

Colombia and China: Social and Environmental Impact of Trade and Foreign Direct Investment

WORKING GROUP ON DEVELOPMENT AND ENVIRONMENT IN THE AMERICAS

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The impact of China in Colombia is particularly visible in the extractive sector. Colombia's coal sector has been grown in the last several years, spurred in part by demand from China, the world's largest purchaser. Chinese FDI in Colombia is small but growing, especially in the petroleum sector.

Extractive industries – and particularly coal and oil – are intrinsically prone to negative environmental and social impacts. This is particularly true in Colombia, where extraction sites are located in especially poor areas amid sensitive ecosystems. This paper explores those impacts in the areas surrounding large-scale coal mining and Chinese oil drilling operations in Colombia. It finds that coal-mining areas in Colombia have worse health, education, and governance outcomes, and specifically, they have seen rising mortality rates from acute respiratory infections compared to the rest of the country.

The petroleum sector, in which China participates through FDI by the state-owned enterprises (SOEs) Sinopec and Sinochem, has its own challenges in these regards. This paper explores them through a case study of New Granada Energy Colombia (NGEC), a subsidiary of Sinopec. It finds several areas of particular concern, both in the company's performance and in the oversight by the national environmental

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licensing body ANLA. First, although NGEN committed to 500,000 USD in (legally required) conservation investments in 2008, those investments have not yet materialized. In early 2014, the Comptroller General of Colombia ruled that this failure was in part due to ANLA's lack of monitoring and oversight. Furthermore, NGEN's environmental monitoring reports are significantly incomplete, and though the company is legally obligated to respond to public inquiries on the matter, they refused our requests for information. Finally, ANLA's maintenance of these records – while nominally transparent – leaves much to be desired. Important challenges to obtaining these records (including travel to Bogotá, fees, and a two-week waiting period) could pose serious obstacles to civil society.

The social aspects of our case study center on company-community dialog about jobs and infrastructure. Employment decisions in the surrounding area have traditionally been handled by intermediaries, which leaves the company itself unaccountable for its commitments to hire local workers. The national government is addressing this problem through major reforms of labor intermediation, which may help resolve these conflicts.

Finally, the community and company have agreed to changes in the route of a major access road to allow the community to travel to the county seat, but NGEN has refused to carry through on these commitments, citing the presence of other oil companies in the region that also use the road.

Several important recommendations emerge from this study. First, while ANLA has made important strides in transparency, there is great room for improvement in this area. The government could raise the standard dramatically by joining the Extractive Industries Transparency Initiative, as Peru has done, which entails free online reports of revenue flows from extractive companies. Secondly, Sinopec could learn from its subsidiaries in Ecuador, which have managed more harmonious community relations by honoring its commitments to the surrounding communities. Finally, civil society has an important role in monitoring company performance and

pressing for continued improvements in both performance and government oversight.

1. Introduction

Colombia's connection to the world is marked by its high dependence on the extraction of natural resources. Foreign direct investment (FDI) is growing with only a very limited Chinese presence, but China has nevertheless positioned itself as a leading trade partner, demanding significant amounts of oil and coal and offering manufacturing in return, specifically of machinery and equipment.

The dependence on commodities, coupled with little or no local production, creates a precarious place for Colombia in global value chains and limits the benefits it receives from the export sector. Risks are accentuated by the volatility of prices, made highly uncertain by non-renewable resources that, sooner or later, will run out. The benefits that do accrue from the sector tend to be limited to enclave economies in the regions where it is most active, which have little ability to extend their benefits to the local population - further emphasizing points of conflict. Furthermore, the State's tax and royalty revenue from extraction depends on its ability to negotiate favorable outcomes in the face of significant asymmetry of information and bargaining power. Finally, extraction - especially from open pit mines - significantly impacts the natural environment and requires strict oversight so that its negative impacts do not end up costing the country more money than it brings in.

Proper management of these risks, which are closely linked with one another, is necessary if this extractive activity is to remain economically sustainable. On the other hand, growing tensions will continue to be an obstacle to this activity, creating conflicts that may end up making these investment initiatives unfeasible.

The effects of mining and hydrocarbons extend well beyond the extractive sector. Instead, non-renewable public resources have a host of interactions with various aspects of the public sphere, especially in a country as complex as Colombia, where there are violent conflicts, a high degree of uncertainty concerning property rights, widespread illicit activities, and elevated levels of government co-optation by irregular interests (Garay, 2008). All of these take place in the context of a fragile natural environment that is especially sensitive to open pit extraction, which affects water sources and leads to unpredictable effects regarding their ability to satisfy the needs of those who depend on them.³

These tensions have captured the attention of specialists and the general public alike. Some choose to approach the issue from a macroeconomic point of view, centering their analysis on the potential that this activity has to accelerate economic growth by attracting foreign investment. They emphasize that it is possible to avoid the “resource curse” and “Dutch disease.”⁴ Alternative views have emphasized the complexity of the interaction between extraction and the economy as a whole, focusing on multi-factor interactions that determine economic growth and other factors associated with development.⁵ Those who adopt this view propose moving beyond a growth-centered perspective to incorporate the importance of multiple local conflicts, as recommended by a pioneering study from the World Bank (McMahon and Remy, 2003).

In order for extraction to become socially accepted, the industry must take into account the most vulnerable population. This requires re-orienting project design so

³ According to U.S experts, “surface mining permits are issued despite scientific evidence that mitigation measures cannot compensate for the losses caused by its pervasive and irreversible impacts” (Palmer et al., 2010).

⁴ See Auty (1993), Cárdenas and Reina (2008), Perry and Olivera (2010), Perry and Palacios (2013), and Martínez and Aguilar (2012 and 2013).

⁵ See Garay (2013, 2013a, 2014 and 2014a), Saade (2013), Martínez et al. (2013), Fierro (2012), Toro et al. (2012), and Gaitán et al. (2011). Also, see Zarsky and Stanley (2013), Bebbington (2013), and Arellano (2011).

that populations most affected by wealth-generating projects will be left in the same condition or better than before implementation of the project (Cemea, 1988). Furthermore, where surrounding populations are vulnerable and highly impoverished, such projects must guarantee that the affected population at least remains sustainably above the poverty line.⁶

In the context of these tensions surrounding Colombia's extractive industry, this paper analyzes three aspects of the extraction-centered relationship between China and Colombia, which has been based on trade but has significant potential for growth of Chinese FDI in Colombia. First, we describe the primary commercial ties between the two countries in a context of reprimarization of the Colombian economy, where China currently stands among the country's main trading partners. Second, we analyze certain characteristics of the Colombian export sector, using open pit coal mining as a reference, due to the fact that China has occupied an increasingly important role as a buyer of this product in recent years. Moreover, the extraction of coal has generated significant environmental impacts over the years and has created serious social conflicts in places where mining occurs, many of which have yet to be resolved. Third, by using a Chinese oil company located in Colombia as a reference point, we review the way environmental and social challenges are addressed in the area in which it operates. We conclude the analysis by indicating aspects to be considered for the future in regards to relations between the two countries.

The analysis is based on a basic assumption: that the negative effects of production - in both the social and environmental spheres - should be managed using the resources of the respective project, assuming all costs without using any resources received by the State from the resulting activity. If this condition is not met, it may be concluded that the project is not economically viable.

⁶ Camilo Gonzáles Posso, director of the Institute for Development and Peace Studies (INDEPAZ), is responsible for this proposal.

2. China in the Context of the Colombian Economy

The relations between China and Colombia will be addressed in this section from three perspectives: changes in the sectoral composition of the economy, with a specific acceleration in the positioning of the extractive sector; the growth of FDI, predominantly concerning investments in oil and mining with little participation from China; and the consolidation of the extractive sector in the flow of goods from Colombia overseas, including to China – a major destination for Colombian raw materials.

In the last thirty years the extractive sector in Colombia has been growing rapidly.⁷ Between 1975 and 1984 this sector contributed less than 2% to the country's GDP. After a period of rapid growth, it reached a peak of 9% in 1999, and stabilized around 8% between 2011 and 2013. This growth of the extractive sector occurred during the same period in which commerce and other services were consolidated, increasing as a whole from 54% to 58% of GDP, with an important increase in financial services (around 20 points). In contrast, during those same years strictly productive sectors (industrial, agricultural, and construction) decreased significantly, dropping by an average of ten percentage points, from around 35% in the 1975-1984 period to 25% in between 2011 and 2013. A combination of factors shifted the economy away from production of goods with high employment (in the case of the agricultural sector) or high value-added (in the case of the manufacturing sector) to capital-intensive extractive sectors with highly volatile value-added. Factors responsible for this shift include: the revaluation of the Colombian peso and the discouragement of high value-added exports; the increase in global demand for commodities and the elevation of their prices; and tax incentives for FDI, specifically in regards to extractive activity.

⁷ For more details, see Rudas (2014).

This reprimarization is accompanied by an accelerated growth in FDI, which is concentrated in oil extraction and mining. According to figures from the central bank (Bank of the Republic of Colombia, or BRC), between 1994 and 2004 investment amounts were in the order of 2.5 billion dollars annually. From 2005 onward this number shot up, reaching average annual amounts of more than 8 billion dollars between 2005 and 2010, and more than 15 billion dollars between 2011 and 2013. This jump was accompanied by a change in sectoral composition: in the early years the concentration was primarily in services, with 55% of the total compared with 24% in the extractive sector. Starting in 2005, the extractive sector became predominant, increasing on average to more than 51% of the total, and to more than 32% for the hydrocarbon subsector and 19% for all other mining.

What remained relatively stable was the origin of this FDI: between 2010 and 2013, Latin America and the Caribbean (LAC) maintained its leadership position with 35% of the total, followed by the European Union (21%) and the United States (18%), and finally by an insignificant portion from Asia and China in particular. However, this distribution reported by foreign trade authorities does not reflect the true origin of the investment. While Chile, Mexico, and Brazil contribute significantly to the investment coming from LAC (16%, 6%, and 3%, respectively), the majority of it comes from recognized tax havens: 33% from Panama, and 36% from Bermuda, Anguilla, the Cayman Islands, Barbados, and the British Virgin Islands. There is no doubt that the dynamism of these countries is a useful mechanism for eluding tax burdens, if not for clearly illegal activities,⁸ given the impossibility of identifying the origin of capital.

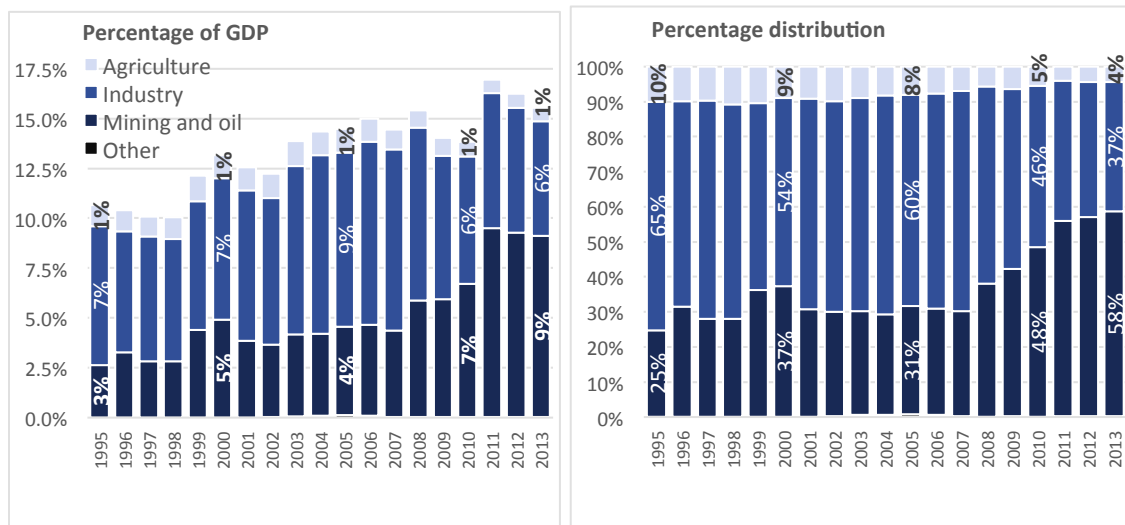
One example is investments coming from Canada. While between 2010 and 2011 the official numbers (from the BRC) cite investments from Canada at less than 600

⁸ Interbolsa, a large Colombian brokerage firm engaged in illegal transactions in these tax havens, collapsed in 2012:
<http://www.supersociedades.gov.co/prensa/interbolsa/Documents/SuperSociedades%20ordena%20intervenci%C3%B3n.pdf>

million dollars, the Financial Times' FDI Intelligence database shows 6.4 billion dollars during that period, representing close to one third of the FDI reported in official numbers for these two years (20 billion dollars). This phenomenon may be occurring with China as well, although on a much smaller scale. According to FDI Intelligence, between 2007 and 2012 more than 1.8 billion dollars may have been received from China, while the official figures only report 35 million during the same period – a difference that illustrates the significance of investments coming from tax havens.

The growth of FDI since 2005 can be explained by the growth in investor confidence inspired by the Uribe administration (2002-2010), which included measures such as the reduction of the income tax base by values between 30 and 40 percent of total annual investments, as well as the elimination of taxes on the remittance of profits earned by foreign companies. In addition, the growth of the extractive sector has been another important factor behind the growth of FDI. Trends in the size and composition of exports (Figure 1) show that since the mid-2000s, after a relative stagnation, total exports have grown at a rate consistent with the flows of foreign investment. Similarly, the composition of exports has shifted dramatically toward extraction: in less than ten years the manufacturing industry lost 23 percentage points as a share total exports, displaced by mining and oil. This sector has also supplanted agriculture, which has been losing importance since the mid-1990s. Agriculture now makes up a mere 5% of total exports.

Figure 1: Exports by Sector, 1995-2013



Source: Authors' calculations based on DANE data.

The growth of the extractive sector is partly due to the rise of oil and mineral prices since the beginning of the century, with only a slight downturn during the crisis of 2009. These prices, in turn, incentivized more investments in such commodities. In the case of hydrocarbons, new investments have brought the country close to its goal of producing one million oil barrels a day. This can be seen particularly between 2007 and 2010, when the National Hydrocarbons Agency (Agencia Nacional de Hidrocarburos, or ANH) signed 158 new contracts, 27 in the technical evaluation phase and the rest in exploration production.⁹ In contrast, in the case of mining, none of the new investments have resulted in the opening of new mines, but rather have been used to intensify already existing ones and, to a smaller degree, to increase exploration activity. But rather than investor indecision, this situation reflects an underlying institutional crisis that has paralyzed new projects, revealed in the way in which the titling of mining exploration areas has evolved¹⁰, among other factors (see Box 1).

⁹ See www.anh.gov.co

¹⁰ See *Non-addressed Environmental Impacts of Mining: Liabilities for the Environment and Society*, in CGR (2012), p. 145.

Box 1: Mining Titles and Institutional Crisis

Mining titles are rights given by the mining authorities to explore and develop subsoil resources, which are state property.* From 1991 to 2004 these rights were distributed at a moderate pace. But beginning in 2005, as FDI accelerated significantly, so did the distribution of mining titles: from an annual average of 170 titles given out between 1991 and 2004, with an average of less than 40,000 annual hectares per year, in 2005 over 400 titles were distributed, covering 150,000 hectares. This began a trend that the Mining Ministry of the first Santos administration (2010-2014) called “the pinata of mining titles in Colombia.”** In violation of technical guidelines and without regard to constitutional and legal restrictions for giving out titles in areas of special interest (national parks and parks, indigenous territory, etc.) from 2006 onward titling has shot upward to 830 titles given out for over 530,000 hectares per year. Overall, during the Uribe administration (2002-2010) titles were given out for over 4 million hectares, four times more than had been given out over the entire history of the country, under the “first in time, first in right” principle that gives prioritizes timing over qualifications. The new administration, after a two-year moratorium, reopened the titling application process. In six months 3,400 applications were received for 5.3 million hectares of area, and by the end of that year over 2,000 new titles were given out for 1.4 million hectares. In more recent years a reform process has begun in the regulatory institutions for mining. Following the pattern of the ANH, which oversees state-owned hydrocarbon reserves, the ANM (National Mining Agency) was created in late 2011. This new office is charged with overseeing mining resources, seeking to improve on the chaotic situation inherited from before. But over two years after the creation of the ANM, it is still uncertain whether it will be able to rise to the challenge of efficiently carrying out its mission, evidenced by over 9,000 applications waiting to be reviewed (over 5,000 of which have been waiting over two years) for 8 million hectares.

* Once exploration is complete and before development begins, large-scale mines must also obtain an environmental license from the Environment Ministry in addition to the mining title.

** For more, see Carlos Rodado Noriega’s statement from May 30, 2011: <http://www.portafolio.co/economia/caos-titulacion-minera-denuncio-ministro-rodado>.

*** The ANH was created in 2003, splitting from the SOE Ecopetrol which in addition to extracting, refining, and marketing hydrocarbons, also oversaw contract relations with private businesses involved in the sector.

Fuente: Rudas (2014)

Colombia's foreign trade has also seen important changes in the composition of import origins and export destinations, with China rising to be the second most important trading partner. Before 2005, the value of exports to China was very low, reaching only as high as 100 million USD (in 2004) and accounting for less than 1% of total exports (Dane, 2011). In 2010 the situation began to change, with China receiving 4% of the exports from Colombia and ranking fourth among the target countries. In 2013, China reached 9% of the total exports and was only surpassed by the United States, which received almost one-third of the total (Table 1).

TABLE 1: Exports by Destination Country, 2006-2013 (percent of GDP)

2006			2007		2008		2009	
1	U.S.A.	5.9%	U.S.A.	5.0%	U.S.A.	5.8%	U.S.A.	5.5%
2	Venezuela	1.7%	Venezuela	2.5%	Venezuela	2.5%	Venezuela	1.7%
3	Ecuador	0.8%	Ecuador	0.6%	Ecuador	0.6%	Netherlands	0.6%
4	Peru	0.4%	Netherlands	0.4%	Peru	0.4%	Ecuador	0.5%
5	Dom. Rep.	0.4%	Peru	0.4%	Chile	0.3%	Switzerland	0.4%
6	Mexico	0.4%	China	0.4%	Netherlands	0.3%	China	0.4%
7	Spain	0.3%	Dominican Rep.	0.3%	Dom. Rep.	0.3%	Peru	0.3%
8	Netherlands	0.3%	Spain	0.3%	U.K.	0.3%	U.K.	0.3%
9	Italy	0.3%	Italy	0.3%	Brazil	0.3%	Chile	0.3%
10	China	0.3%	Germany	0.3%	Germany	0.3%	Brazil	0.2%
	Others	4.3%	Others	4.0%	Others	4.4%	Others	3.7%
	Total	15.0%	Total	14.5%	Total	15.4%	Total	14.0%
2010			2011		2012		2013	
1	U.S.A.	5.8%	U.S.A.	6.5%	U.S.A.	5.9%	U.S.A.	4.9%
2	Ecuador	0.6%	Netherlands	0.8%	China	0.9%	China	1.3%
3	Netherlands	0.6%	Chile	0.7%	Spain	0.8%	Spain	0.8%
4	China	0.6%	China	0.6%	Venezuela	0.7%	Netherlands	0.6%
5	Venezuela	0.5%	Ecuador	0.6%	Netherlands	0.7%	Venezuela	0.6%
6	Peru	0.4%	Venezuela	0.5%	Chile	0.6%	Ecuador	0.5%
7	Chile	0.4%	Spain	0.5%	Ecuador	0.5%	Brazil	0.4%
8	Brazil	0.4%	Peru	0.4%	Peru	0.4%	Chile	0.4%
9	Switzerland	0.3%	Brazil	0.4%	Brazil	0.3%	Peru	0.3%
10	U.K.	0.2%	U.K.	0.4%	U.K.	0.3%	U.K.	0.3%
	Others	4.1%	Others	5.8%	Others	5.1%	Others	5.4%
	Total	13.9%	Total	17.1%	Total	16.2%	Total	15.5%

Source: Author's calculations based on DANE data.

Imports show a similar trend, as Table 2 shows. By the start of the last decade, China had already risen to the fifth largest source of imports and was closing in on the more important sources (with the exception of the United States, which provided almost a third of the country's imported goods). By the end of the decade, China had established itself as the second largest source of imports. Reaching a value of 8 billion dollars annually - equaling 16% of Colombia's total exports - during the last four years of the decade, China surpassed Mexico and gained ground on the United States.

Table 2: Imports by Origin (Annual Average, billions of USD)

	1995-1999		2000-2004		2005-2009		2010-2013	
1	U.S.A.	4.7	U.S.A.	4.3	U.S.A.	8.5	U.S.A.	13.7
2	Venezuela	1.3	Venezuela	0.9	China	3.1	China	8.5
3	Japan	0.9	Mexico	0.7	Mexico	2.5	Mexico	5.5
4	Germany	0.7	Brazil	0.7	Brazil	2.0	Brazil	2.6
5	Mexico	0.5	China	0.6	Venezuela	1.2	Germany	2.1
6	Brazil	0.5	Japan	0.6	Germany	1.2	Japan	1.4
7	Spain	0.3	Germany	0.6	Japan	1.0	Ecuador	1.0
8	Ecuador	0.3	Ecuador	0.4	Ecuador	0.7	Spain	0.7
9	China	0.2	Spain	0.2	Spain	0.4	Venezuela	0.5
	Others	4.2	Others	4.6	Others	10.0	Others	18.0
	Total	13.6	Total	13.6	Total	30.6	Total	53.5

Source: Author's calculations based on DANE data.

In summary, although China is still not a major source of FDI, the country has quickly established itself as a primary trading partner, surpassed only by the United States. As an export destination, China is an important actor in Colombia's GDP and its generation of foreign exchange, as well as in the channeling of resources to the State. However, because these exports are concentrated in the extractive sector, the many risks that present themselves must be suitably managed if positive returns are to be obtained from this type of activity.

2.1 Colombian Extraction and China: Large-scale coal mining and oil extraction

The State's interest in encouraging extractive activity mainly involves income from taxes and royalties, as well as attracting FDI. From 2006 to 2010, mining and hydrocarbons together accounted for 28% of tax revenues in Colombia. Most of the boom has been due to an increase in the volume of exports, although the considerable profit margins generated by the price boom have also contributed.

If we separate mining from hydrocarbons, we find that the hydrocarbons alone represent more than one-third of the value of the country's total exports, and contributed close to one-fourth of the central administration's income between 2006 and 2010. In contrast, during the same period minerals contributed little more than 4% to total public revenue, despite accounting for more than 20% of total export value¹¹.

This asymmetry between hydrocarbons and mining in their contributions to public finance can be attributed to a variety of factors. From 2000 to 2010, minerals' share of state revenue was roughly proportionate to their share of GDP. In contrast, hydrocarbons in the same period contributed between four and seven times more to the finances of the central government than to the economy as a whole. Such a situation arises from at least two different conditions. First, the hydrocarbon sector does not only export, but supplies the internal market with fuel and petrochemicals. In contrast, large-scale mining exports practically raw products, with little or no value added. Second, the government participates directly in the production of hydrocarbons through Ecopetrol, a joint venture that extracts more than a third of

¹¹ More details in Rudas (2014).

the oil in Colombia and operates the country's only refinery.¹² In contrast, since the 1990s the state has not participated directly in the extraction and processing of minerals, completely privatizing previously public mining companies¹³. Finally, there is a significantly more consolidated institutional presence due to the regulation of the ANH, together with Ecopetrol and its research center (the Colombian Petroleum Institute), along with a consolidated business association (the Colombian Petroleum Association) and an influential labor union (Unión Sindical Obrera, or USO). The processes of negotiation are more or less balanced, and much more transparent than what prevails in the mining industry.

The rest of this paper focus more specifically on the social and environmental aspects two extractive sectors in Colombia. First, it explores trends in large-scale coal mining, for which China is a major importer. Second, it covers oil drilling, in which China is present through FDI projects. Specifically, it develops a case study of the Chinese oil SOEs Sinopec and Sinochem in Colombia.

3. Large-scale coal mining: social and environmental conflicts

After oil, Colombia's second leading export is coal, in which Colombia challenges Russia for third place in world supply. China is far and away the primary importer (Table 3). This current situation can be traced back to an unsuccessful attempt by the Colombian government to extract coal directly, in association with foreign capital. In 1976, the state enterprise Carbocol was created and tasked with managing the extraction of coal either on its own or in partnership with private capital. Carbocol signed a contract with Intercor – a subsidiary of Exxon (USA) – to

¹² Colombian citizens own 10.1% of Ecopetrol's shares (Benavides, 2011).

¹³ Cerro Matoso S.A. was created in 1979, with state ownership, to mine ferronickel. In 1997, the state sold 53% of its share to BHP Billiton (Dávila et al., 2006). Cerrejón was created in 1976 with ownership split equally between the state and Exxon, exporting 49% of Colombian coal between 1994 and 2012. The company was privatized in 2000 (Rudas, 2013).

extract coal for 30 years with equal participation of all parties (the Cerrejón project in La Guajira). This agreement was reversed in 2000, when the government sold its share to an international consortium composed of BHP Billiton (Great Britain), Anglo American (South Africa), and Glencore (Switzerland), the latter partnering with Xstrata (Australia) to form what is now Glencore Xstrata.

**Table 3: Largest Exporters & Importers of Thermal Coal,
millions of metric tons**

A. Top Exporters

	2005		2006		2007		2008		2011		2012	
1	AUS	106	AUS	111	IDN	171	IDN	173	IDN	309	IDN	380
2	IDN	89	IDN	104	AUS	112	AUS	115	AUS	144	AUS	159
3	ZAF	72	RUS	82	RUS	85	RUS	86	RUS	110	RUS	116
4	RUS	67	ZAF	68	COL	67	COL	74	COL	75	COL	82
5	CHN	66	COL	60	ZAF	66	ZAF	61	ZAF	72	ZAF	74
6	COL	55	CHN	59	CHN	51	CHN	43	USA	34	USA	51
7	USA	19	USA	20	USA	24	USA	35	KAZ	33	CAN	4
<i>Global Total:</i>		<i>548</i>		<i>593</i>		<i>(...)</i>		<i>676</i>		<i>857</i>		<i>963</i>

B. Top Importers

	2005		2006		2007		2008		2011		2012	
1	JPN	114	JPN	105	JPN	128	JPN	128	CHN	146	CHN	218
2	TWN	57	KOR	60	KOR	65	KOR	76	JPN	121	JPN	132
3	KOR	56	TWN	58	TWN	61	TWN	60	KOR	97	IND	123
4	GBR	37	GBR	44	GBR	43	DEU	37	IND	86	KOR	94
5	DEU	31	DEU	33	CHN	42	GBR	37	TWN	62	TWN	56
6	(...)		CHN	29	DEU	36	CHN	35	DEU	32	GBR	40
7	(...)		IND	22	IND	31	IND	31	GBR	27	DEU	36
<i>Global Total:</i>		<i>548</i>		<i>593</i>		<i>(...)</i>		<i>676</i>		<i>857</i>		<i>963</i>

Source: Author's calculations based on World Coal Association data.

Note: AUS: Australia; CHN: China; COL: Colombia; DEU: Germany; GBR: Great Britain; IDN: Indonesia; IND: India; JPN: Japan; KAZ: Kazakhstan; KOR: South Korea; RUS: Russian Federation; TWN: Taiwan; ZAF: South Africa

The production and export of thermal coal was restricted for many years to Cerrejón. However, midway through the 1990s the company Drummond (USA) initiated new projects in Cesar. Other smaller projects¹⁴ began to appear that ended up combining together under the tutelage of Glencore Xstrata, co-owner of Cerrejón. Others¹⁵ commercialized together with Drummond. In a few years, the extraction of coal in Cesar surpassed that of La Guajira, representing around 60% of annual exports in recent years. Colombia exported 40 million tons between 2000 and 2004, and more than 75 million tons in 2011 and 2012.

Colombia's opening to the Chinese market has energized the current growth of its total exports. Between 2000 and 2010, China imported an annual average of just 15 thousand tons of Colombian coal. In contrast, between 2010 and 2011, Colombia sent China an annual average of more than three *million* tons of coal: 4% of total Colombian coal exports. In this context, we will analyze the economic, social, and environmental impacts on the regions where the exportable thermal coal from Colombia is produced: the departments of Cesar and La Guajira.

3.1 Coal and chains of production¹⁶

Between 2007 and 2012 in Cesar and La Guajira, where the exportable coal is located, extractive activity generated a value-added between 3 and 4 million Colombian pesos per resident – followed distantly by the agricultural sector at 300 to 400 thousand pesos per resident. At the beginning of the 1990s, Cesar registered more than 200 thousand hectares of seasonal crops; in 2010 only 25 thousand hectares remained, and there were no significant increases in productivity. Two

¹⁴ Prodeco, La Jagua Coal, United Mining Consortium, and Treasure Coal.

¹⁵ *Norcarbón* and Vale Coal Colombia.

¹⁶ More details in Rudas (2014).

very important crops (cotton and sorghum) practically disappeared after once occupying close to half of the sown area of the department. With the exception of cacao, which grew from one thousand to six thousand hectares, the permanent crops of peasant farmers receded as well, falling in area by nearly half from the beginning of this period. The only crop that has shown significant momentum is oil palm, a high-growth agro-industrial crop that receives subsidies for agrofuels. In La Guajira the situation is even more critical, with all of the crops showing a significant reduction¹⁷.

Moreover, mining has few links to other activities, which affects the local population. Information from financial statements from companies that operate in these areas (Cerrejón in La Guajira and Drummond in Cesar), complemented by detailed information provided by the companies, shows that they have little impact on the local economies: between one and two percent of their total income is used to purchase local goods, while 35% of Cerrejón's income and 47% of Drummond's income is spent on foreign purchases. More than 55% of their total after-tax profits leaves the country, either for the payment of external suppliers or in remittances.

Furthermore, for these two companies that export three-quarters of the country's total coal, government revenue via taxes and royalties represents an average of 51% of their total operational profits¹⁸.

From the perspective of workers' compensation, one of the implications of the decline in agriculture and the lack of industry participation in mining regions has been low job creation. According to figures from DANE, between 2000 and 2011, for every 100 pesos of gross operating surplus generated by agriculture, workers

¹⁷ Agronet, Ministry of Agriculture.

¹⁸ This figure contrasts with a study contracted by the mining guild, conducted based on a hypothetical company that would give 74.4% of its profits to the state (Ernst & Young, 2012).

received a wage of 742 pesos; in contrast, in the case of coal mining the ratio was just 23 pesos in wages for every 100 pesos in gross operating surplus (Rudas and Espitia, 2013a). The difference is due in part to the lack of employment generated directly by mining companies or through subcontracting. According to estimates from the University of the Andes (2010, p. 181), in 2007 all of the mining activity in Cesar employed less than 5,400 workers, of which only 2,700 were native to that department. This is a very low level of employment, especially when viewed in relation to the 35 million tons of coal exported from the region in 2007 – equaling more than 10% of the total value of the country’s exports and over 1% of the total GDP during that year.

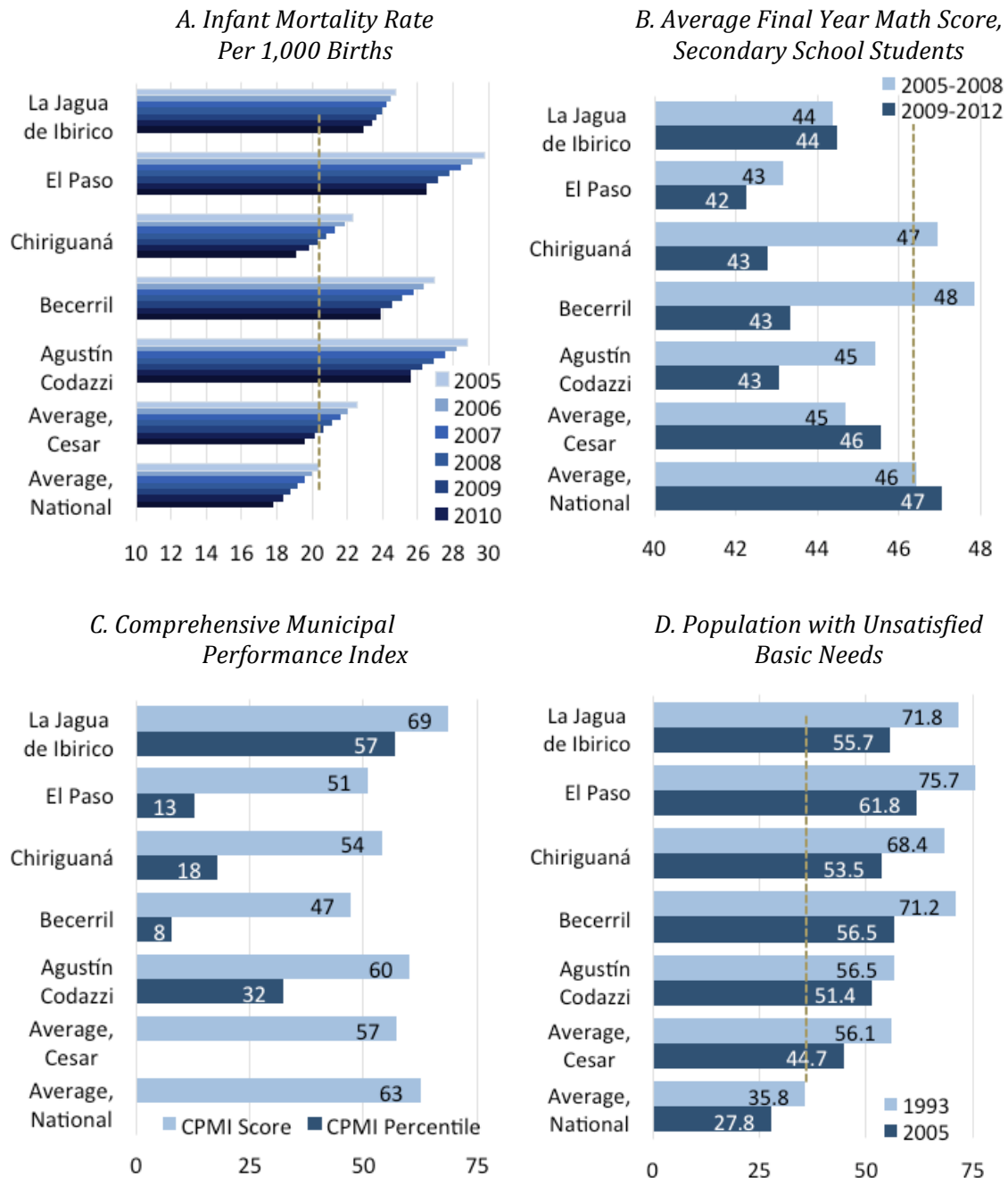
3.1.1 Generating wealth amid poverty and environmental damage

Recent studies have shown that the regions of Colombia where coal has been extracted for two or three decades show extreme poverty and very little government presence. Though their public authorities have much higher per-capita incomes than in the country’s other municipalities, the living conditions of the general population are lower, comparable only to those municipalities with the highest rates of conflict. The populations in the coal mining municipalities of Cesar and La Guajira exhibit similar, or worse, living conditions than what has been recorded in isolated locations of coca cultivation (Rudas and Espitia, 2013a).

Human development indicators for the municipalities of Cesar from where coal is extracted provide evidence for this claim (Graph 2). Infant mortality rates – an indicator used to measure health services – are declining, but still remain well above the departmental and national average in almost all cases. Students in their final year almost always score lower than the departmental and national average on the unified exam. The comprehensive municipal performance index (CMPI), which measures various qualitative factors regarding government services, is far lower than the national average in almost all cases (with the exception of just one

municipality). Finally, more than half of the population has at least one basic need that has not been met, as compared to the national average of less than 30%.

FIGURE 2: Mining Municipalities in Cesar: Social and institutional indicators



Source: Author's calculations based on DANE, Instituto Colombiano para el Fomento de la Educación Superior (ICFES), and Departamento Nacional de Planeación (DNP) data.

This situation, unacceptable for a region that has been home to one of the primary vehicles for national economic growth for years, is exacerbated by environmental impacts that are far from being responsibly managed. First, open pit mining affects huge areas of land, as well as surface and underground water. One indicator of the magnitude of this impact is the relationship between exported coal and the waste material that is removed and deposited in the region. Over the course of two decades more than 250 million tons of coal have been extracted from Cesar: an insignificant amount compared with the nearly 5 billion tons of waste material extracted by Drummond and the 7.5 billion tons removed throughout the department.¹⁹ While the companies consider this waste material to be “sterile”, its extraction has removed it from an geologically isolated state underground and exposed it to air, light, and water, triggering chemical reactions in the exposed waste, impacting both surface and underground water sources (Fierro and Lopez, 2014).

Another important environmental factor is water use: according to available data, around 178 liters of water may be used per ton of extracted coal.²⁰ According to this figure, Prodeco, the second largest producer of coal in Cesar, could be using close to 2 million cubic meters of water per year; and Drummond, the largest company, could be using close to 5 million cubic meters. But while Drummond has authorized an annual volume of more than 35 million cubic meters per year (7 times its current usage), Prodeco only has authorization to use 275 thousand cubic meters, barely a fourth of what could actually be used, according to the company’s own estimates. Moreover, according to data from regional environmental authorities, in 2011 Drummond paid just 140 dollars for all of the water authorized and used for its mining activities during that year.²¹

¹⁹ Calculations from CGR (2013) and Drummond (1990).

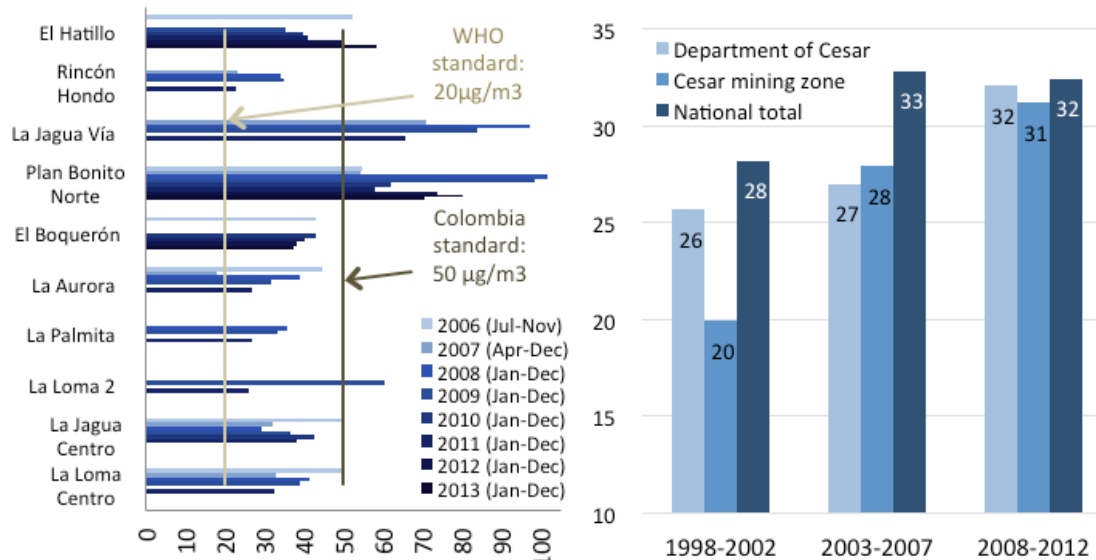
²⁰ Environmental management plan from Prodeco S.A., cited by the University of the Andes (2010).

²¹ *Corpocesar*, report to the Ministry of Environment on water usage rates.

Aside from the effects on water, perhaps one of the most troubling issues facing the region is air pollution generated by coal extraction and transportation. The air quality in the mining region of Cesar is dangerous (Graph 3). With a few notable exceptions, the majority of record points consistently report concentrations of particulate matter (PM₁₀) within the maximum permissible level in Colombia, but these concentrations also consistently exceed the maximum limit recommended by the World Health Organization (WHO).

This is an especially risky situation, as shown by the few available indicators related to public health. For example, the average death rate for acute respiratory infections (ARIs) in mining towns in the region has risen from 20 for every 1,000 total deaths between 1998 and 2002, to 31 per thousand between 2008 and 2012. At the beginning of the period in question, marked by the emergence of extractive activity, these towns exhibited rates far lower than the departmental average (over 25 per thousand) and the national average (28 per thousand). However, this indicator increased far more rapidly in the mining towns than in the other municipalities in the department and the nation as a whole, equaling these averages by the end of the period. In other words, the death rate in the mining towns increased during this period by 55%, far greater than the 15% rise estimated by the WHO when PM₁₀ levels went from 20 µg/m³ to 70 µg/m³ (WHO, 2005, p. 11).

Figure 3: Air Quality and Mortality Indicators, Cesar Mining Areas



Source: Authors' calculations based on the *Red de calidad de aire zona minera de Cesar* (Ministerio de Ambiente and Sisaire-Corpoesar), WHO (2005), and DANE data.

Faced with such dangerous levels of particulate matter, in 2010 the Ministry of the Environment ordered mining companies to relocate the area's residents.²² The Comptroller General of the Republic deemed this decision to be both late and erroneous, arguing that an environmental license should not have even been issued without first requiring, as a condition preceding the start of operations, the resettlement of these communities. The Comptroller also noted, among other aggravating factors, that the mining industry had exacerbated the already precarious living conditions of the region's inhabitants, that the environmental authorities did not promptly punish the companies for failing to fulfill their obligations to the community, and that the participation of local actors in the decision-making process regarding relocation was reduced to nothing more than observation (CGR, 2013a). Moreover, postponement of the relocation intensified the

²² Resolution 970 (20.05. 2010).

conflict. In a guardianship action brought before the Constitutional Court, Drummond was found responsible for adversely affecting the health and privacy of the area's residents²³, and a ruling was given in favor of the family that filed the lawsuit. Drummond's actions affected 436 families in the region, or more than two thousand people. However, the delay in implementing measures along with the expectation of a resettlement plan created a magnet for the poor, and swelled the number of residents to just shy of one thousand families, or about 4,500 people (CGR, 2013a).

All of these situations, and many others identified in a field study conducted by the University of the Andes (2010) for the Ministry of the Environment, suggest that the benefits that the region's inhabitants have been able to receive do not outweigh the environmental costs, which is aggravated by the poverty of the local population²⁴.

4. Oil extraction: a case study of a Chinese company

Chinese investments in oil extraction in Colombia are small but growing, and are associated with the state enterprises Sinopec and Sinochem. Since 2006, Sinopec has equally shared the Colombian assets of Mansarovar Energy with the Indian state enterprise ONGC Videsh. Furthermore, in 2010 Sinopec purchased fields from US-based Hupecol, and created a new company called New Granada Energy Colombia (NGEC). For its part, Sinochem has been extracting oil in Colombia since 2006 via Emerald Energy, a subsidiary of Sinochem Resources UK. Between these three companies, China has gone from producing 14 kbd (thousand barrels per day) of oil

²³ Ruling T-154 of 2013. See details in Rudas (2013).

²⁴ Applying economic valuation techniques to the environmental impacts of mining, this study concludes that the benefits received by the local population as a result of mining represent only 85% of the costs that the population is burdened with, due to the hidden environmental deterioration that goes uncompensated by mining companies (University of the Andes, 2010).

in 2009 (2.1% of total national production) to 25.4 kbd in the first semester of 2014 (2.6% of total national production).²⁵

For this case study we have chosen to focus on NGEC, which operates primarily in the town of Paz de Ariporo in the department of Casanare, located in the eastern plains of Colombia – a region from which a significant portion of the country’s oil is extracted²⁶. We start by describing the oil extracting activity in the department of Casanare, emphasizing the peak incidence of oil in the regional economy and in public finances. Next, we describe the primary impacts of this activity in Paz de Ariporo, where NGEC operates. Finally, we present the principal characteristics of this company, as well as the environmental and social impacts of its operation, while considering the most prevalent risks associated with it.

4.1 Oil, economy, and public finances in Casanare and Paz de Ariporo

According to figures from the ANH, close to a fifth of the 983 kbd of oil extracted in Colombia (in the first semester of 2014) comes from the 45 thousand square miles of the department of Casanare. The extraction of oil in the region has soared since the middle of the 1990s, profoundly transforming the local economy. According to figures from DANE, with an estimated population of 350 thousand²⁷ in 2014, Casanare was primarily a livestock economy in 1990: 62% of the total value-added

²⁵ According to ANH figures, Mansarovar currently extracts 38.9 kbd, of which 10.6 correspond to Sinopec, another undetermined amount to the Indian investment, and 17.8 to Ecopetrol, with whom Mansarovar has a partnership contract. NGEC (Sinopec) extracts 8.2 kbd and Emerald (Sinochem) extracts 6.6 kbd.

²⁶ This town was chosen given that more than 90% of NGEC’s production occurs here. Interviews were conducted with community leaders and officials from local government entities. Information was requested from entities at the national, regional, and local level, and field records of the National Environmental Licensing Authority (ANLA) were analyzed. An interview with NGEC was requested, but it was impossible to establish direct contact with the company.

²⁷ 74% in 19 county seats and the rest in rural areas.

came from that sector, 8% came from agriculture, and 12% came from oil. Starting in 1995, oil has grown significantly, contributing 84% of the regional value-added in the year 2000 (with 3% coming from livestock and 1% coming from agriculture). Even with a downturn in the following years, the extractive sector still contributed 61% of the value-added in 2012, with livestock contributing 7% and agriculture contributing 3%.

These changes are not only due to increased oil extraction, but also to the deterioration, in absolute terms, of the other sectors. In 1990, oil contributed little more than one thousand dollars of value-added per resident,²⁸ yet by 1999 had reached its highest point at more than 17 thousand dollars. It has since progressively declined, contributing a value of 6 thousand dollars in 2012. On the other hand, livestock generated five thousand dollars per capita at the beginning of this same period, falling to its lowest point in 2003 at less than 325 dollars, and slowly recuperating to a value of 750 dollars at the end of the period. The agricultural sector began this period with a value-added between 700 and one thousand dollars per resident (1990 to 1995), before collapsing to 100 dollars in 2002, and moderately recuperating to a little less than 350 dollars in 2012. Coinciding with one of the first oil booms, between 1994 and 1998 the construction sector – specifically concerning civil projects – exhibited atypical behavior: its value-added per capita grew from less than 300 dollars in 1990 to more than 3,350 dollars in 1998, returning to normal values of less than 500 dollars from 1999 until the end of the period. This reflects important local investments in infrastructure, which were necessary to boost oil activity in the region.

The oil boom also had a positive impact on public finances. A system of royalty distribution was already in effect for the extractive sector in Colombia, meaning that around 85% of royalties were paid to the territorial authorities in the departments

²⁸ 1 USD = 2,321 Colombian pesos from 2005.

and municipalities where oil extraction took place. Between 1990 and 1994, before the oil boom in Casanare, the income for the authorities of the region increased in real terms to 180 dollars annually per capita. Between 1995 and 1999 the value grew to 600 dollars, increasing between 2003 and 2012 to an annual average of 1,390 dollars – almost eight times that which was recorded at the beginning of the period. Two factors contribute to this result: first, the annual income from royalties increased from less than 100 dollars per resident in the first five years of the period to an average of 760 dollars in the last ten years of the period. However, there also appears to be a dynamic effect on the tax on industry and trade, increasing from six dollars annually per capita in the first five years to 44 dollars in the last five years of the period²⁹. Finally, the dynamism in public finances is reflected in another favorable indicator for the population: the growth of the value-added of educational services, health services, and social security, which practically tripled from less than 180 dollars annually per capita in the first five years that were analyzed (to 520 dollars annually per resident, compared to the national average of 503 dollars).

These same trends can be seen in Paz de Ariporo. The annual income per capita of the territorial authorities more than quintupled between the first and last five years of the period, increasing from 180 to more than 1,450 dollars per capita.

4.2 Environmental impacts of NGEC in Paz de Ariporo

Extracting hydrocarbons in Colombia requires a universal environmental license, granted by the National Environmental Licensing Authority ([Autoridad Nacional de Licencias Ambientales](#), or ANLA). This license establishes general management measures for preventing, mitigating, correcting, and finally compensating for the effects identified in the environmental impact study, authorizing the operator to conduct extractive activity in any part of the area covered by the license. Initial

²⁹ Figures from the National Planning Department (DNP).

extraction is contingent upon the presentation to ANLA of a specific management plan for each site. However, the norm for the extraction of hydrocarbons is such that these specific plans do not need to be evaluated or approved by ANLA, and in fact simply making the presentation is sufficient for gaining the authority's approval.³⁰ Moreover, the permits for the allocation and use of renewable natural resources are implicitly included in the respective licenses, which are approved by ANLA, which in turn assumes the responsibility of verifying and controlling compliance with the management plans.

When Sinopec purchased four fields in 2010 to create NGECC, this new company began extracting a total of 6.7 kbd of oil. During this period, 75% of Sinopec's total capacity was extracted from the two largest fields, located in Paz de Ariporo. The company's total capacity was raised to 9.6 kbd by 2013, 8.7 of which corresponded directly to these two fields, contributing 58% of the total oil extracted by all of the companies in Paz de Ariporo.³¹ In 2005 and 2007, Hupecol presented the environmental impact studies for the two fields located in Paz de Ariporo (purchased by Sinopec), and obtained the respective licenses by the end of 2008. These licenses took into account the construction and adaptation of exploratory wells, the adaptation and construction of roads, the drilling and testing of production wells, and the transportation of oil in tankers, as well as the decommissioning and abandonment of these facilities upon completion of the project.

NGECC's fields are located in the Orinoquía, a special ecosystem of flooded savannas located southeast of the county seat of Paz de Ariporo, accessible by 115 kilometers

³⁰ Order 2820 of 2010, article 4.

³¹ According to data from the ANH, two companies (Hupecol and Pacific Stratus Energy) share 25% equally among themselves, while the remaining 17% comes from another 7 companies that operate in the municipality.

of unpaved roads. As its name implies, this ecosystem is characterized by frequent floods, evidenced by geological formations such as low, meandering, abandoned riverbeds, dams, and bodies of water both permanent and seasonal. These plains could even be characterized as stable wetland systems “if they are analyzed over long periods of time, according to the behavior of the basin, the course of the river, and the plains, and if we accept the assertion of Alfredo Paolillo and other Venezuelan Orinoquía researchers” (Bank of the West, 2005).³²

Given the characteristics of the ecosystem, the presence of threatened species of fish and reptiles, and its importance for migratory birds, a study on the Orinoco River basin in Colombia and Venezuela selected - from among 19 areas of special interest for the conservation of biodiversity - one of three thousand square kilometers located in Paz de Ariporo. The creation of *Parque de las Hermosas* has been proposed in this region, which would occupy a quarter of the area of the municipality, thus protecting the Orinoquía wetland system that makes up about a third of the municipality’s 12,000 square kilometers. This would protect the ecosystem and the ecological functions of the wetlands, which is currently not represented in the country’s national park system (Lasso, et al., 2010 and Rincón et al., 2014).

NGEC’s fields in Paz de Ariporo are located within this fragile wetland ecosystem, precisely in the La Hermosa basin targeted as the zone proposed for the newly protected area. Despite this close proximity, no mention of it is made in ANLA’s environmental monitoring reports, nor are any special actions proposed for the extraction of oil in wetland environments. Furthermore, the construction of 67 kilometers of internal and access roads have been permitted using a method of *lateral loans*, or longitudinal excavations parallel to the roads, in order to construct

³² Alfred Paolillo, Master in Hydraulics and Fluid Power Technology/Technician at the University of Modena and Reggio Emilia (Italy), Hydraulic Test and Application Engineer at Bosch Rexroth.

the embankments.³³ These excavations are between 90 and 100 meters in length and between 9 and 10 meters wide, with a separation of around 6 to 10 meters between each loan area and with location and road levels at 50 centimeters or less in an area of floodplain. Furthermore, all of this has been authorized without consulting any detailed regional hydrologic and hydraulic studies, and without taking the necessary precautions to ensure the normal flow of water in frequently flooded lowlands, such as adequately designed drains, bridges, pontoons, and box culverts. Moreover, the development of NGEC's fields has also taken place in floodplains, with the digging of wells and the construction of sites in lowlands that surpasses the hydraulic capacity of the systems constructed to drain water in the rainy season. Finally, the high level of ground water must be taken into consideration, which is intensified by the perforations adjacent to the roads and sites made to extract material, as well as the heavy oil tanker traffic that systematically deteriorates the condition of the access roads.³⁴

Regarding the impact of these types of roads, a study conducted in the Venezuelan Orinoquía (Rial, et al., 2010) found that by building them in floodplains without the necessary complementary projects, they end up becoming dams that limit the flow of water and reduce the pulse amplitude of floods with gaps between the banks, silting, and sedimentation. This also damages the savanna by limiting or exceeding the supply of nutrients to the floodplain, as well as by enriching certain lentic systems, which contributes to a decline in species richness. However extreme weather events, such as floods or droughts, becoming more frequent and intense due to climate change (IPCC, 2014) poses the greatest threat to these ecosystems

³³ In another project in the Orinoquia floodplain, operated by Ecopetrol, ANLA banned the use of lateral loans due to the high environmental impacts on soil and water flows (ANLA, Resolution 179, February 27, 2014, article 19).

³⁴ During the visit for this study, the rate of traffic was determined at 20 vehicles per hour, 18 of which were associated with oil activities (tankers, dump trucks, pickups, cargo trucks, and tractor trailers with equipment and supplies for oil operations). The companies that use this road are NGEC, Hupecol, Pacific Stratus Energy, Geopark, and Perenco.

and the population that uses their water – including the fishing sector, the agricultural sector, and even the oil sector itself.

In terms of seismic exploration, only environmental licenses are required for the building of roads in Colombia, and only in certain cases. The mining (ANH) and environmental (ANLA) authorities merely require isolated distances between the shot points and houses, bodies of water, and other sensitive areas (Herrera and Cooper, 2010). However, it has been shown that seismic exploration changes the pattern of surface movement of rainwater and runoff, causing surface fissures in the soil and deepening the phreatic stratum, as well as altering the subsoil in the extensive area where the blasts from different seismic programs are located (CGR, 2014). Furthermore, the companies that carry out this seismic exploration do not conduct regional hydro-geological studies to evaluate the cumulative impact of the blasts on unconfined and semi-confined shallow aquifers, nor are such studies required by the appropriate authorities.

Given the characteristics of the wetland ecosystem, one of the riskiest situations is water pollution. In Paz de Ariporo, the fluid extracted by NGECC contains 22% oil, while the remaining 78% is water and basic fluid that must be returned to the natural environment (Mazuera, 2014). To this end, the company utilizes a formation water treatment system prior to dumping the unused fluid. However, many questions arise. For example, the maximum concentration limit for chlorides in the discharged fluid established by the environmental license is 250 mg/L, but in reports supplied by NGECC, ANLA found chlorides in post-treatment formation water in the order of 2,370 mg/L. In turn, ANLA requested information on the quality of the discharged fluid, and consequently obtained NGECC lab results that confirmed levels above the maximum allowed limit³⁵. Taking these results into consideration, the environmental authority began an investigative process for exceeding the

³⁵ ANLA, Auto 3068 of 2012.

maximum allowed limit and for failing to provide the required number of samples.³⁶ Moreover, irregularities in the fluid dumps and inconsistencies in the data have been reported since the very first environmental compliance reports in 2007. However, only in August of 2011 was this alleged irregularity found by the environmental authority, reflecting weakness on its part in exercising adequate control.

Further failures on the part of both NGEN and ANLA have mandatory investment commitments unfulfilled and long overdue. Colombian law states that projects that use water must allocate at least 1% of the total value of their investment to the recovery, preservation, and protection of the watershed that feeds their water source. The environmental licenses granted to Hupecol (now NGEN) in 2008 established an obligation to allocate 650 thousand dollars to this end,³⁷ subject to the presentation of a detailed investment plan to the regional environmental authority (Corporinoquia)³⁸ within a period of four months. In order to comply this obligation, the company agreed, among others, to an investment of 500 thousand dollars with Corporinoquia for the purchase of land for environmental protection in the mountains of Zamaricote, located in the piedmont plains northwest of Paz de Ariporo, more than 100 kilometers from the protected area. In November of 2010, upon finding that these investments had not been put into effect, ANLA required NGEN to present an updated program two months later, which was approved in

³⁶ ANLA, Notice 4120-E2 35411 to NGEN, August 11, 2014. The investigation has been ongoing since September of 2012, but since then no information has been found in the file regarding any advancement in this process.

³⁷ Exchange rate in 2008: 1 USD = 1,967 Colombian pesos

³⁸ In Colombia, in addition to the national environmental authority, there are autonomous regional corporations with environmental authority in their respective areas of jurisdiction, as is the case with Corporinoquia in the Orinoco basin. However, with the centralization of the licensing process for these types of projects, these regional authorities carry out very few functions. Control of the investments is one of the few powers they have left.

February of 2011. In March of that same year, the company reported that it was compiling information, but due to problems of public order the competent authority³⁹ had failed to collect the necessary cadastral information, requesting an extension of the deadline set by ANLA. In July of 2012, the communities in the project area requested that these investments be made in the region affected by the company's activities, and not as far away. In November of 2013 a social/environmental organization sought action against the incompleteness of these investments⁴⁰. In the first half of 2014, the Comptroller General of the Republic implemented a special course of action to address the environmental problems in the town of Paz de Ariporo.⁴¹ After reviewing 50 different records, the Comptroller found that the mandatory investments had not been fulfilled due to the failure of ANLA to adequately perform its functions of monitoring and control, which directly affected the basin recovery program. The Comptroller did not accept the depositions taken from ANLA on breach of their institutional functions of monitoring and oversight of the mandatory investments of the company in conservation of watersheds, upholding its finding of alleged tax liability on part of the entity (CGR, 2014). To conclude, six years after establishing these mandatory investments, NGEC has not made any of them nor has it presented any specific investment plans. All of this reflects the unwillingness of the company, as well as ANLA's lack of control, despite the sanctions imposed by Corporinoquia on NGEC for its lack of compliance.

³⁹ The Agustín Codazzi Geographical Institute (IGAC) is the national entity in charge of cadastral matters.

⁴⁰ Communication to ANLA directed by the ecological group Mastranto (08.11.3013).

⁴¹ Between December of 2013 and March of 2014, a severe drought occurred in the region of Paz de Ariporo where NGEC operates, causing an undetermined amount of animals to die (capybaras, turtles, alligators, caimans, and cattle). One hypothesis is that this phenomenon arose from synergistic and cumulative impacts concerning "the high mountain plateaus, where rivers originate that supply Casanare; intensive farming that compacts the soil and hinders the ability of rainfall infiltration and runoff; low moisture retention capacity in the sandy surface; the limited production capacity of the soil; and the use of groundwater from oil sites, all of which makes the area more susceptible to the impacts of climate change" (IGAC, 2014).

4.3 Social impacts of NGECE's operation in Paz de Ariporo

In the 2005 census, the town of Paz de Ariporo registered 18,000 inhabitants in urban areas and 9,000 in rural areas, with a rural population density of 0.63 inhabitants per square kilometer. Of the total population, 925 people identified as indigenous and 539 as Afro-descendent. However, in the area of influence of NGECE's contracts, the presence of indigenous or Afro-Colombian communities was not reported⁴², acknowledging instead only the *campesino* population.

The community in the region is not generally opposed to NGECE or other oil companies. However, daily relations are tense and acts of resistance occur over sensitive subjects, such as the obligation established in the environmental license to hire local workers. The community claims that the companies do not hire sufficient personnel from the region, and demands that the job requirements be relaxed so that more local people can qualify, and that more local people receive job training. The community has noted that, despite the existence of a workforce in the area, outside workers are sometimes hired. For example, the mayor of the municipality of Paz de Ariporo reports that, between April 2012 and July 2014 there were demands on these issues were issued by the Association of Technicians and Professionals of Paz de Ariporo, of the local owners of dump trucks, and local communities of Caño Chiquito, Centro Gaitán and Normadía.⁴³ Furthermore, it has called for improvements in labor welfare conditions, and has protested the fact that subcontracting and intermediation companies do not meet its demands regarding working conditions, and have on occasion delayed workers' pay. When these

⁴² The Ministry of the Interior certifies the presence of ethnic communities in the area of interest of these projects.

⁴³ Communication with the authors, 6 October 2014.

tensions are exacerbated, the community applies pressure in the form of strikes, blockades, and demonstrations.⁴⁴

One particularly inflammatory practice is the chosen method of identifying and presenting local candidates for hire,⁴⁵ a responsibility delegated to the long-standing community action boards that are traditionally present in rural areas of Colombia. Complaints have been reported concerning the influence of the presidents of these boards on negotiations, alleging that the presidents control the rotation of local personnel and pointing to the fact that on occasion they have illegally demanded money for assigning quotas. Regional officials from the Ministry of Labor state that these community complaints have not been formalized for fear of losing the possibility of an employment relationship. However, the president of the Association of Community Action Boards (Asojuntas) notes that while such situations do occur, they are not widespread. She has further expressed that the internal regulations of these organizations – recognized by law – allow for margins of autonomy when assigning and rotating quotas within their communities. This lax view of autonomy may increase the high risk of assigning quotas based on personal favors, and not in legal way according to the capabilities of potential workers.

Conflicts regarding the contracting of local workers are widespread across Colombia's oil zones. In response, the national government has devised a strategy to regulate labor intermediation,⁴⁶ which joins together the National Learning Service (SENA) and the Casanare Family Compensation Fund (Confacasanare) in the region so that these two entities may assume the functions currently carried out by the

⁴⁴ See the workers' strike (July 2014) <http://www.casanare.gov.co/?idcategoria=32662> and the transportation strike (November 2012) <http://kratosveeduria.blogspot.com/2012/11/accion-de-kratos-veeduria-como.html>.

⁴⁵ The oil industry has very little relative ability to generate direct employment: between 2000 and 2011, for every 100 pesos of gross operating surplus generated by this sector, 10 pesos went toward labor remuneration. Compare this with 69 pesos in industry and 742 pesos in agriculture (Rudas and Espitia, 2013a).

⁴⁶ Order 2852 of 2013 (December).

community action boards. In this regard, the official consulted from the Ministry of Labor of Casanare noted that this has not been well received in the region, given that traditional intermediaries could lose their responsibilities. Furthermore, it has been argued that people who are not from the region could put their resumes into the new system, thereby displacing local residents. In this context, a panel was recently formed in the municipality to propose mechanisms to implement the orders in the presidential decree.

Another area in which the community has demanded change is the layout of an access road to the NGEC fields. The community pushed for modification of the layout of the road, so that it could also serve as a road to connect the region with the county seat. The community also demanded that NGEC maintain the road, and signed an agreement with the company on that regard. However, according to community leaders, NGEC has either objected to or delayed the agreed-upon investment, citing high costs and the presence of other oil companies in the area. This has been a recurring claim in recent years, which reflects as much the high sensitivity of the subject as the low willingness of NGEC to comply - and of ANLA in demanding that the company does so. In addition, the community has rejected the construction of a pipeline that would serve the region, apparently out of fear of losing opportunities for the provision of food and housing services, among others, which are provided on the road to oil tanker drivers.

4.4 Transparency in the company, the authorities, and the community

For this research, we solicited information from NGEC concerning its social and environmental investments, complaints from the communities, ongoing investigations, and environmental problems. In Colombia, private entities that manage public resources such as oil are required to meet these requirements and respond to these issues. However, NGEC did not respond to the formal request made for this research, and did not agree to participate in a required interview on several

occasions. Also, we found no specific information online regarding the company's environmental and social management of its operations in Colombia.

ANLA - created in 2011 to assume the licensing and control functions that were once carried out by the Ministry of Environment - has detailed environmental information regarding oil fields. The organization evaluates environmental impact studies and monitors the obligations established by the environmental license. This information is public and, in theory, can be accessed by any citizen. However, while it has an electronic document management system, in order to consult the information held by ANLA we had to travel to its offices in Bogotá, manually check each record, pay for digital copies, and wait fifteen days to receive them. Although ANLA must systematically monitor the obligations of the company, which pays a fixed fee for that very purpose, this usually only happens in response to community complaints.⁴⁷ Complaints from the community presented in March of 2010 still have not yet been fully resolved, which speaks to this authority's lack of effectiveness.

Some of the functions of the ANH, which was created in 2003, are to assign fields to oil companies, oversee the development of projects, and to track community benefit programs - mandatory as of 2011. In 2013 and 2014, the agency tracked NGEC's projects and reported environmental violations to ANLA, without any corrective action being taken by the latter. Furthermore, no monitoring was conducted on the obligations set forth by the community benefits programs.

The regional environmental authority Corporinoquia responded to our request for information, and had four professionals participate in an interview. However, the monitoring of oil projects carried out by this corporation is limited to the seismic

⁴⁷ No compliance reports were found between 2012 and 2013, and five instances of information added to or removed from the record were found.

exploration phase, and it is not responsible for later stages of the process. The information in these records is not available in digital format.

The city hall of Paz de Ariporo maintains an office on oil affairs. This office did not respond to the questionnaire we sent, but the person in charge agreed to an interview in which relevant verbal information was provided for this study (but no physical copies of it were allowed).

The Ministry of Labor has a regional office in Yopal, the capital of the department of Casanare, which has assumed an important role in handling labor disputes. We conducted an interview with the director and another employee, both of whom provided clear and timely information on labor issues related to the area's oil industry.

Within the community, the president of Asojuntas facilitated contact with members of the community action board in the area where NGEC operates, with whom discussions and interviews were held. In addition, these members helped us gain access to the oil field's area of operation.

4.5 Final reflections on the activity of NGEC

The overall assessment of the social and environmental management of NGEC does not differ substantially from that of other oil companies in the region, the problems of which are widespread. However, it has been shown that community perception is especially negative toward NGEC, given the company's repeated failure to fulfill its commitments, and the manner in which it has impacted sensitive issues affecting these communities. In addition to the inability of the company to fulfill its environmental and social commitments, the environmental authority does not implement monitoring and reporting with the efficiency necessary to ensure the company's compliance with these obligations.

These gaps in oversight create an important role for community planning and participation which prioritizes sustainability and permanence over time, makes use of proper knowledge of the ecosystem and the activities that can be developed, and is designed in conjunction with municipal, regional, and national planning. If such planning is not carried out, oil companies will end up commercializing their relationships with the community, leaving the members to compete for fragmented resources on a circumstantial basis or in situations of immediate urgency, with no long-term viability. The dynamics of negotiation established between oil companies and communities end up blurring the lines of compensation and social investment, which can ignite strikes, demonstrations, and blockades. These manifestations are marked by widespread mistrust among the actors, making dialogue and negotiation difficult.

5. Final conclusions and recommendations

According to the evidence gathered, as well as the previous reflections, the following general conclusions can be drawn:

- Mining and hydrocarbons currently play a key role in Colombia's economy, and exhibit significant and increasing influence on the composition of the GDP, exports, and FDI growth.
- Extractive activity – especially coal mining - has failed to generate the kind of wealth that extends significantly to the population in regions where mining occurs. This dilemma must be addressed by all of the actors involved, especially when it comes to identifying and implementing mechanisms to break the vicious cycle of creating wealth without creating the necessary conditions for overcoming poverty in local contexts.

- There is a structural weakness in Colombia concerning both mining and environmental institutions, which has placed particular mining areas in regions with the most intense social and environmental conflict.
- Whatever the future may hold for the development of Chinese FDI (or that of any other country) in Colombia, it is necessary to consider strategies to overcome the level of social and environmental conflict that has been generated so far. This is especially true regarding open pit coal mining in regions with impoverished populations, as well as small-scale oil drilling in wetland regions – both of which are clear examples of challenges that have yet to be adequately addressed, as we have detailed in this paper. Taking these issues into consideration is the *sine qua non* for obtaining positive returns on these investments. Failure to do so will create a structural constraint on investment viability.

Finally, the case study in this paper points to recommendations for improving the situation. There are important roles for NGECC, ANLA, and civil society in this regard.

- NGECC could learn from Sinopec’s Ecuadorean subsidiaries, which have maintained more positive social and environmental performance records. The simple act of fulfilling previous obligations to the community and to the government would create a drastic improvement in this area.
- ANLA could facilitate greater participation from civil society by continuing to improve transparency. While the government provides important legal guarantees to information, unfortunate obstacles to information still exist. One way to address this could be for Colombia to join the Extractive Industries Transparency Initiative, as Peru has done.
- Civil society can contribute by continuing to press for improvements in both company performance and government oversight.

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