-owned enterprises, could reduce negative environmental and social outcomes in the Amazon more effectively with in-house capacity and implementation of existing guidelines, aligning with best practices. Inclusion of the Green Credit Guidelines in bilateral, multilateral, and project negotiations is one recommendation that is highlighted for multiple actors involved in infrastructure development in the Amazon. Example activities include capacity-building workshops, engagement with Chinese embassies, and site visits as a part of project approval.

Second, the importance of **developing relationships and trust between key Chinese and host-country actors**, so that they can work toward shared sustainable development goals, is central to many of our recommendations. Education and communication between increasingly bilingual actors that builds on existing interchange and understanding are a focal area for recommendations for all actors. Suggested activities include regular multilateral meetings for exchange and dialogue, more engagement of host-country local governments and civil society by Chinese embassies and institutions, upstream landscape-level planning, and shared research and design for sustainable infrastructure. This includes the wider landscape of decision makers and influencers.

Third, **capacity-building for Chinese entities and host-country actors** is highlighted throughout the recommendations, which builds on the hypothesis that improving mutual understanding and expertise has the potential to improve

"Chinese Infrastructure Finance in the Amazon" Workshop

Photo Credit: Inter-American Dialogue

infrastructure development outcomes in the Amazon. In particular, the recommendations emphasize that Chinese companies could benefit from a greater knowledge and use of regionally relevant risk-assessment practices, industry best practices, and, in some cases, host-country environmental and social regulations. Host-country agencies, local government, and civil society would be more effective partners if they had a strong understanding of Chinese cultural ways of working, the ecosystem of Chinese institutions in infrastructure development, and China's overseas development guidelines.

Fourth, **filling gaps in information and evidence** related to infrastructure finance and development in the Amazon and Chinese participation could inform behavior and practices, including the establishment of productive incentives and catalysts to build best practices. Crucial missing information to move toward these better practices and stimuli includes the impacts of ongoing infrastructure projects in the Amazon, which may require close monitoring. Complementing project-specific knowledge is tracking of trends in Chinese engagement and finance that may affect future projects. Bilateral understanding of which stakeholders are or should be involved in projects with Chinese participation could improve communication and the development of shared goals and outcomes. In addition, bearing out the hypothesis that the behavior of Chinese institutions would change given better evidence and good alternatives, the costs of failing to follow overseas development guidelines and host-country best practices could alter the future environmental and social footprint of such investments.

Over time, developing and using environmental and social risk assessment tools and management, building better relationships, training Chinese and host-country actors, and filling information gaps about what works to improve environmental and social outcomes of infrastructure finance and development could lead to a systemic shift in practices and outcomes for the Amazon basin. Specific needs and opportunities for doing so – focused on the actors involved in Chinese-funded infrastructure development in the Amazon – are laid out in the next sections.

Roadmap for Reading Recommendations Section

The following sections suggest actions that Amazon basin civil society, Chinese entities, and other parties can engage in to ensure that infrastructure finance and investment provides economic benefits without environmental or social devastation in the Amazon. These sections highlight the top recommendations identified by practitioners and researchers in the field. Appendices H1 – H5 contain the full set of recommended actions by actors assessed in this study.

Each section below addresses a particular influential actor, identifies top recommendations emerging from our research, and cites particular examples of actions to be taken by the actor in question, as well as others that could inform their activity. The five actors are Chinese policy banks, Chinese state-owned enterprises (SOEs), Chinese embassies in host countries, Amazon basin civil society, and third-party actors. In each case, the first paragraphs offer a brief description of the actor and specifies two to three top recommendations. The next sections delve into the recommendations, providing justification and example actions by particular actors.

Top Recommendations for Chinese Policy Banks

China Development Bank (CDB) and the Export-Import Bank of China (CHEXIM) have financed the majority of large Chinese infrastructure projects in the Amazon and are likely to continue to do so. Financing decisions appear to be made based on financial returns, project risk, and geopolitical interests, such as strengthening bilateral relations, supporting key Chinese industries, and accessing valuable primary materials.

Chinese policy banks still have a limited institutional presence in Amazon basin countries and have only limited experience in facing the types of environmental and social risks that are common in infrastructure development projects in the Amazon basin. The recommendations offered here consider the importance of developing more robust environmental and social risk management systems, in addition to stakeholder engagement and transparency policies, to prevent potentially irrevocable impacts in this sensitive region.

Top recommendations for

Chinese Policy Banks

1. Publicly report and disclose how Chinese policy banks are meeting and implementing key green finance policies, and develop measures to be accountable for failing to meet green credit obligations.
2. Expand and develop robust institutional risk assessment procedures, and build environmental and social expertise within policy bank staff to screen, assess, and avoid risks more effectively throughout all financing stages.
3. Develop and make public institutional transparency and information disclosure policies.

Recommendation 1

Summary:

The Chinese Banking and Insurance Regulatory Commission and People's Bank of China[1] should require Chinese banks to report and disclose publicly how they are meeting and implementing key green finance policies, and to develop measures to hold banks accountable for failing to meet green credit obligations.

Justification:

Since the early 2000s, Chinese bank regulators have begun developing a broad policy framework that establishes the banking sector's responsibility actively to support China's national environmental protection efforts. By promoting green finance, the Chinese government harnessed the power of the banking sector to

[1] In April 2018 the China Banking Regulatory Commission merged with the China Insurance Regulatory Commission. Renamed the China Banking and Insurance Regulatory Commission (CBIRC), this agency is now solely responsible for enforcing banking and insurance regulatory laws and rules. Prior to the 2018 merger, the China Banking Regulatory Commission drafted, published, and enforced bank regulatory laws and rules. However, following the merger, CBIRC is responsible only for enforcing banking rules and regulating China's banking sector, whereas the People's Bank of China is responsible for drafting and publishing bank regulations and rules.

punish chronic polluters and to incentivize environmentally friendly industries domestically. Today, China's domestic approach to green finance is considered successful and has implications for Chinese banks' environmental performance in foreign direct investments. In light of China's 2001 "Going Out" Policy and President Xi Jinping's 2013 Belt and Road Initiative, Chinese bank regulators have increasingly looked at the environmental and social impacts of overseas investments, publishing a growing number of rules and policies aimed to reduce negative environmental and social impacts abroad and encourage good global citizenship. Although most green finance policies are not legally binding, Chinese bank regulators require Chinese banks to report annually their progress in implementing green credit into their internal systems.

Chinese banks still struggle to implement these policies properly and effectively, and this failure is a key obstacle for ensuring environmentally and socially positive outcomes for their investments. A first step toward ensuring that Chinese infrastructure projects in the Amazon are environmentally and socially sustainable is to address how Chinese banks are currently falling short in effectively and consistently implementing key green finance policies, such as the Green Credit Guidelines. Our recommendation therefore highlights the importance of ensuring better practices rather than developing more policies per se. Better implementation would help Chinese banks with the long-term task of normalizing and streamlining environmental and social risk management in everyday loan management processes, and help Chinese bank regulators identify recurring challenges, geographic sensitivities, or potential gaps in banks' green credit risk assessments. Better green credit implementation may also help identify and develop further structural incentives and punitive measures for better environmental and social performance.

Example Actions:

- Chinese bank regulators can require banks to measure their management of green credit implementation; e.g., require banks to disclose their annual self-report on meeting key performance indicators for implementing the Green Credit Guidelines and/or assess green credit implementation on each loan.

- Chinese bank regulators could develop punitive measures to hold banks accountable for failing to implement key green finance policies fully, such as the Green Credit Guidelines.

- Peer institutions can demonstrate the importance of determining and publishing policies to "climate proof" their entire portfolio.

- Policy banks can develop staff incentives that encourage strong environmental, social, and legal compliance and green credit implementation.

- Host countries and Chinese bank regulators can encourage Chinese banks actively to consult civil society groups on projects and their implementation.

- Host countries can seek to include the Green Credit Guidelines in bilateral agreements and loans from Chinese policy banks.

Recommendation 2

Summary:

Chinese banks should expand and develop robust institutional risk assessment procedures and in-house staff expertise to screen, assess, and avoid environmental and social risks more effectively throughout all financing stages.

Justification:

Chinese banks have common gaps in internal risk management processes and a lack of in-house environmental and sustainability experts. As a result, they fail to operationalize some requirements of green credit policies. For example, neither the pre-approval nor post-disbursal risk assessment process includes site visits by CDB or CHEXIM representatives. There also is no known, independent check on environmental risk assessment. In addition, no formal mechanisms exist for either prior consultation with local stakeholders or for grievance resolution in the case of social conflicts after loan disbursal.

Although CDB and CHEXIM require an environmental impact assessment and feasibility study during the loan application stage, both banks have frequently supported projects with incomplete or low-quality environmental analysis, which suggests some institutional or procedural blind spots that allow projects with major environmental or social flaws to proceed and receive financial support. For instance, CHEXIM provided more than $1 billion USD to the controversial Hambantota Port in Sri Lanka, even though the EIA did not identify and account for all relevant or cumulative environmental impacts; in addition, the feasibility study strongly doubted any economic benefits of the port.[2] The result has been that the Sri Lankan government has been unable to repay the loan, and was forced to give control of the port and surrounding land to China for 99 years, leading to widespread protest, poor international press, and reputational risk that could affect other sovereign relationships. Such poor outcomes can be addressed by expanding or developing a robust risk management system and ensuring that in-house staff with environmental and sustainability expertise are able to collaborate with loan officers and when necessary.

Example Actions:

- Local and international media can highlight different environmental outcomes of projects funded by different international finance institutions.
- CDB and CHEXIM can publicly publish their environmental and social risk management procedures, similar to other international finance institutions, and CHEXIM could publish its risk management toolkit.
- Working with academic institutions or researchers, CHEXIM could provide evidence for how its toolkit has improved the environmental and social outcomes of particular projects.
- Chinese bank regulators could encourage or require Chinese policy banks to consult and solicit feedback

  from local communities and civil society groups and to verify client-provided information.
- Multilateral development banks can share their risk management procedures and support studies of their effectiveness to include in dialogue with Chinese policy banks.

[2] https://www.nytimes.com/2018/06/25/world/asia/china-sri-lanka-port.html

- CDB and CHEXIM can build in-house environmental and sustainability expertise to ensure that loan officers are fully aware and understand the environmental and social risks of a project.

- CDB and CHEXIM regional office could retain country-specific experts who can review and confirm the level of legal compliance of investments.

- Local stakeholders, particularly indigenous communities, their representatives, and related agencies, can contribute by directly communicating the legal and cultural expectations to investors.

Recommendation 3

Summary:

CDB and CHEXIM should develop and make public institutional transparency and information disclosure policies.

Justification:

Although Chinese policy bank lending has dramatically increased over the past twenty years, little is publicly known regarding the banks' internal policies or procedures. CDB does not publicly publish the content of its environmental or social policies, nor is much information publicly available regarding how the bank manages environmental and social risks in its overseas loans. Although CHEXIM has taken a first step by publishing its Environmental Policy and Guidelines for Environmental and Social Impact Assessments of the China Export and Import Bank's Loan Projects, these policies are broad and do not provide a comprehensive understanding of how robust or sophisticated the bank's risk management system is.

The Guidelines do not provide a public understanding of how projects are selected or how social and environmental risks are weighed in a particular decision. Making this information publicly available will allow experts in the Amazon to assess how well these procedures address the ecologically sensitive region with global importance for stabilizing climate. The information also will indicate whether the Guidelines meet global norms and national standards in Amazon basin countries for prior consultation of indigenous peoples.

Example Actions:

- CDB and CHEXIM should develop and publish institutional transparency policies that outline and establish clear principles and methods for public stakeholder engagement, information on financing and projects the bank is involved in, and the action the bank commits to take to promote transparency.

- Chinese policy banks can require clients to make available key project information to local communities and stakeholders, such as environmental impact assessments, project feasibility studies, and construction timelines.

- Host countries can encourage public provision of project information through their own agencies and investment promotion bodies and include in bilateral agreements information disclosure requirements for Chinese policy banks and their clients that are time bound to support free, prior and informed consent (FPIC).

- Regional offices of Chinese policy banks could make bank contact information publicly accessible in the host country, to receive and respond to public inquiries about particular projects.

Top Recommendations for Chinese State-Owned Enterprises (SOEs)

SOEs are businesses that are wholly or partially owned by the Chinese government, which defines how they respond to incentives and risks. As businesses, they are market- and profit-driven. But given their closeness to the Chinese government, they also are driven by politics and are more sensitive to reputational risks that may embarrass the political leadership in Beijing. This makes SOEs more willing and financially equipped for Corporate Social Responsibility (CSR) to help build their image as the "People's Republic's duty-bound eldest son," as they are characterized by the Chinese media. We chose to focus on Chinese State-Owned Enterprises (SOEs) rather than on all Chinese companies because SOEs are the most active in overseas infrastructure development.

Social and environmental controversies associated with SOEs in host countries can arise from disregard for local laws and regulations, or from the high-risk nature of the projects, bilateral political interests, and lack of consensus on the environmental and social impact assessment (ESIA) process and findings. The recommendations we present seek to align SOEs' interest in minimizing high-profile conflicts and the resulting reputation damage, with host-county societies' goal of avoiding social and environmental damage.

Top recommendations for

Chinese State-Owned Enterprises

1. SOEs should contract independent and rigorous environmental and social risk and impact assessment to inform overseas investment project decisions.
2. SOEs ought to adopt key elements of well-established sector-based international environmental and social safeguards, standards, and tools.

Recommendation 1

Summary:

SOEs should contract independent and rigorous environmental and social risk and impact assessment to inform overseas investment project decisions.

Justification:

Many SOEs have learned that approval of a project and its associated environmental and social impact assessment by the host country's government is no guarantee of smooth sailing. Instead of viewing ESIA as another piece of paperwork to complete, SOEs can undertake rigorous ESIAs as a risk-mitigation tool to inform their investment decisions. It would benefit SOEs to understand clearly that assurances from the host-country government related to environmental and social risks are often insufficient to avoid significant delays, social conflict, and environmental damage. An independent, credible assessment will provide complementary information and options for mitigating damage and avoiding liabilities and costs.

Example Actions:

- Host-country agencies or environmental organizations should engage SOEs and share with them information or provide training on risk factors, so that SOEs become aware of relevant risk factors and recognize that a thorough, independent ESIA would help them make informed decisions.
- Civil society organizations can share lessons with SOEs. Illustrative and in-depth case studies developed by researchers, both Chinese and international, may help illuminate for SOEs the lessons learned over the years from their own and peers' failure to conduct independent and thorough ESIA.
- SOEs should develop a roster of reputable and qualified third-party organizations with expertise in host-country environmental and social conditions that can conduct independent assessments.

Recommendation 2

Summary:

SOEs ought to adopt key elements of well-established sector-based international environmental and social safeguards, standards, and tools.

Justification:

SOEs could quickly integrate useful elements from well-established international standards. A key advantage of such international standards and tools is their level of detail, adaptability, and availability of external technical resources and capacity to facilitate the implementation. The lack of detail and adaptability in many Chinese domestic guidelines on green investment could be supplemented by international standards and tools.

Example Actions:

- Institutions should make international standards and tools available in Chinese.
- A Chinese interpretation of international and country standards can be developed jointly by international standard bodies and Chinese partners.
- Host countries and international environmental organizations can promote exchanges between Chinese actors and Amazon basin think tanks and research institutions to inform the fine-tuning of such standards to the Amazon context and Chinese characteristics.
- Chinese NGOs can provide training on international standards and tools to SOEs and other Chinese companies.
- SOEs could demonstrate their good practices by having more transparent approaches for their environmental and social standards and risk assessment practices

Top Recommendations for Chinese Embassies

Staff in Chinese embassies in host countries play two key roles relevant to infrastructure: **service provider** for Chinese investors and **watchdog** overseeing them on behalf of Chinese regulators. Typically, these roles are carried out by the Economic and Commercial Counselors, who report to the Ministry of Commerce. These roles present important opportunities for improving environmental and social outcomes of infrastructure development in the Amazon.

As a service provider, embassies carry out three types of tasks: (1) Repository of information: Embassies gather information about projects and local conditions for Chinese regulators, banks, and companies. Their emphasis has been on local customs and culture to build awareness and readiness for engagement. (2) Early warning system: Embassies monitor security issues within each host country, sending out alerts to Chinese officials and citizens, including representatives of development banks and state-owned enterprises. (3) Relationship builder: Embassies are charged with building relationships with key host-country government ministries, agencies, companies, and decision-makers. Embassy officials regularly meet with government counterparts, attend events and ribbon-cutting ceremonies, and plan political visits for high-level government emissaries to advance relations and economic ties.

The role of Chinese embassies is centered on diplomacy. Embassy staff and Economic and Commercial Counselors do not have an explicit mandate to monitor environmental performance of Chinese companies, nor do they have the technical expertise to do so. Nevertheless, Chinese embassies can play an important role in communicating and coordinating with interested parties. These embassies are one of few avenues for non-government actors in host countries to have their voice and concerns heard by the Chinese government in Beijing.

Top recommendations for

Chinese Embassies

1. Develop and communicate countrywide red-flag reviews or early warning systems for pre-feasibility environmental and social risks.
2. Build relations and communication channels between Chinese embassies and host-country actors that are based on mutual understanding and enhance embassies' role in informing Chinese regulators and support their interest in minimizing environmental and social conflicts.

Recommendation 1

Summary:

Develop and communicate countrywide red-flag reviews or early warning systems for pre-feasibility environmental and social risks.

Justification:

Since part of embassies' mandate and responsibility is to advise Chinese regulators on proposed investment projects, they need accurate, comprehensive, and up-to-date information. That information can come from reputable research institutions in the host country. Providing this big-picture and comparative information

will likely have a more enduring impact than other piecemeal attempts to dissuade Chinese regulators from approving risky projects. This approach also has better prospects of success as it analyzes investment options at a very early stage, before the investor's and host country's stake in the project becomes entrenched. Once the Chinese embassy grasps the severity and consequences of the issue, they are more likely to reach out to either the investor in question or the regulator in China to address the issue.

Example Actions:

- Researchers could build relationships with embassies through meetings, letters that provide ad hoc information about project risks, and formally sharing case studies.
- Regional or national think tanks or universities could credibly develop countrywide red-flag (as well as yellow- and green-flag) reviews or early warning systems for high-risk projects. Host-country governments' collaboration in such reviews and tools would be valuable as it lends them credibility and authority in the eyes of Chinese actors.
- With technical backstopping from researchers, governments could share such reviews and tools with Chinese embassies and encourage them to incorporate the reviews in their service provision and watchdog activities. Chinese embassies could support the application of these tools by SOEs and other companies by sponsoring trainings and outreach to these entities.

Recommendation 2

Summary:

Build relations and communication channels between Chinese embassies and host-country actors that are based on mutual understanding and enhance embassies' role in informing Chinese regulators and support their interest in minimizing environmental and social conflicts.

Justification:

There is potential shared interest between host countries' civil society organizations and Chinese embassies in minimizing environmental and social impacts from China's overseas investment. It is important for local non-government stakeholders to establish long-term relationships—not just one-off project engagements—with the Chinese embassies. Of critical importance is the role that environmental and social issues play in overall risk management.

Example Actions:

- Civil society organizations could consider engaging and sharing information with chambers of commerce organized by Chinese investors or local business people, internationals and local law firms, or consultancies advising Chinese investors and companies.
- Civil society organizations and academic institutions should approach Chinese embassies with an eye toward identifying common areas of interest and understanding the environmental and social concerns in terms of risk mitigation for Chinese investors.
- Intermediaries, such as think tanks, academia, and trusted international environmental organizations can leverage embassies' inherent interest in minimizing conflicts arising from Chinese investment projects but be cognizant of their limits in influencing investment project decisions.

Top Recommendations for Amazon Basin Civil Society

Civil society includes environmental and social non-profit organizations, advocacy groups, research and academic institutions, local media, indigenous groups, and community organizations. In Amazon basin countries, these groups have sought to inform and influence decisions about infrastructure siting, finance, and development to reduce the environmental and social costs and enhance projects' benefits. Examples of civil society activities include economic and ecological studies by research and academic institutions, protests and complaints lodged by indigenous organizations, and stories about corruption in local newspapers, online media, and television. Many of these activities focus on individual infrastructure projects rather than on sectoral and national development planning. For Chinese-funded infrastructure, civil society has paid much more attention to mega-infrastructure projects already being developed than to projects still in the pipeline.

Top recommendations for

Amazon Basin Civil Society

1. Involve and empower indigenous groups and civil society organizations throughout infrastructure project development processes as part of host governments' commitments to international treaties and legal guarantees for free, prior, and informed consent (FPIC).
2. Coordinate among existing and new civil society efforts to provide Chinese investors and developers with clear, basinwide principles for sustainable infrastructure development practices and outcomes in an environmentally sensitive region of global climate importance.

Recommendation 1

Summary:

Involve and empower indigenous groups and civil society organizations throughout infrastructure project development processes as part of host governments' commitments to international treaties and legal guarantees for free, prior, and informed consent (FPIC).

Justification:

Chinese companies are not well attuned to the importance of direct engagement with local non-governmental stakeholders, and have faced repeated costs, work stoppages, and delays as a result. Chinese deference to host-country policies should extend to the commitments by host countries to international treaties and law, such as ILO 169 and its standard of free, prior, and informed consent for indigenous peoples. Indigenous organizations and civil society organizations in the Amazon region have a long and strong trajectory of actively participating in government decisions relating to the use of indigenous territories and natural resources. Based on the interests and relationships between Chinese actors and host countries, joint infrastructure development in the Amazon basin should engage indigenous and civil society organizations directly, from initial planning through project implementation.

Example Actions:

- Regional, national, and local indigenous organizations and NGOs should employ bi-cultural staff and interlocutors to address Chinese entities effectively, including improving understanding of Chinese overseas financing strategies, policies, and guidelines, and addressing cultural differences to improve engagement.
- National NGOs and researchers should
    - Map relevant multilateral fora and mechanisms where projects and investment priorities are identified, such as the Community of Latin American and Caribbean States (CELAC) and bilateral dialogue mechanisms.
    - Identify the relevant priorities for Chinese investments, map out projects in the pipeline, and design advocacy strategies to influence policy formulation and project selection.
    - Monitor and share information regarding environmental and social performance and the accountability of governments, project developers, and financiers.
- Indigenous and civil society organizations leaders should hold host-country governments accountable to
    - Invite relevant indigenous and civil society representatives to become full and regular participants in multilateral and bilateral venues and mechanisms.
    - Ensure that the formulation of bilateral joint development plans and strategic alliances are open and participatory processes, and are periodically evaluated and reviewed.
    - Inform Chinese financiers, companies and regulators about relevant FPIC rights and laws and suggest practical steps that these entities should take to fulfill these rights in the Amazon.
    - Increase visibility and political support for FPIC by working through third parties, especially the United Nations, to enshrine consent.
- Host-country civil society organizations should work with Chinese researchers and NGOs to understand how to engage better with Chinese stakeholders on the ground.

Recommendation 2

Summary:

Coordinate among existing and new civil society efforts to provide Chinese investors and developers with clear, basin-wide principles for sustainable infrastructure development practices and outcomes in an environmentally sensitive region of global climate importance.

Justification:

The Amazon forest has been widely recognized for its global importance in stabilizing climate, maintaining water cycles, and sheltering biological and cultural diversity. However, no basin-wide principles have been adopted by host countries to ensure that development finance in the region is aligned with sustainable

development goals. Despite important efforts from international financial institutions (e.g. International Financial Corporation's Performance Standards), multilateral agencies (e.g. Convention of Biological Biodiversity), and multi-stakeholder initiatives (e.g. World Commission on Dams and Hydropower Sustainability Assessment Protocol) to set best-practice guidelines and to provide a definition of sustainable development, there is no single, unified set of sustainability principles aimed specifically at the Amazon region. Such principles could inform decisions by host countries and their Chinese partners, and facilitate coordinated civil society engagement around infrastructure and energy priorities and project siting.

Example Actions:

- Amazon basin and international civil society supporters can establish a multidisciplinary working group comprised of NGOs, local indigenous groups, academics, and scientists to review existing principles, standards and definitions for sustainable infrastructure, clean energy and green financing with an eye to identifying a common set of authoritative principles for adoption by governments.

- Building on work completed to date, academic, civil society and indigenous organizations can draft a well-founded set of basin-wide principles for sustainable development in the Amazon, potentially including ecological and geographic 'go' and 'no-go' zones specific to the basin.

- Civil society leaders can establish a multi-stakeholder group comprised of environmental "champions" in the private and public sector to coordinate among actors to align strategies and arrive at a consensus around the basin-wide principles.

- These same actors can seek formal and binding adoption by Amazon basin countries through multilateral fora, such as the Amazon Cooperation Treaty Organization, Community of Latin American and Caribbean States (CELAC), and the Convention of Biological Diversity.

- Participants in this effort can communicate this process and gather feedback from Chinese researchers and NGOs, as well as China's policy banks and regulators.

- Amazon basin civil society can reach out to Chinese NGOs and other stakeholders to address sustainable landscape planning.

Top Recommendations for Third Party Actors

In many cases, third-party actors—defined for our purposes as institutions beyond the purview of China and Amazon basin country governments or its civil society—have significant influence in decisions about infrastructure development in the Amazon. In this category we include both institutions that are directly involved in infrastructure development decisions in the Amazon basin or have a stake in its implementation and outcomes, including international finance institutions (and especially multilateral and bilateral development banks), multinational corporations, international press, and global non-governmental institutions. Sometimes third parties have local presence in Amazon basin countries and in China; often, influence in decisions comes from global publications, studies, technical assistance, environmental and social risk assessment, or economic demand. Early evidence of Chinese overseas infrastructure development in the Amazon indicates that these third parties rarely interact directly with Chinese policy banks or diplomatic bureaucracy in the Amazon, although exchange and engagement has more often occurred with Chinese state-owned enterprises (e.g., China Three Gorges).

Top recommendations for

Third Party Actors

1. Pursue sustained exchange and engagement with Chinese actors to increase shared knowledge and update of infrastructure best practices.
2. Increase domestic and international press and media attention to Chinese engagement in infrastructure development in the Amazon region.

Recommendation 1

Summary:

Pursue sustained exchange and engagement with Chinese actors to increase shared knowledge and update of infrastructure best practices.

Justification:

Our research indicates that Chinese companies and sovereign banks rarely engage in thorough social and environmental risk assessment before entering into infrastructure agreements in the region. Some focus only on financial and technical feasibility when selecting and designing infrastructure projects. Others have relied on inaccurate or outdated host-country risk assessments when better information is available. As a result, Chinese companies are generally unable to predict the likely effects of their activities, whether on local communities and the environment, or on their own reputations and operations. Outcomes could be improved by joint development of environmental and social "reference points"—an intentionally broad term we use to leave open the question of whether these would be legal norms, guidelines, bank standards, or other forms. Useful exchange could take place between the following: Chinese and third-party researchers and think tanks, Chinese policy banks and multilateral development banks, Chinese regulators and

international non-governmental organizations, or any combination of these organizations. Strengthening the current dialogue between the multilateral development banks and Chinese sovereign entities on social and environmental risk measurement and management would be especially valuable and support China's own effort to green the Belt and Road Initiative.

Example Actions:

- Multilateral development banks should work with sovereign entities in China, including state-owned enterprises, policy banks, and ministries, to create opportunities for informational exchange on social and environmental risk assessment in Latin America. Participants should aim jointly to develop a body of knowledge on the value of environmental and social safeguards through standardized indicators.

- Multilateral banks should continue to partner with Chinese banks and funds that develop projects jointly in Latin American countries or regions, and increase opportunities for discussion about mechanisms for achieving best environmental outcomes.

- MDBs and Chinese institutions can play a role in setting higher standards for global infrastructure planning and investment, and in providing region-specific recommendations and technical assistance for country governments to participate. Tools could include mapping of no-go zones, upstream policy using natural capital accounting, and sustainable design principles for different kinds of infrastructure.

- Latin American academics and research institutions should partner with Chinese think tanks and/or industry organizations to (a) discuss environmental and social risk in the Amazon region, (b) jointly promote "ecological civilization" in Latin America, and (c) arrange study tours for Chinese actors to the Amazon region.

- International and regional NGOs should work with Chinese actors to broaden the intersection of international and Chinese environmental agendas. Joint development of conferences or publications on greening the Belt and Road, or collaborative activities in the lead-up to the 2020 Conference of Parties for the Convention on Biological Diversity, would promote shared priorities and awareness of internationally recognized best practices.

Recommendation 2

Summary:

Increase domestic and international press and media attention to Chinese engagement in infrastructure development in the Amazon region.

Justification:

Latin American and international media have been effective in highlighting the negative environmental and social effects of Chinese and other infrastructure development in the Amazon in recent years. Media accounts of project missteps have contributed to decisions to change problematic operations, slowed controversial projects linked to government corruption, and prompted new approaches to project management. There is considerable need for more media coverage of Chinese infrastructure development in the Amazon and elsewhere in Latin America. Thorough media coverage will promote transparency and thoughtful project management across the infrastructure life cycle, in addition to monitoring infrastructure development and examining new deal making, Latin American and international media should aim to highlight positive examples of Chinese infrastructure development and corporate social responsibility.

Chinese media should also be encouraged to feature best practices in Chinese infrastructure engagement, and to convey the value of in-depth risk assessment.

Example Actions:

- Latin American and international media should continue to highlight especially problematic investments, and to increase transparency in secret negotiations. The provision of information on major construction projects will help to facilitate multi-stakeholder engagement in project planning and development.
- Latin American and international media should highlight examples of successful Chinese use of international standards for infrastructure development and corporate social responsibility.
- Latin American actors and media organizations should work with Chinese magazines such as Caixin and Caijing and other Chinese outlets to feature content on Chinese infrastructure development in Latin America and on the value of thorough environmental and social risk assessment.

CONCLUSIONS

Drawing on a number of case studies and a growing literature on the subject, this paper reviews the changing dimensions of Chinese infrastructure finance and development in Latin America and its potential influence on the Amazon basin—an environmentally sensitive region of global importance for its stores of climate-stabilizing carbon, its diversity of indigenous cultures, and its extraordinary reservoirs of biodiversity. We assessed the potential for Chinese actors engaging Amazon basin host countries to maximize economic benefits while minimizing environmental and social impacts of infrastructure, paying special attention to Chinese policy banks, state-owned enterprises, and diplomatic corps. We also investigated the opportunities for host-country institutions and third parties to use effective levers to intervene in the infrastructure development process in ways that improve outcomes, considering the different context and culture of Chinese engagement.

Although we found no easy path to better outcomes, there is encouraging indication that Chinese regulators and institutions are looking to green their overseas activities. And there are levers that can improve environmental and social results, including strong regulations and enforcement, civil society coordination and mobilization, better information about potential environmental impacts, transparency applied by domestic and international press, and well-understood and tracked overseas guidelines. We posit that alternative project options for green infrastructure could likewise be influential.

Our recommendations to actors engaged in infrastructure development in the Amazon focus on a few themes: (1) Information—better knowledge about environmental guidelines, laws, and potential impacts would inform project selection and implementation, reducing negative impacts. (2) Capacity—increased capacity for Chinese actors to navigate host country norms and laws, and for host-country actors to monitor infrastructure projects and understand the Chinese ecosystem of institutional actors, would prevent some of the worst environmental consequences. (3) Respectful relationships—building bridges for Chinese institutions to engage effectively with host-country institutions and civil society is a prerequisite for ensuring better outcomes. (4) System-wide shifts—in host countries, to demand and implement the highest standards that will protect the integrity of Amazon forests and the well-being of its peoples; and in China, to apply its innovative green practices to development overseas, especially in fragile environments like the Amazon.

Inadequate consultation and information deprive Chinese investors of the ability to foresee and avoid social and environmental conflict that create reputational damage for firms, banks, and regulators back in China. Better practices, especially in the Amazon, would open doors to new relationships, while reducing unexpected costs and political risk, and preserving the planet's richest and largest remaining forests.

The highest aspiration that we articulate in these pages is for China to emerge as a world leader in greening infrastructure development—in the Amazon and elsewhere—just as it has emerged as a driving force in combatting climate change. While China must tread carefully respecting sovereignty, there is ample room to lead. China can encourage and build capacity for projects to be linked to thoughtful planning processes that respect indigenous and community rights, and that avoid the most biologically sensitive areas. Such practices would result in significant gains for the Amazon and would demonstrate China's leadership in its commitment to a green Belt and Road Initiative, in line with host countries' aspirations and obligations.

WORKS CITED

Aizawa, Motoko and Chaofei Yang. 2010. "Green Credit, Green Stimulus, or Green Revolution?" *The Journal of Environment and Development* 19: 2 (June), 119-144. https://doi.org/10.1177/1070496510371192.

Alamgir, Mohammed, Mason J. Campbell, Sean Sloan, Miriam Goosem, Gopalasamy Reuben Clements, Mahmoud I. Mahmoud, and William F. Laurance. 2017. "Economic, Socio-Political and Environmental Risks of Road Development in the Tropics." *Current Biology*, 10.1016/j.cub.2017.08.067, 27, 20, (R1130-R1140).

Asamblea Constituyente de Bolivia. 2009. "Nueva Constitución Política del Estado." http://www.mindef.gob.bo/mindef/sites/default/files/nueva_cpe_abi.pdf.

Asamblea Nacional Constituyente. 1991. "Constitución Política de Colombia." Accessed 24 August 2018 from http://www.corteconstitucional.gov.co/inicio/Constitucion%20politica%20de%20Colombia.pdf.

Asamblea Nacional Constituyente de Ecuador. 2008. "Constitución del Ecuador." https://www.asambleanacional.gob.ec/documentos/constitucion_de_bolsillo.pdf.

Asamblea Nacional del Ecuador. 2010. "Ley Orgánica de Participación Ciudadana." Registro Oficial Suplemento 175, 20 Apr. 2010. Organization of American States. Accessed 20 November 2017. http://www.oas.org/juridico/PDFs/mesicic4_ecu_org6.pdf.

Baluarte, David. 2004. "Balancing Indigenous Rights and a State's Right to Develop in Latin America: The Inter-American Rights Regime and ILO Convention 169." *Sustainable Development Law and Policy* 4:2 (Summer), 66-74. http://digitalcommons.wcl.american.edu/cgi/viewcontent.cgi?article=1373&context=sdlp.

Chinese Academy of International Trade and Economic Cooperation (CAITEC), MOFCOM, Research Center of SOEs Supervision and Administration Commission of the State Council, UNDP-China, Report on the Sustainable Development of Chinese Enterprises Overseas. 2015.

Congreso Constituyente Democrático. 1993. "Constitución Política del Perú." Accessed 5 July 2018 from http://www.pcm.gob.pe/wp-content/uploads/2013/09/Constitucion-Pol%C3%ADtica-del-Peru-1993.pdf.

Congreso de la República. 2011. "Ley del Derecho a la Consulta Previa a los Pueblos Indígenas u Originarios, Reconocido en el Convenio 169 de la Organización Internacional del Trabajo (OIT)." *El Peruano*. Accessed 20 November 2017 from http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/88881/101786/F114786124/PER88881.pdf.

Congresso Nacional do Brasil. 1988. Constituição da República Federativa do Brasil de 1988. http://www.planalto.gov.br/ccivil_03/constituicao/constituicao.htm.

Garzón, Paulina. 2018a. *Handbook on Chinese Environmental and Social Guidelines for Loans and Investments Abroad: A Guide for Local Communities*: https://bankinformationcenter.cdn.prismic.io/bankinformationcenter%2F1844abb4-71ac-4f4d-a714-6a8ace64e757_english+handbook+on+chinese+e%26s+guidelines+clasii++%281%29.pdf.

Garzón, Paulina. 2018b. *"Una nueva ola de directrices chinas para las inversiones chinas en el exterior."* IISCAL. Policy Paper. https://www.business-humanrights.org/es/una-nueva-ola-de-directrices-oficiales-para-las-inversiones-chinas-en-el-exterior.

International Labour Organisation. 1989. "C169—Indigenous and Tribal Peoples Convention, 1989." https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C169.

Larsen, P. Bille. 2016. "The 'New Jungle Law': Development, Indigenous Rights and ILO Convention 169 in Latin America." https://journals.openedition.org/poldev/2220.

Mintzberg, Henry, Duru Raisinghani, Andre Theoret. 1976. "The Structure of 'Unstructured' Decision Processes." *Administrative Science Quarterly* 21: 246-275.

Monzoni, Mario, Hector Gomez Ang, Daniela Gomes Pinto. 2018. Grandes obras na Amazônia: aprendizados e diretrizes. EAESP, RPCA, Centro de Estudos em Sustentabilidade, FGVces. http://grandesobrasnaamazonia_documentocompleto_07.pdf.

Morales Ayma, Evo. 2017. "Ley No. 3760." http://extwprlegs1.fao.org/docs/pdf/bol145617.pdf.

Moran, Emilio F. 2016. "Roads and Dams: Infrastructure-driven Transformations in the Brazilian Amazon." *Ambiente e Sociedade*. 19(2): 207-220. ISSN 1414-753X. http://dx.doi.org/10.1590/1809-4422ASOC256V1922016.

Nobre, Antonio Donato. 2014. *The Future Climate of Amazonia*. Scientific Assessment Report. ARA.d2ouvy59p0dg6k.cloudfront.net/.../the_future_climate_of_amazonia_report.pdf.

Ostrom, Elinor. 2009. Understanding Institutional Diversity (PDF). Princeton: Princeton University Press. ISBN 9781400831739. Retrieved 30 January 2015.

Ostrom, Elinor, Roy Gardner, and James Walker. 1994. *Rules, Games, and Common-Pool Resources*. Ann Arbor: University of Michigan Press.

Presidência da República. 2004. "Decreto 5.051." http://www.planalto.gov.br/ccivil_03/_Ato2004-2006/2004/Decreto/D5051.htm.

Ray, Rebecca and Adam Chimienti. 2017. "A Line in the Equatorial Forests: Chinese Investment and the Environmental and Social Impacts of Extractive Industries in Ecuador." in *China and Sustainable Development in Latin America: the Social and Environmental Dimension*, Rebecca Ray, Kevin Gallagher, Andrés López, and Cynthia Sanborn, Eds. London: Anthem Press.

Ray, Rebecca, Kevin Gallagher, and Cynthia Sanborn. 2018. "Standardizing Sustainable Development? Development Banks in the Andean Amazon." Boston University Global Development Policy Center Working Paper. https://www.bu.edu/gdp/files/2018/04/Development-Banks-in-the-Andean-Amazon.pdf.

Sanborn, Cynthia A., Verónica Hurtado, and Tania Ramírez. 2016. *La Consulta Previa en Perú: Avances y Retrocesos*. Lima: Universidad del Pacífico Press.

Shijun, Zhao. 2016. "CDB Strives to be a Responsible Corporate Citizen Abroad." *The Telegraph*. http://www.telegraph.co.uk/sponsored/china-watch/business/12212286/china-development-bank-green-credit-projects.html.

Tucker, Catherine M., Elinor Ostrom. 2005. "Multidisciplinary Research Relating Institutions and Forest Transformations." In *Seeing the Forest and the Trees: Human-environment Interactions in Forest Ecosystems*, Emilio F. Moran and Elinor Ostrom, Eds. Cambridge: MIT Press.

United Nations General Assembly. 2007. "United Nations Declaration on the Rights of Indigenous Peoples." http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf.