

China in Latin America:

Lessons for South-South Cooperation and Sustainable Development

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Section 1: EXECUTIVE SUMMARY

Latin America's recent commodity boom accentuated environmental degradation and social conflict across the Americas. The Latin American commodity boom was largely driven by new trade and investment with China, and concentrated in the petroleum, mineral extraction, and agricultural sectors — sectors endemic to environmental degradation and often the source of social conflict over rights and working conditions. Though with some notable exceptions, Latin American governments fell short of mitigating the social and environmental costs of trade and investment of the China-led commodity boom. While China should not be blamed for the bulk of Latin America's environmental and social problems, as China 'goes global' it is important to mitigate the social and environmental impacts of its global activities in order to maintain good relations with host countries and to reduce the potential risks associated with overseas investment. Although some Chinese firms have demonstrated an ability to adhere to best practices in the social and environmental arena, by and large and Chinese firms operating in Latin America thus far lack the experience or policies in place to lessen the impacts of their investments in the region. As the Latin American economies slow down there is increasing pressure on governments to 'streamline' approvals for the relatively few opportunities for Chinese trade and investment, and to dampen the voice of civil society organizations working to hold governments and foreign firms accountable for their actions. It is in the interests of the Latin American and Chinese governments, as well as Chinese firms, to put in place the proper social and environmental policies in order to maximize the benefits and mitigate the risks of China's economic activity in Latin America.

These are the findings of the Working Group on Development and Environment in the Americas, a multi-university effort coordinated by the Center for Transformation Research (CENIT) in Argentina, the Research Center of the University of the Pacific (CIUP) in Peru, Boston University's Global Economic Governance Initiative (GEGI), and Tufts University's Global Development and Environment Institute (GDAE). Comprised of eight country studies conducted by university-based researchers from across the hemisphere, the study asked two research questions. First, to what extent has China independently driven environmental and social change in Latin America? Secondly, to what extent do Chinese firms perform differently from their domestic and foreign counterparts when they invest in Latin America?

From the country case studies and our own aggregate analysis we find that Chinese trade and investment in Latin America since the turn of the 21st century was a major driver of environmental degradation in the region, and was also a source of significant social conflict:

- Latin American exports to China, as well as Chinese investment in the region, have been much more concentrated in **primary commodities** — especially extractive commodities — than Latin American economic relations with the rest of the world.
- Primary-sector exports and investment — especially in extractive commodities — support **far fewer jobs** than manufactured or agricultural exports. As a result, Latin America's exports to China support about 20% fewer jobs per US\$1 million than the region's overall exports. As China continues to grow as a share of Latin American exports, this will necessarily drive down the employment benefits of exports overall.
- Latin American exports to China are responsible for using about twice as much **water** and emit upwards of 12 percent more net **greenhouse gas emissions** per dollar, compared to overall exports. Furthermore, the Chinese-financed infrastructure investments (like dams and railways to get the products to port) pose extremely serious threats for **deforestation** in some of South America's most biodiverse areas.

That said, we find some cases of best practices in responding to these risks by Chinese investors, Latin American governments, and civil society that can be built upon:

- **Latin American governments** have set and enforced social and environmental standards, and elicited compliance from Chinese firms and firms exporting to China. For example, **Ecuador's** labor law requires foreign oil companies to hire local workers and eliminates disparity between direct and subcontracted workers. Together, these laws address the most common sources of labor conflict for Chinese investors in our case studies. Peru has become a regional leader in transparency, joining the Extractive Industries Transparency Initiative (requiring detailed, online reporting of revenue flows between governments and extractive companies) and working with Chinese investors so that they, too, join this effort.
- **China** has developed important new guidelines for outbound investors, including environmental and social safeguards. However, these guidelines are still lacking relative to their counterparts in the world economy, especially in terms of transparency and enforcement.
- We find some cases where Chinese companies have exceeded local standards and outperformed their peers, in case studies including **Andes Petroleum** in Ecuador, **Chinalco** in Peru, and **Golden Dragon Affiliates** in Mexico.
- Latin American **civil society** has proven itself capable of holding governments and companies accountable. Non-governmental organizations (NGOs) have organized, demanded safeguards and oversight mechanisms, and mounted global campaigns against the most symbolic cases to create awareness and hold actors accountable.
- NGOs, academia, and other civil society actors have begun collaborating with governments and Chinese firms to learn from experience and prevent (or mitigate) conflicts.

Major challenges still exist, and are likely to become more acute as the initial surge of Chinese investment ebbs, commodity prices fall, and Latin American governments have less bargaining power over conditions for future investments. Specifically, we find:

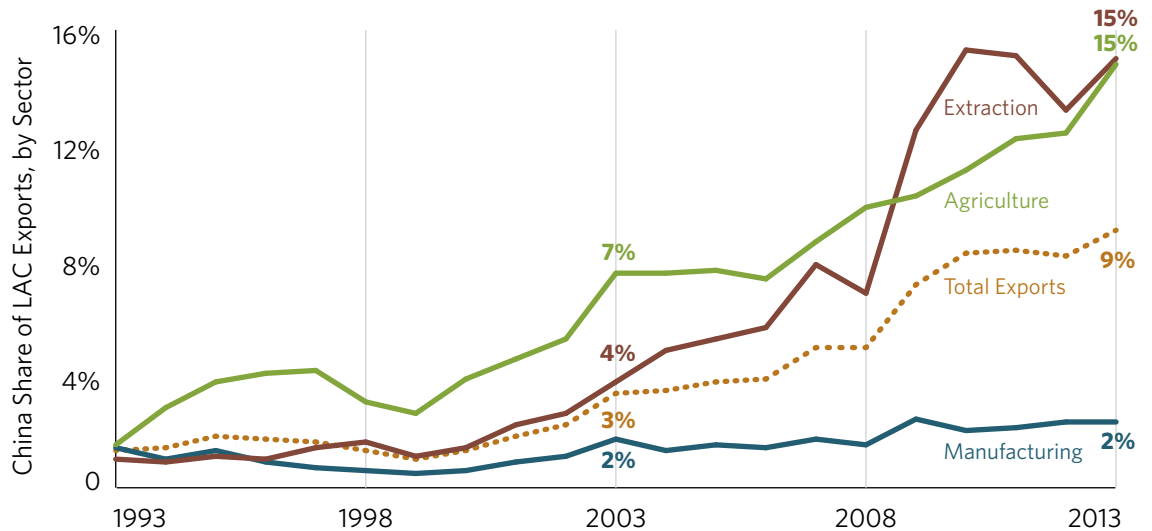
- **Latin American governments** face pressure to relax existing environmental and social protections, as mining and hydrocarbons ministries have become more powerful during this boom. In order to preserve the progress they have made, they will need to resist demands for deregulation.
- **China's** social and environmental safeguards for outbound investment are groundbreaking for a middle-income country, but they lack important enforcement power and transparency. They could be greatly enhanced through including formal reporting and grievance mechanisms, which would allow Latin American **governments** and **civil society** to assist in the difficult task of managing investment abroad.
- **Chinese investors** show an ability to exceed local standards, but their performance varies widely across different regulatory regimes and between more experienced and newer firms. There is an important role for Latin American **governments** and **civil society** to raise the performance level across the board, through holding firms accountable and facilitating learning between firms.
- Latin American **civil society** groups are responsible for many of the recent policy advances in the region. Like Latin American governments, they will need to hold the line against pressure to erode these protections. Furthermore, there is tremendous room for them to work constructively with the Chinese government to enhance oversight of investors. But to do so they will first need to establish constructive working relationships with Chinese and Latin American governments. For that, they need to develop stronger local and transnational networks, gain greater influence in national policy debates, and work constructively with governments where there are opportunities to do so.

China has pledged to invest upwards of \$250 billion in Latin America over a decade. Governments, companies, and civil society will need to work hard to ensure that such investment brings profits while also raising living standards and protecting the environment.

Section 2: CHINA AS A DRIVER OF SOCIAL AND ENVIRONMENTAL CHANGE IN LATIN AMERICA

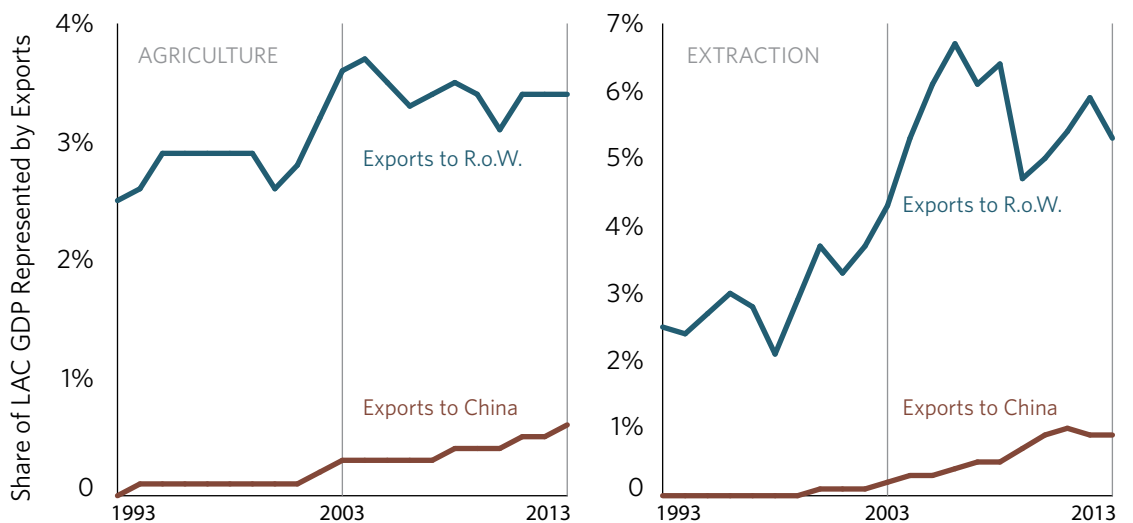
China has recently grown into a major export destination for the LAC region, second only to the United States. In 1993, China consumed less than 2% of LAC exports, but by 2013 it accounted for 9%. However, that importance was quite uneven across different export sectors. As Figure 1 shows, over the last decade China has tripled its market share of total LAC exports, more than tripled its share of extractive exports, and doubled its share of agricultural exports. But its demand for manufactured LAC exports has barely moved, staying at about 2% of LAC's manufactured exports.

FIGURE 1: China's Share of LAC Exports, by Sector



Source: Authors' calculations based on UN Comtrade data.

FIGURE 2: Agricultural and Extractive Exports as a share of LAC GDP, by Market

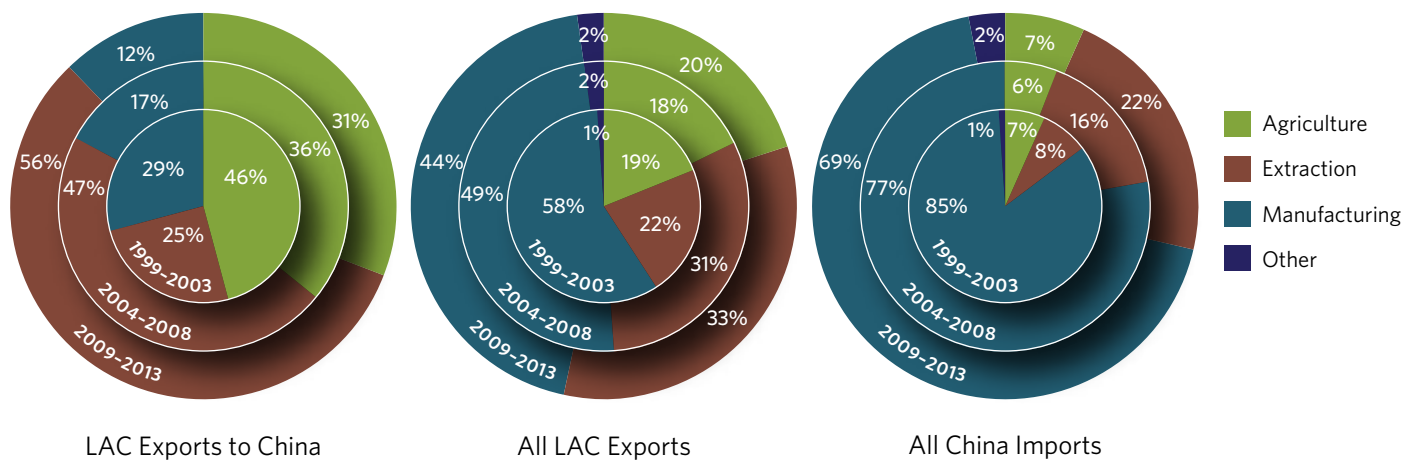


Source: Authors' calculations based in UN Comtrade and IMF data.

In fact, China has been an important driver in the expansion of LAC export of agriculture and extraction. As Figure 2 shows, while agricultural and extractive exports to China from LAC have been rising as a share of GDP, those exports to the rest of the world have been stagnant or even falling overall for the last decade. Not only did Latin America’s extractive and agricultural sectors boom due to China’s demand, but Chinese demand also played a role in increasing the general price level of major commodities during the period, significantly increasing the terms of trade across the Americas.

As a result, LAC exports to China have become increasingly concentrated in extraction and agriculture. As Figure 3 shows, from 1999 to 2003, LAC exports to China were fairly balanced between the three major sectors, but a decade later they were dramatically different, with extraction accounting for over half of all LAC-China exports. They were vastly different from overall LAC exports, which are fairly balanced despite the growth of extractive goods. Nor do they reflect the overall composition of Chinese imports, which manufactured goods dominate. But this increasing concentration in extractive goods does reflect China’s increasing thirst for minerals, which rose from 8% to 22% of its imports over the same time period.

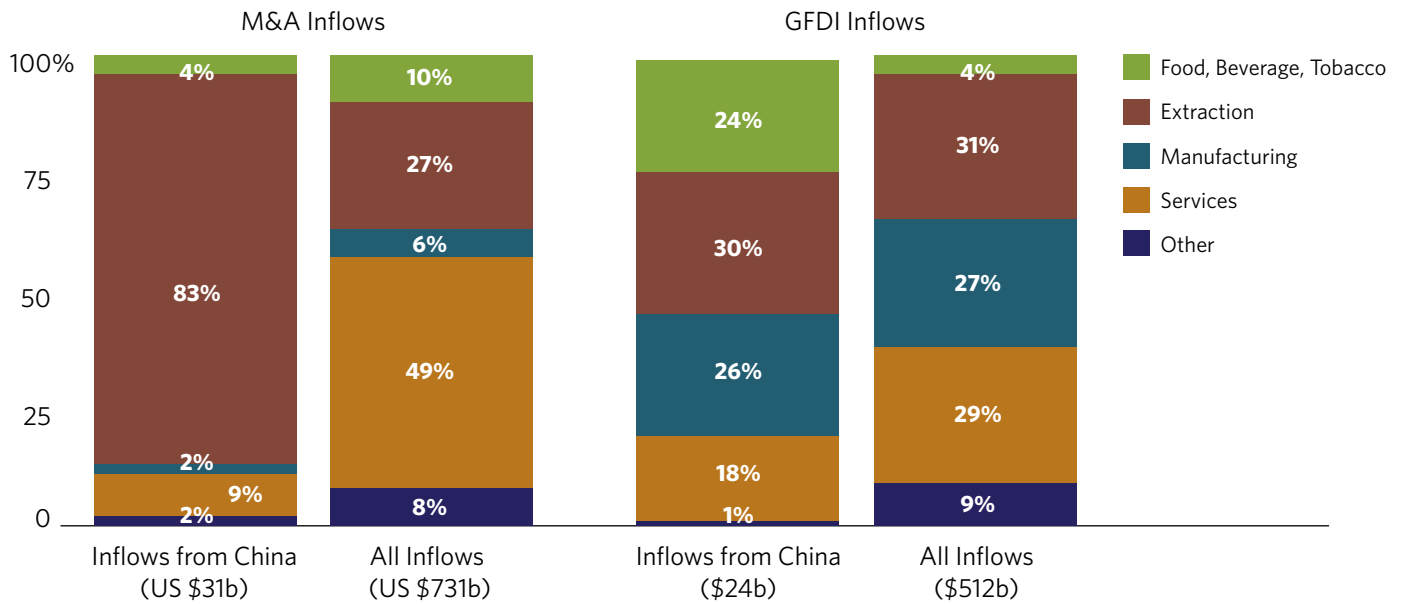
FIGURE 3: LAC Export Basket Composition, by Market



Source: Authors’ calculations based on UN Comtrade data.

Chinese investment in LAC has been similarly concentrated in primary sectors. Figures 4 shows the sector distribution of FDI inflows from mergers and acquisitions (M&As) and greenfield projects, respectively. Most Chinese direct investment into LAC has been through M&As, and over four-fifths of this investment has been in extraction, with 70% in oil and gas. In contrast, only 15% of overall M&A inflows to the region have been in that sector. Among greenfield FDI (GFDI) projects, China’s difference is most visible in agriculture. Food and tobacco comprise a quarter of Chinese GFDI into LAC, but only 4% of overall GFDI inflows.

FIGURE 4: Sector Distribution of FDI inflows to LAC, 2008-2012

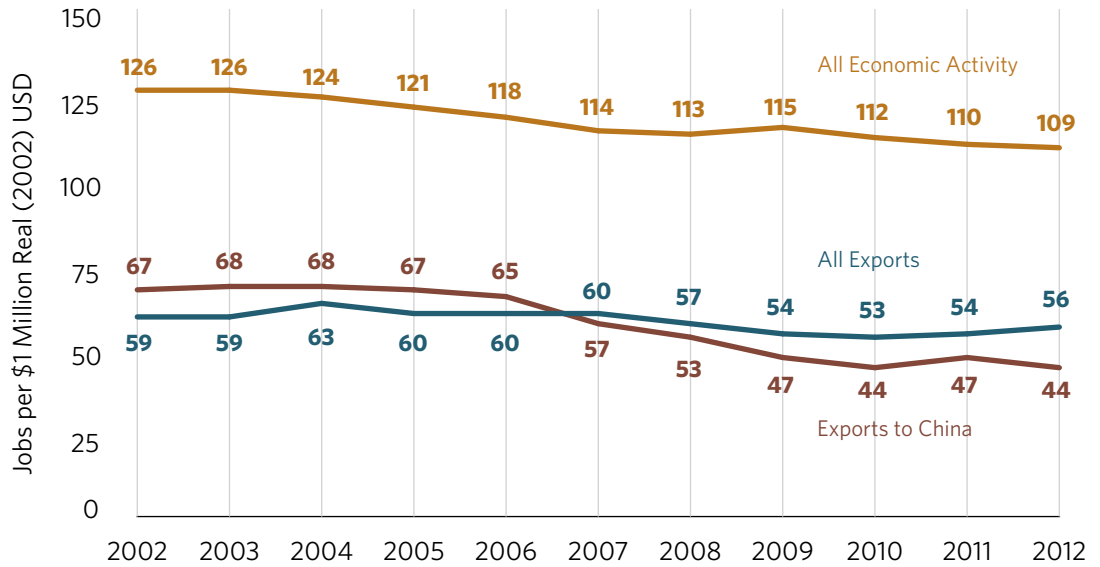


Source: Authors' calculations using DeaLogic (M&As), fDIMarkets (GFDI) data. Note: food, beverages, and tobacco includes food product production. Extraction includes oil, natural gas, mining, and basic metal processing. Percentages may not add to 100 due to rounding.

2.1 Employment Creation

Exports to China support fewer jobs than Latin America's exports to the rest of the world. Because the LAC-China export basket is so different from overall LAC exports, the employment impact of LAC-China exports are also different. Specifically, because of the heavy concentration in extractive industries, LAC exports to China support fewer jobs per \$1 million USD. Figure 5 shows the labor intensity of LAC overall economic activity, exports, and specifically LAC exports to China. Over the last decade, total economic activity has supported far more jobs than exports. This is largely due to the extremely labor-intensive nature of peasant agriculture, which is pervasive in the region but absent from production for export. Total exports support fewer jobs, but the labor intensity has remained fairly stable: falling from 59 to 56 jobs per US\$1 million. Exports to China, however, have fallen by over a third in the number of jobs they support for every US\$1 million: from nearly 70 in 2002 to fewer than 45 in 2012.¹

FIGURE 5: Jobs Supported by Overall LAC Economic Activity and Exports

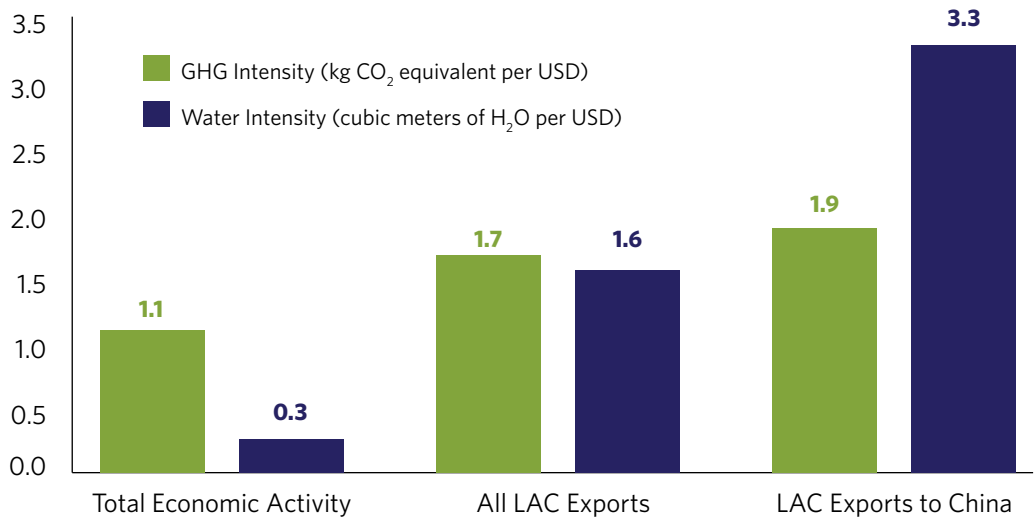


Source: Ray (2015a, forthcoming).

2.2 Environmental Impacts

LAC exports to China are also more environmentally sensitive than LAC exports to the rest of the world. Exports to China are more carbon intensive, more water intensive, and often located in highly biodiverse areas inhabited by indigenous peoples. The disproportionate, and growing, concentration in extractive and agricultural products of LAC exports to China give them a distinctly different environmental footprint than other exports. This section looks more closely at two environmental impacts, one global (net greenhouse gas emission) and one local (water use).

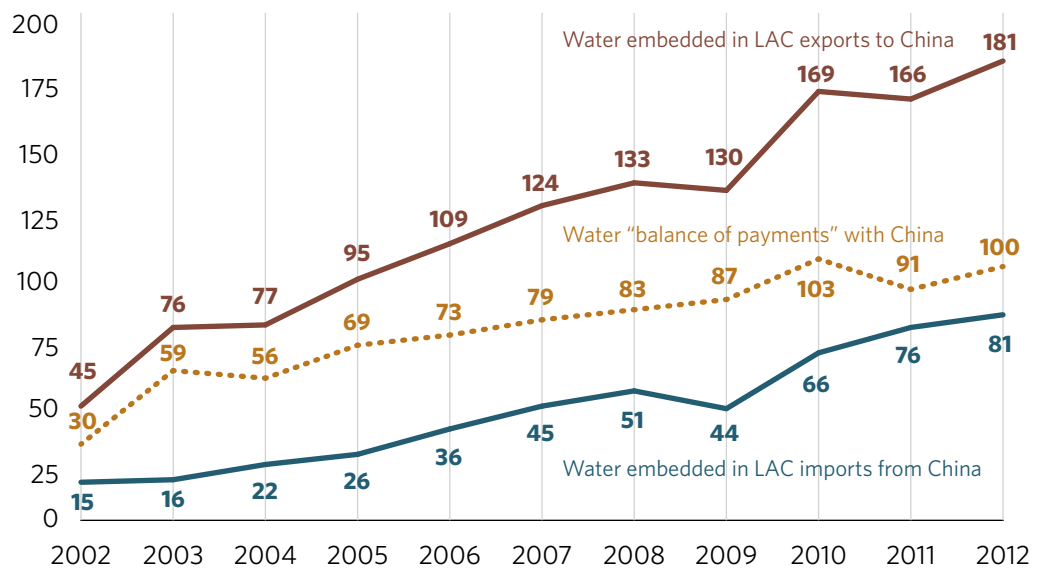
FIGURE 6: Environmental Impact of Overall LAC Economic Activity and Exports



Sources: Ray (2015b, forthcoming).

As Figure 6 shows, LAC-China exports cause more net greenhouse gas (GHG) emissions and use more water per dollar of output than other exports, and much more than overall economic activity. The data in Figure 6 are from 2004, the last year of directly-measured data on each indicator. However, as Figures 2 shows, LAC exports to China have continued to become more and more concentrated in a few sectors since that time. Figure 7 applies the 2004 intensities to the changing trade basket composition to create a water “balance of payments” between China and LAC. It shows a positive balance of 100.4 billion cubic meters of water in 2012, meaning that LAC sent China much more water in its exports than what was embedded in imports. For reference, the volume of Lake Nicaragua is approximately 108 billion cubic meters. In other words, if LAC had not traded with China in 2012 (by producing domestically everything it imported from China, and consuming locally everything it exported to China), it would have saved roughly 90% of the volume of Lake Nicaragua. This has major ramifications not only environmentally but also socially, as the case studies in this project show that competition for water is a frequent source of social conflict between communities practicing peasant agriculture or small-scale ranching and large-scale plantations and mines.

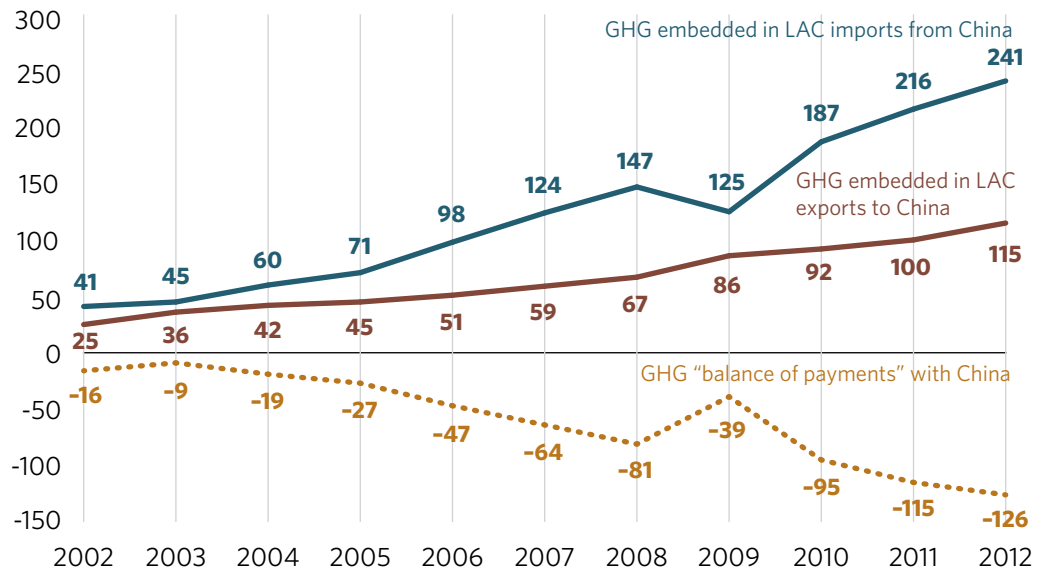
FIGURE 7: LAC “Balance of Payments” in Water with China



Source: Ray (2015b, forthcoming).

Figure 8 shows a similar environmental “balance of payments,” but for GHG emissions. LAC exports to China are responsible for far fewer GHG emissions than Chinese exports to LAC. Of course, the impacts of GHG emissions are global rather than local. It makes little difference to climate change whether those emissions originate from LAC or from China. However, the scale is still very interesting. As much as LAC exports to China (and their embedded GHG emission) have risen in the last decade, the GHG emissions embedded in LAC imports from China have risen at an even faster pace.

FIGURE 8: LAC “Balance of Payments” in Greenhouse Gas Emissions with China



Source: Ray (2015b, forthcoming).

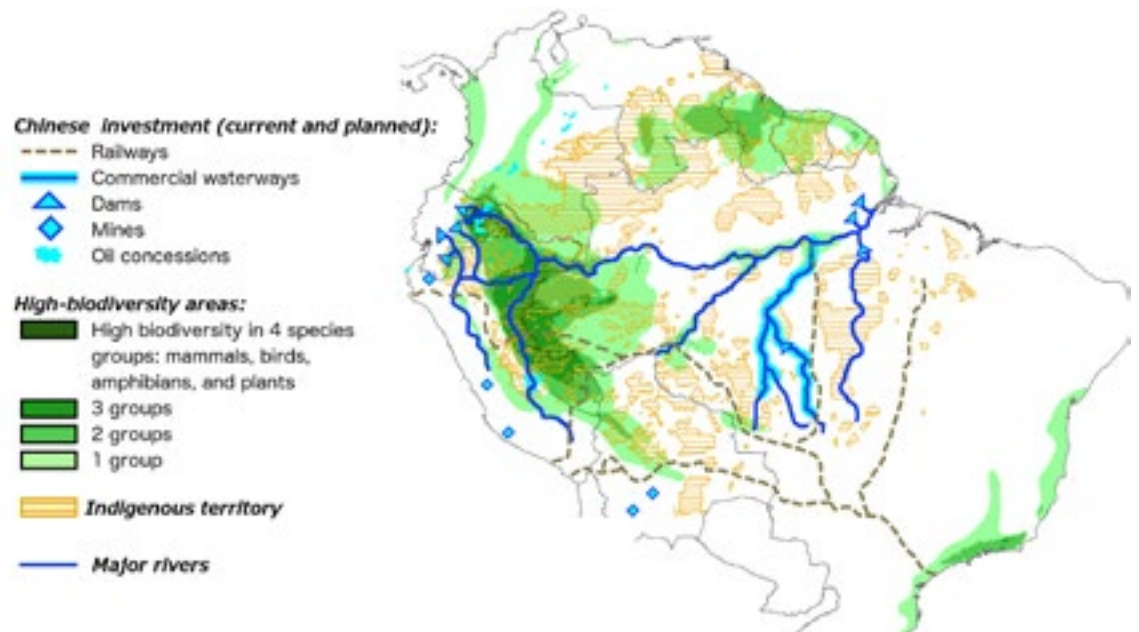
Chile, China, and Solar Panels Sometimes, the environmental impact of the LAC-China relationship can be felt more acutely on the import rather than export side. This is the case in Chile, where imports of Chinese photovoltaic (PV) panels have had a major impact on greening the Chilean energy matrix. In the mid-2000s, Chile lost its main source of low-emissions energy when Argentina restricted its exports of natural gas and eventually closed its pipeline to Chile altogether. But China was experiencing a major oversupply of PV panels at the same time. The concurrence of these two events gave Chile an opening to rapidly expand its use of solar power. In 2013, Chile imported US\$40.9 million in Chinese PV panels, more than half of its total PV imports. While solar power is still a small share of total energy generation in the country, it is poised to expand rapidly: over half of the 10,000 megawatts of new power projects with approved environmental are solar (Borregaard et al. 2015).

In terms of deforestation, Figures 6 and 8 actually understate the GHG emissions from LAC’s relationship with China, because while they account for deforestation directly linked to exports, they do not account for the most important cause of deforestation: roads, canals and railroads to get those products to ports. Research by Philip Fearnside (the author of the Brazil case study in this project) and others (2013) show that access roads are the most important cause of Amazonian deforestation, as they open the forest to human settlements and interrupt animal migration patterns. Thus, in order to adequately account for the GHG impact of the “China boom” in Latin America, it is important to include not just exports to China but also Chinese-financed roads, canals, and railroads designed to get those products to ports, as well as dams to provide power to mines and oil fields.

Figure 9 shows South America’s most biodiverse areas and indigenous territories, with Chinese-financed infrastructure and Chinese FDI projects added. The biodiversity of these areas is reflected in the various shades of green: the darkest green patches (present only in eastern Ecuador and the northern extreme of Peru) represent areas with the highest biodiversity in four different groups of species: mammals, birds, amphibians, and plants. The second-darkest shade of green, present near the border of Peru and Brazil, indicates areas with the highest biodiversity in three of the four species groups, and so forth. Indigenous territories are reflected in the various tan patterns.

As Figure 9 shows, two major Chinese investments may pose serious risks to highly biodiverse areas and indigenous territories: the western half of the transcontinental railway and oil fields in eastern Ecuador. The transcontinental railway is still in its planning stage, so it does not yet have a finalized path. Two possibilities exist for the route of its western end: one through Piura in northern Peru and another through Puno in southern Peru. The northern route crosses into Brazil through an area with extremely high biodiversity in three out of the four species groups shown here (mammals, birds, amphibians, and plants), shown in dark green in Figure 9. The southern route largely avoids this environmentally sensitive region. The final choice of route for this railway will be crucial in determining its environmental impact.

FIGURE 9: High Biodiversity Areas, Indigenous Territory, and Chinese Investment



Source: Compiled from Bass et al. (2010), Cruz Fiestas (2014), Fearnside and Figueiredo (2015), International Rivers et al., Ministério dos Transportes (2009), Ministerio de Transportes y Comunicaciones, and Red Amazónica de Información Socioambiental Georreferencial.

Note: Mines and some oil concessions are already in operation. Railway locations are approximate, as most plans are not yet final. High biodiversity is defined as the top 6.4% of South American land area for species richness. Indigenous territory includes lands with and without official state recognition.

The other major Chinese investment in a highly biodiverse area is oil development in eastern Ecuador, much of which also occupies traditional indigenous territory. The southernmost two Chinese oil concessions in Ecuador are new and their contracts have not yet been finalized. If these concessions do in fact go through, the terms of their contracts will be extremely important for both their social and environmental impacts.

2.3 Rising to the Challenge: Social and Environmental Safeguard Innovations

In the face of this tremendous growth in sectors intrinsically linked to high environmental impacts and risks for social conflicts, we find that several Latin American countries have developed important policy responses to minimize these risks. Three of the most innovative of these responses are Brazil's new environmental oversight measures, Ecuador's new labor standards, and Peru's transparency measures and indigenous protections.

Brazil dramatically enhanced the enforcement power of its environmental regulations in 2008, without changing current environmental laws themselves. Instead, Brazil's Central Bank changed its rules to no longer allow public bank loans to operations with unpaid fines for environmental irregularities reported by government agencies. Public-agency fines for environmental violations can be postponed through appeals, but this more proactive approach has immediate effect.

Ecuador enacted a series of labor protections in 2008 and 2010 that form one of the most progressive packages of labor protection in the region for the Ecuadorean petroleum sector. In 2008, Ecuador strictly curtailed the use of subcontracted labor, limiting it to "complimentary" work such as security and custodial services. The 2010 Hydrocarbon Law further boosted labor protections in the oil and gas sector, by requiring foreign investors to hire Ecuadorean workers for 95% of unskilled and 90% of skilled jobs. Moreover, it required profit sharing with all employees, including contract workers. Taken together, these laws eliminated two of the most important sources of labor conflicts facing Chinese (and other international) investment projects across the LAC region: the use of foreign laborers and differences in the labor conditions between directly-hired and subcontracted employees working at the same project.

Peru has made important strides in transparency and indigenous rights over the last decade. Peru joined the Extractive Industries Transparency Initiative (EITI) in 2007 and in 2011 became the first country in the Americas to be declared compliant within that framework. Also in 2011 it became the first LAC country to enact legislation to implement ILO Convention 169, which grants indigenous communities the right to prior consultation on any state policies that directly affect them, including concessions and permits for extractive projects within their traditional territories. To comply with its EITI commitments, the Peruvian government and participating companies publish detailed reports of revenue flows related to the extractive industries, available online for concerned citizens and civil society. Furthermore, the Peruvian government assigned staff from the Ministry of Energy and Mining to the EITI process, including working with non-participating companies to encourage participation. Starting in 2014, three Chinese companies confirmed their involvement in the process: Shougang, China MinMetals and CNPC. These two measures put Peru in a leadership position regionally for public participation in the resource boom.

2.4 Progress Under Fire: Challenges to Existing Protections

The LAC-China export boom has been supported by high world prices for the commodities involved, which has boosted the value of minerals reserves and increased bargaining power for countries interested in enacting social and environmental standards for their use. However, the same phenomenon has boosted the power of sectors associated with the boom, which have incentives to resist these standards.

Within governments, the extractive boom has prioritized mining and hydrocarbons ministries, as executive branches face pressure to speed up the process of beginning new investment projects. To

that end, **Peru** has recently curtailed the authority of the Environment Ministry over the approval and supervision of extractive projects. The objective is to streamline the process of getting new extractive investments under way and accelerate production in the face of flagging world prices, but this change has not incorporated safeguards to prevent conflicts of interest from corrupting the process and diminishing the power of environmental oversight (Saravia López and Rua Quiroga, 2015; Sanborn and Chonn, 2015).

In **Brazil**, the China boom has also had major impact on the agricultural sector. There, Chinese demand has enriched and empowered the “ruralist” voting block, representing large landholders in Congress. This newly strengthened voting block has exerted powerful influence on the current administration’s environmental stances (Santilli, 2014; Smeraldi, 2014). For example, it has mounted an effort to roll back the new Central Bank rules cited above, which have proven useful in strengthening enforcement of environmental safeguards.

Section 3: THE PERFORMANCE OF CHINESE INVESTORS IN LATIN AMERICA

Our research shows that Chinese firms do not perform significantly worse relative to domestic or other international firms. In fact, despite relatively weaker levels of regulation at home in China, and a fledgling set of guidelines for overseas companies, our case studies found some instances of Chinese firms outperforming their competitors, especially with proper incentives from governments and civil society. Table 1 lists the Chinese firms associated with each case study and the members of the Working Group that performed the case studies (with the exception of Brazil and Chile, where the case studies involved Brazilian firms exporting to China and Chilean imports from China, respectively). This section explores lessons from each of these case studies. Overall, they show that Chinese firms are

TABLE 1: Chinese Investors Profiled in Case Studies

Country	Authors	Sector	Firms
Argentina	Andrés López, Julian Donaubauer, Daniela Ramos, Center for Transformation Research, University of Buenos Aires	Petroleum	China National Offshore Oil Corporation (CNOOC) and China Petroleum and Chemical Corporation (Sinopec)
Bolivia	Alejandra Saravia López, Universidad Mayor de San Simon-Cochabamba, Adam Rua Quiroga	Mining	Jungie Mining
Brazil	Philip Fearnside, Instituto Nacional de Pesquisas da Amazônia; Adriano M.R. Figueiredo, Universidade Federal de Mato Grosso do Sul	Agriculture and mining	Soy and Iron exports
Chile	Nicola Borregaard y Annie Dufey, Fundación Chile	Energy (solar)	Solar panels imports
Colombia	Guillermo Rudas and Mauricio Cabrera Leal, Javeriana and Externado Universities of Colombia	Coal and petroleum	Sinopec and Sinochem
Ecuador	Rebecca Ray, Boston University; Adam Chimienti, Institute of China Asia Pacific Studies, National Sun Yat-sen University in Taiwan	Petroleum	Sinopec and China National Petroleum Corporation (CNPC)
Mexico	Claudia Schatan, Diana Piloyan, Universidad Iberoamericana	Manufacturing	Golden Dragon Affiliates
Peru	Cynthia Sanborn and Victoria Chonn Ching, Universidad del Pacífico	Mining	Shougang, Aluminum Corporation of China (Chinalco), and Zijin Mining Group

flexible, able to adapt to new environments and perform up to local standards. However, several of the cases show that as these investments continue to expand, major challenges still lie ahead.

Among these Chinese firms is one that our case studies examine in three different Latin American countries: Sinopec. The case studies show that **Sinopec** has had very different experiences under different regulatory regimes and with different incentives. Sinopec's labor relations in Argentina and environmental performance in Ecuador have been more positive than either in Colombia.

- Sinopec's labor challenges in **Colombia** have involved the local community action boards, which are common in rural Colombia and control the hiring of oil workers. Allegations abound of powerful local figures trading employment for favors or even fees, or unfairly favoring workers from other areas over local workers, but the regional Labor Ministry officials state that these complaints have not been formalized for fear of endangering the very employment positions they involve. The Colombian national government is considering removing hiring authority from community action boards, but the proposal faces vigorous opposition by the boards themselves, unsurprisingly. In contrast, Sinopec faces no such issues in **Argentina** or **Ecuador**, because of the regulatory framework in each country. In Argentina, Sinopec has signed an agreement with the local government ensuring that all workers will have had residency in the Santa Cruz province for at least two years prior to their hiring. In Ecuador, subcontracted labor is tightly regulated, as discussed above.
- Environmentally, Sinopec has a better record in Ecuador than most of its competitors, with fewer local protests over spills than most of its competitors, either foreign or domestic. This record is partly due to the incentives it faces there: it bought oil concessions that were initially owned by Chevron and therefore receive a great deal of attention. Sinopec's ability to maintain a low profile has been key to its ability to continue operations for nearly a decade. In contrast, the Comptroller General of Colombia cited Sinopec in 2014 for never paying the US\$500,000 investment in conservation required by law and pledged in 2008. These two cases show the importance of establishing — and enforcing — an effective regulatory framework for international investment. Fortunately, Colombia appears to be taking this to heart, as its 2014 environmental finding and the recent proposed change in labor regulation show.

Other positive outcomes in the case studies show that Chinese investors are capable of living up to high standards, especially when the proper incentives are in place. These case studies show the importance of cooperation between governments, investors, local communities, and Chinese regulators in creating those incentives. Areas where this cooperation can be especially helpful include oversight by lenders, community engagement at the outset of projects, and training investors in compliance with local laws.

3.1 Incentives from Home: the role of lender oversight

China should be credited for enacting guidelines for its overseas economic activities. When Western countries were at middle-income status such guidelines were not on government radar screens. Other middle-income countries (like Brazil, discussed above) prevent public lending to domestic projects with outstanding environmental fines, and multilateral lenders have long required borrowers to meet environmental performance standards. But these kinds of standards for outbound international investment sets China ahead of its middle-income country peers. Nonetheless, China is a relative newcomer to international investment, and its environmental and social safeguards still lag behind those of the traditional multilateral lenders.

There are three levels of safeguards for Chinese outbound investment. First, the Ministry of Commerce (MOFCOM) has published voluntary “Guidelines for Environmental Protection in Foreign Investment and Cooperation” for all investors, regardless of whether they are public or private, or how they are financed. While these are not binding, they carry moral authority for state-owned enterprises (Tao 2013). For projects that are bank-financed, China Banking Regulatory Commission (CBRC) has set “Green Credit Guidelines” for all Chinese banks that finance investment projects abroad, which include requiring investments to meet host country and international environmental laws. Finally, the China Development Bank (CDB) and the Export-Import Bank of China (China Ex-Im Bank), state-owned “policy banks” that fund overseas investments in the name of the Chinese government, have developed safeguard practices for projects within their portfolios.

Table 2 compares Chinese guidelines to those of major multilateral lenders: the World Bank, the International Finance Corporation, and the Inter-American Development Bank. While the Chinese lenders and regulators have fewer requirements than the multilateral lenders, there is one notable exception: only the Chinese policy banks require ex-post environmental impact assessments.

TABLE 2: Chinese and Multilateral Regulations Compared

	Multilateral lenders			Chinese banks and regulators			
	World Bank	IFC	IDB	MOFCOM*	CBRC	CDB	Ex-Im Bank
Ex-ante environmental impact assessments	X	X	X	X		X	X
Project review of environmental impact assessments	X	X	X			X	X
Industry-specific social and environmental standards	X	X					
Require compliance with host country environmental regulations	X		X	X	X	X	X
Require compliance with int'l environmental regulations	X				X		
Public consultations with affected communities	X	X	X	X			X
Grievance mechanism	X	X					
Independent monitoring and review	X						
Establishing covenants linked to compliance	X	X	X				X
Ex-post environmental impact assessments						X	X

Note: *MOFCOM policies are voluntary in nature.

Source: CBRC 2012; Gallagher et al. 2012; Leung and Zhao 2013; State Forestry Administration 2010.

The regulations shown in Table 2 demonstrate a major step forward for Chinese lenders, but those lenders still face steep challenges in enforcement. For example, without a grievance policy, lenders may not know about violations of other requirements like compliance with international environmental laws. Furthermore, even requiring compliance with host country law — arguably the least challenging of the requirements in Table 2 to enforce — can be challenging if local governments

are not enforcing their own laws. For example, in the Sinopec case in Colombia discussed above, the Comptroller General cited not only Sinopec but also the national environmental licensing agency, for not enforcing its own regulations sufficiently. In a situation like that one, it is not clear that MOFCOM has the grounds to claim that Sinopec is in violation of their guidelines. Latin American civil society groups have begun educating communities about the Green Credit Directives and other environmental and social safeguards attached to Chinese lending, but without a formal method for receiving and investigating complaints, banks have little immediate incentive to follow up on any communication they receive. Given the difficulty in policing investor behavior abroad, it could be extremely helpful for Chinese lenders to approach Latin American civil society and governments as partners in holding investors accountable to these guidelines, perhaps through introducing a formal grievance mechanism.

3.2 The Importance of Community Engagement

Our case studies show that an investor’s willingness and ability to work with governments and local communities from the outset is paramount for successful project completion. Three examples highlight this lesson particularly well: the Toromocho copper mine owned by Chinalco in Peru, the Jungie tin mine in Bolivia, and Andes Petroleum in Ecuador. Each case illustrates the importance of government incentives and assistance in the negotiation process.

In Bolivia, China’s Jungie Mining and the local Alto Canutillos mining cooperative formed a joint venture to mine tin in Tacobamba in 2010. While the mine does not appear in the extremely biodiverse areas shown in Figure 9, it does lie within threatened land: the Tropical Andes Biodiversity Hotspot.² Figure 10 shows the Bolivian segment of the Tropical Andes Biodiversity Hotspot in green, and indigenous territory in orange.

FIGURE 10: Bolivia: Biodiversity Hotspot, Indigenous Territory, and Chinese Mines



Source: Compiled from Red Amazónica de Información Socioambiental Georreferencial and Zador et al. 2015.
 Note: Indigenous territory includes lands with and without official state recognition.

Before operations could begin, surveys showed that the local community was opposed to the establishment of a processing plant and tailings dam in Tacobamba. In response, the state-owned COMIBOL mining company donated land over 25 miles away for the facility, in Agua Dulce, Villa de

Yocalla, where a public consultation showed that the community accepted its presence. This move took cooperation between the investors, the government, and the local community, and prevented a major potential source of conflict (Saravia López and Rua Quiroga 2015).

IMAGE 1: Tacobamba, Bolivia residents rejected the presence of a processing plant



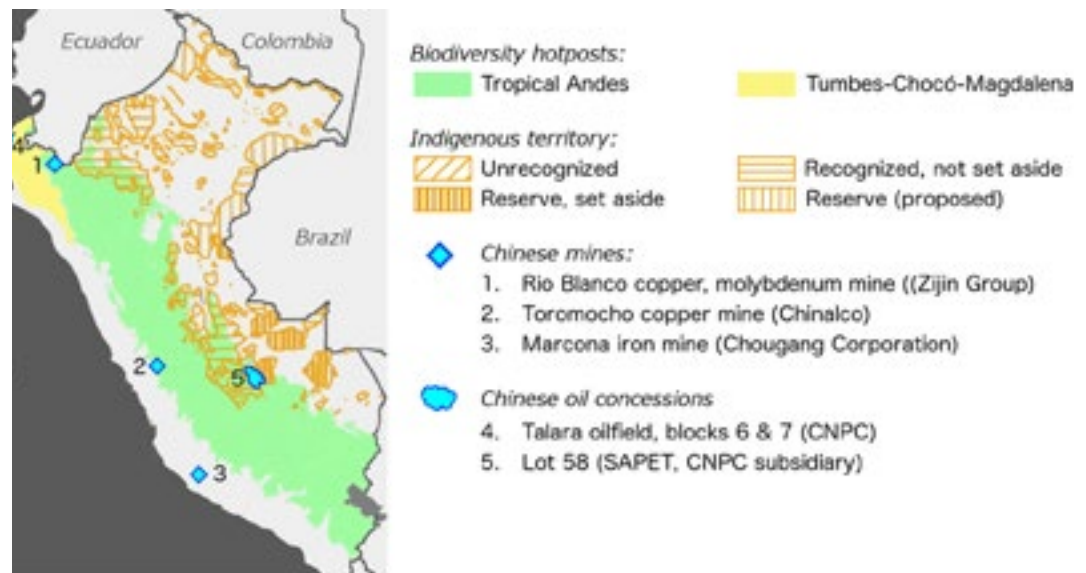
... so COMIBOL donated land for the plant, over 25 miles away from the mine.



Source: Saravia López and Rua Quiroga (2015).

In Peru, Chinese SOE Chinalco's Toromocho mine also borders the Tropical Andes Biodiversity Hotspot, as Figure 11 shows.³

FIGURE 11: Peru: Biodiversity Hotspots, Indigenous Territory, and Chinese Mines



Source: Compiled from Red Amazónica de Información Socioambiental Georreferencial and Zador et al. 2015.

In 2007, Chinalco inherited a commitment to relocate the 5,000 residents of the existing city of Morococha to make way for the mine construction. Morococha is a former mining camp and its water and soil has been badly contaminated from decades of nearby mining operations. Prior to Chinalco's purchase of this project, the Peruvian government was expected to build a new town for the residents, but Chinalco took on the obligation as part of the investment. While the old Morococha had communal latrines and a limited water supply, "Nueva Morococha" promises a modern water and sanitation system. Perhaps most importantly, the move was largely voluntary and the product of dialogue and negotiation between community members, their elected authorities, the central government and the investor — considered the first example of voluntary, participatory community relocation in modern Peruvian history. While it has not been without problems (for example, Chinalco offered each moving family a title to their new homes, but the municipality has been delayed in issuing them) and their continue to be a number of holdouts, it represents a step forward in Peruvian mining community relations (Sanborn and Chonn 2015).

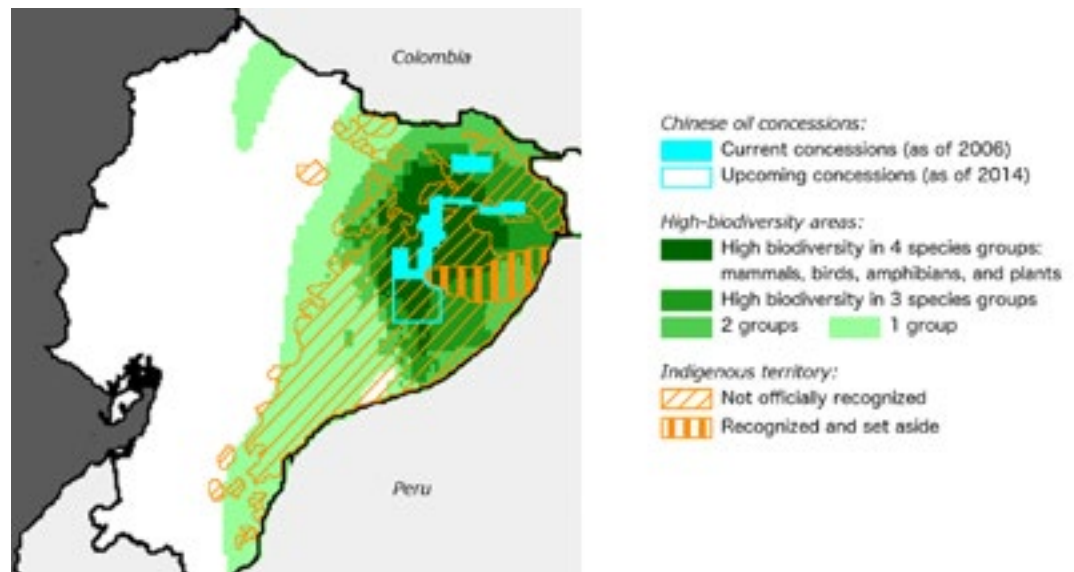
IMAGE 2: Morococha (left) and Nueva Morococha (right), Peru



Source: Ojos Propios, 2013 (left); Ministerio de Energía y Minas, 2013 (right).

The community consultation process has not gone so smoothly in Ecuador, where Andes Petroleum (a joint venture between Chinese SOEs Sinopec and CNPC) won two new concessions in early 2014. As shown Figure 9, Ecuador is the only South American country where major Chinese investments exist in an area with extremely high biodiversity in four different species groups as well as traditional indigenous territory (the map below shows this situation in more detail). So its respect for social and environmental safeguards are especially important, perhaps more so than any other Chinese investments in this project. Until now, Andes has had better community relations than most of its competitors (including Ecuadorean SOEs), with fewer protests due to contamination or unfulfilled social obligations. But its real challenge lies ahead, as its current expansion is beginning under acrimonious conditions, without the proper community consultation.

FIGURE 12: Chinese Oil Concessions, Biodiversity, and Indigenous Territory, Ecuador



Source: Ray and Chimienti 2015.

Ecuadorean law requires the Secretary of Hydrocarbons (SHE) to seek majority approval within the affected community, and in particular among the Sápara and Kichwa indigenous nations, whose authority over developments in their traditional territory Ecuador enshrined when it signed onto ILO Convention 169. However, SHE circumvented these obligations by getting the approval of the Sápara president instead of seeking the majority approval of the Sápara and Kichwa communities. SHE also opened temporary outreach offices in the affected area, and claims that 16,469 people participated in workshops or submitted comments — a number equal to about one-fourth of the local adult indigenous population, or about one-eighth of the total adult population in the new concession blocks. Sápara and Kichwa community leaders have responded by mounting an international struggle to reclaim authority over their traditional lands and reject all oil development there. The possibilities for Andes Petroleum to establish a positive relationship with the local community are extremely slim at this point, because good-faith negotiations involving the government and the local community are almost impossible. (Ray and Chimienti 2015).

3.3 Government-Firm Relations: the Importance of Outreach and Learning

Another important venue for cooperation between investors, governments, and civil society is in training new arrivals on local environmental and social regulations, customs, and available local resources. Recent examples in Peru, Argentina, and Mexico show that this is a promising area that Latin American governments are just beginning to bring to explore.

In March 2014, Chinalco's Toromocho mine project in Peru (noted above for its community relocation process) suffered a major setback when the Organism for Environmental Evaluation and Fiscalization (OEFA), within the Ministry of the Environment, ordered it to halt operations following a leak of acid wastewater. The problem was generated by unexpectedly heavy rainfall, which Chinalco had apparently not taken into account. After the cleanup, which happened in a period of a few days after rapid action by regulators and Chinalco, the Association of Chinese Companies in Peru asked the Environment Ministry to organize a series of conferences for all of their members about Peru's environmental regulations. This was an opportunity for the government to address environmental

**IMAGE 3: Kichwa and Sápara Leaders Protest
Andes Petroleum in New York City, 2014**



Left: Leonardo Cerda, Kichwa leader; *Center:* Gloria Ushigua, President of the Association of Sápara Women; People’s Climate March, New York, 21 September 2014.

Source: Amazon Watch.

concerns in a proactive way as well as to form working relationships with environmental safety personnel at the investing firms, and to lay the groundwork for future cooperation.

Argentina is a unique case: negotiations over oil royalties and environmental and social commitments happen at the provincial level. This arrangement has important drawbacks, in that it creates an incentive for provincial government negotiators to treat short-term royalties and long-term environmental commitments as tradeoffs. But it also creates an opportunity for local civil society groups, which have much more access to the negotiators than they would if negotiations happened at the national level. This has allowed for small business groups to successfully press for foreign oil companies to develop more linkages with local suppliers. For example, Pan American Energy (CNOOC’s joint entity with BP) has developed the “SMEs of Golfo San Jorge” program to build capacity for local small businesses and incorporate them into PAE’s supply chain. This kind of cooperation requires the presence of the provincial government officials to help recently arrived foreign investors connect with local organizations. Another important opportunity for training and capacity building in Argentina involves facilitating learning between more experienced and more recent investors: in this case, CNOOC and Sinopec. Our case study shows that CNOOC

has a better environmental record than Sinopec, partly because CNOOC partners with BP, which has a long history of pursuing foreign investment and receiving global scrutiny for its environmental record. Even though both CNOOC and Sinopec are Chinese SOEs, one benefits from its cooperation with more experienced investors while the other does not. Argentina can help bridge these differences by facilitating training for foreign investors, where new arrivals can learn from their more experienced peers.

The Mexico case study is another situation where training may be very useful. Generally speaking, the Golden Dragon copper tube manufacturing company has abided by environmental and labor law, and has even introduced important new energy efficiency innovations. Nonetheless, it has run into labor difficulty due to cultural barriers. One major obstacle springs from the fact that the firm’s Chinese employees do not speak Spanish, the Mexican employees do not speak Chinese, and very few members of either group of employees speak a common third language such as English. Another important stumbling block has come from Chinese managers’ unfamiliarity with Mexican customs. Chinese minimum wages are quite low, and workers compensate by working extremely long hours. In contrast, Mexican workers tend to be less willing to work on weekends and holidays. Golden Dragon has a history of requiring workers to work on those days, and not compensating them appropriately for their overtime, largely because they are not accustomed to workers expecting that time off. These cultural differences between Golden Dragon’s Chinese and Mexican workers are unlikely to be resolved without being specifically addressed, because the two groups of workers do not speak the same languages or socialize together. But they are the types of misunderstandings that can be addressed rather straightforwardly with training to ensure that Mexican labor laws protect workers and Chinese investors need to respect Mexican labor laws.

Section 4: LESSONS FOR POLICY

Our study has shown that the China-led commodity boom in Latin America has accentuated environmental and social conflict in the region. Although Latin American governments, Chinese firms, and civil society can be credited for some innovations during the China boom, by and large the benefits of China-led trade and investment have come with significant environmental and social costs. These costs can be reduced by concerted action by Latin American governments, the Chinese government and Chinese firms, and by civil society in Latin America, China, and across the world.

4.1 Latin American Governments

For Latin America to truly benefit from this commodity-led growth, Latin American governments will need to capture and invest more of the windfall into social and environmental protections. Civil society organizations in the region will need to hold governments more accountable. Our case studies found numerous examples of Latin American governments developing innovative policy responses to the China boom. Ecuador's labor laws, Bolivia's implementation of community consultation, and Peru's leadership on transparency stand out as particularly important policy steps. There is tremendous room for Latin American civil society groups to take advantage of these examples to push for higher standards everywhere.

Chinese oil companies have shown in Ecuador that they are capable of operating with almost entirely Ecuadorean staff. Bolivia has shown that it is possible for Chinese mining companies and local SOEs to collaborate to honor communities' decisions about where processing plants should — and should not — be located. Peru has shown that Chinese mining and oil companies are capable of reaching high levels of transparency. Latin American civil society and governments can push for these standards to be adopted in countries that do not yet have them, knowing that these standards are not only reasonable, but that Chinese investors are perfectly capable of reaching them.

This progress is being threatened, however, by the very sectors enriched by the China boom, such as mining ministries and large landowner voting blocs. For example, regulatory reforms in Peru are cutting back the Environment Ministry's oversight of extractive projects, without putting in place safeguards to prevent conflicts of interest in the approval process. In Brazil, the progress in environmental law enforcement faces strong resistance from the "ruralist" landowner voting bloc that has benefited so much from China's demand for soy. Proposed labor law protections for oil workers in Colombia may not go through because of pressure from the community action boards that have been the target of so many abuse complaints. It is crucial for Latin American governments to hold the line against these deregulation efforts. It is paramount that LAC governments strike a better balance between short-term economic benefits and longer run economic and ecological costs — even if that leads to the rejection of certain projects in the immediate future.

Specifically, we recommend that Latin American governments prioritize:

- Enforcement and upgrading of existing environmental and social protections.
- Defend and strengthen the capacity of environmental and social ministries to enforce and upgrade laws, such as with the Ombudsman program in Peru.
- Joining the Extractive Industries Transparency Initiative, and encouraging Chinese firms to participate.
- Implementing ILO Convention 169 (which most Latin American governments have signed), by enacting and enforcing requirements for prior consultation of indigenous peoples regarding state policy measures that affect their interests and welfare.
- Requiring foreign investors to hire local workers wherever possible, perhaps through quotas or floors, and limiting the use of subcontracted labor.

- Spearheading collaboration between Latin American governments, local civil society and foreign investors to seek informed consultation before extractive projects begin, and to address local concerns in good faith.
- Investing in capacity building for local businesses and encouraging foreign investors to incorporate them into their supply chains.
- Developing mechanisms for Latin American governments, the Chinese government and local civil society to collaborate in holding Chinese investors to the standards in China's guidelines and local regulations.
- Creating opportunities for new foreign investors to learn local regulations and customs from governments, civil society, and investors that have been present for longer.
- Defending and strengthening the capacity of civil society organizations for capacity building, networking, and other opportunities to serve as actors that can monitor the social and environmental behavior of firms and governments alike.

4.2 China and Chinese Investors

Safeguarding the social and environmental impacts of Chinese investment overseas helps Chinese firms and the government better identify risk and expand market share. Driving the Latin America-China boom are billions of dollars in Chinese investment into mines, oil and gas fields, dams to power them, and railways to get the products to port. These massive projects will take years to come into operation and even more years to pay for themselves. In order to reach that point, Chinese investors will need to mitigate risks to these projects' longevity, especially risks of environmental damage or social conflict that could jeopardize their relationships with host countries.

Our case studies show that Chinese firms are capable of meeting — and beating — the environmental and social standards set by their host countries. In fact, we have found some instances of Chinese investors outperforming their local and international competitors, especially when given the right incentives and regulatory framework. China has taken important steps toward making sure all Chinese investors have incentives to act with corporate social and environmental responsibility, through the CBRC's Green Credit Guidelines and MOFCOM's Guidelines for Environmental Protection in Foreign Investment and Cooperation. Furthermore, making these processes more transparent is also paramount to success, to allow Chinese companies, Latin American governments, and civil society to have a better understanding of the true benefits and risks of various investments. However, overseeing investor behavior abroad is extremely difficult without the collaboration of host country governments and civil society. For that reason, we specifically recommend that China and Chinese investors prioritize:

- Implementing existing social and environmental guidelines and making their use more widespread as Chinese firms and development banks increase their presence in the Americas.
- Working to make the results of social and environmental guidelines more transparent for company representatives, governments, and civil society.
- Upgrading current guidelines with independent monitoring, a formal grievance process, enforcement mechanisms for investors who fall short of the standards, and other safeguards that have become commonplace among other major foreign investors across the globe.
- Participating in transparency programs in their host countries, such as the environmental reporting requirements in Colombia or the voluntary EITI program in Peru.
- Establishing working relationships with Latin American governments and civil society groups to learn the local regulations and customs.

4.3 Civil Society

Policy improvements like these — on both the Latin American and Chinese side of the Pacific — will only be enhanced by participation from all walks of civil society:

- Direct NGO actions that highlight both the successes and limitations of government and company policies can bring issues to the attention of policy-makers and the media. NGOs should expand their networks to monitor new economic actors in their region and link with their counterparts in China and across the world to bring further attention to these issues.
- Academic research and workshops can help derive a more empirical-based understanding of these complex issues and serve as a neutral space where governments, companies, and civil society can dialogue. Academics can also form international networks to compare findings with other analyses and disseminate their work more widely.
- Academic researchers and universities can also play a role in promoting educational and cultural exchange, joint research, and training for governments and other members of civil society.
- NGOs, academia, and other organizations can collaborate with governments and companies to learn best practices and lessons from past mistakes.
- Business-to-business collaboration such as the association of Chinese enterprises in Peru can meet to learn of best practices, pending regulation, and learn from mistakes.
- Finally the media can move beyond general discussions of the China-Latin America economic relationship and conduct more empirical reporting efforts that hold governments and firms accountable.

The studies in this project underscore the importance — and the promise — of collaboration between governments, Chinese investors, and Latin American civil society. The most successful stories uncovered here are of these groups working together: Bolivia's successful community consultation process, Chinese companies in Peru joining the EITI program, and CNOOC's development of a local small-business suppliers in Argentina. China needs Latin American governments and civil society as their eyes and ears for the implementation of their guidelines for overseas investors. Chinese investors need Latin American governments and civil society to train them on local regulations and customs, to prevent environmental and social conflicts from erupting in the first place. Latin American governments need Chinese investors and community groups to come together to find solutions that work for everyone involved. It is imperative for all stakeholder groups to establish working relationships with each other, in order for the China-Latin America relationship to have the greatest benefit and the least risk.

ENDNOTES

¹ It is worth noting that Figure 5 includes only direct rather than indirect employment. Direct labor intensity across the region has an average of 60.1 jobs in agriculture, 11.6 jobs in extraction, and 71.8 jobs in manufacturing for every US\$ 1 million output in each sector. Estimates of indirect employment vary dramatically, even within each sector. According to the World Input-Output Database (Timmer 2012), for every dollar of output, extraction creates about twice as much demand for upstream (indirect) industries as agriculture in Brazil, only about a third as much in Mexico, and about three-fourths as much in non-OECD countries. Based on these estimates, it is highly unlikely for the total (direct and indirect) employment from extraction to rival the other sectors shown here for employment generation.

² Biodiversity hotspots are defined as areas with at least 1,500 endemic plant species, which have lost at least 70 percent of their original habitat. For more on biodiversity hotspots, and on the Tropical Andes hotspot specifically, see Zador et al. (2015).

³ For more on biodiversity hotspots, and on the Tropical Andes hotspot specifically, see Zador et al. (2015).

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