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**The Environmental and Social Impacts of Chinese FDI on the Peruvian Mining Industry:
Shougang and Toromocho**

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Spring, 2024

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1. Intro/Background:

In recent decades, extractive industries have encountered mounting social and regulatory resistance, propelled by the heightened environmental consciousness among the public and increased awareness of the industries' substantial profitability. Simultaneously, the demand for minerals skyrockets in the global energy transition, and the surge in electric transportation led major economies like the United States and China to rush to invest in overseas projects; starting an ongoing competition for dominance in the mining/resource boom in Africa and Latin America. Chinese investors are demonstrating an emphasis on the pursuit of copper and lithium as China, the tech giant, solidifies its global leading position in electric vehicle production. Chinese foreign direct investment (FDI) in Latin America skyrocketed from \$223 million in 2003 to \$15 billion in 2010 (Flannery, 2012). With a long history of diplomatic warmth and cultural exchange tracing back to the 1800s, Peru has emerged as a hotspot for Chinese mining activities in Latin America.

This surge in mining activities, driven by the increasing global demand from electrification and China's rapid economic growth, creates a complex predicament for the social and environmental impacts of mines funded by Chinese FDI. Generally speaking, it is rare for Peruvian mining projects to go smoothly. The reasons include that many mining projects are on indigenous land and face local protests from the local communities, residents, and workers, with allegations of labor law violations or environmental damage, projects often end up in long-term stalemates. In more extreme cases, certain projects never reach the initial ground-breaking step, as the companies face strong social resistance and cannot reach an agreement with the workers and/or the residents. Although the Peruvian laws and regulatory agencies like SUNAT (Superintendencia Nacional de Aduanas y de Administración Tributaria) and MINEM (Ministerio de Energía y Minas) are thorough in the making of regulations, there are still challenges in facilitating ethical and sustainable resource extraction in both legal and illegal forms of mining. While it may be tempting for an observer to criticize mining companies based on their reputation and perception, given the damaging nature of extractive industries, the truth is that the conflicts surrounding these operations are intricate and multifaceted. There have been plenty of cases where mining companies committed policy violations and failed to meet agreed-upon commitments. At the same time, in other scenarios, residents' and workers' demands are simply too costly and difficult for the company to realize.

Through interviews and on-site research in Peru, I endeavor to offer comprehensive insights into a complex topic by incorporating perspectives from mining companies, labor unions, and residents. **My goal is to unravel the nuanced balance between the positive and negative impacts of mining activities in Peru and attempt to answer whether mining inherently carries more negative impacts.** Additionally, China's aggressive and sometimes irrational

investment strategies in Latin America (due to the lack of due diligence), particularly during the initial wave of Chinese FDI in the 1990s, triggered considerable Western criticisms as it was perceived as a quest for diplomatic influence in the region. **Within this context, I will explore the underlying motives behind Chinese investments in Peru, and whether they extend beyond profitability to encompass broader diplomatic objectives.** In this research paper, I will address these topics by focusing on two major Chinese-owned mining ventures in Peru: the Toromocho Copper Mine Project owned by Chinalco, and the Shougang Hierro Peru S.A.A. Iron Ore concession owned by Shougang; both are high-profile mines belonging to two Chinese State-owned-enterprises (SOE).

Shougang Hierro Peru S.A.A

1.1 The Emergence of Shougang Hierro Peru S.A.A

In 1992, amidst the Fujimori government's of what James Brooke, a *New York Times* journalist, called "Latin America's most radical privatization program," Peruvian state-owned enterprises were up for sale. (Brooke, [Privatization To Reshape Peru Market - The New York Times](#)) One of the items on sale was *Empresa Minera de Hierro Perú S.A.* In 1992, Shougang Group, a Chinese state-owned conglomerate won the bid for the ex-Peruvian state-owned company for \$120 million, and Hierro Peru became China's first major investment project in Latin America. This isn't the first time the large iron ore concession located in Marcona has exchanged ownership. Before the early 1970s, the concession belonged to a joint venture between the Peruvian state and an American company called Marcona Mining Company, ([Irwin and Gallagher, 2012](#); Serna Guzmán, Perry Cruz, et al. 2007, 8) before the then-Peruvian military government expropriated the concession in 1975 and settled for \$61 million in cash and other deferred payments. The concession included not only the open pit iron mine and the processing plant but also the surface land and the town of Marcona, along with the American-built housing and the responsibility to process and provide water and electricity to the workers' housing. (Ray et al., 2017) After the takeover in 1975, iron ore exports dropped from 10 million tons annually to 2 million tons annually, according to sources from the *New York Times* in 1976. ([Marcona: A Takeover Without Retaliation - The New York Times](#)) Considering the \$61 million book value of the concession and the continuous low outputs of iron production, some analysts believed that the \$120 million Shougang purchase was way too high, and it even led to anti-corruption investigations from both Peru and China. According to the Peruvian congressional investigation, Hierro Peru S.A.A only had a base price of \$22 million, and the Fujimori government issued 3 decrees (D. L. No. 25887, D. L. 25976, and D. S. No. 079-93-EF) that assumed debts up to 800 million Soles in favor of Shougang. ([LA PRIVATIZACIÓN DE LA EMPRESA SHOUGANG HIERRO PERÚ S.A.A. \(Resumen de Caso\)](#); Irwin and Gallagher, 2012) In 1995, the Chairman of Shougang Group Zhou Guanwu, who had close ties to the ex-Chinese Chairman Deng Xiaoping, was forced to resign, and his son Zhou Beifang, who was the chairman of a Hong

Kong-based Shougang subsidiary, was sentenced to life in prison, both on corruption charges related to Shougang's operations. (Tempest, 1995, [Corruption Case Is Seen Signaling China Struggle - Los Angeles Times](#); Faison, 1997, [Condolence Calls Put Rare Light on Deng's Family - New York Times](#))

1.2 The Beginning of the Issues – Shougang's Operational Troubles Since 1993

Since Shougang Hierro Peru S.A.A started operations in 1993, it has been having issues fulfilling its privatization commitments. According to the Peruvian Congressional investigation, Shougang failed to fulfill its commitment to invest an additional \$150 million between 1992-1995 and resorted to paying a mere \$12 million in fines. A comparatively much more affordable amount than the \$150 million investment promise. Irwin and Gallagher described the fine as “a slap on the wrist,” and credited the union and community issues to the poor planning and corruption between the Chinese SOE and the Peruvian state:

“Poorly planned state-owned enterprise reforms in both China and Peru allowed a corrupt Shougang official and a Peruvian autocrat to commit Shougang Hierro Peru to an unreasonable financial burden. When the parent company Shougang crashed back in China, Shougang Hierro Peru defaulted on these commitments. The Peruvian government's weak contracts and regulations forgave Shougang for its default after a slap on the wrist, but the unions and community did not.” (Irwin and Gallagher 2012)

As early as the first 3-5 years of operations, Shougang saw serious social issues, as residents demonstrated their dissatisfaction with the decreasing amount of employment at the company and the decreasing amount of residents living in the town of Marcona. Additionally, there was also environmental damage from chemical residues being discarded in the nearby ocean area of Marcona. ([LA PRIVATIZACIÓN DE LA EMPRESA SHOUGANG HIERRO PERÚ S.A.A. \(Resumen de Caso\)](#)). Unfortunately, this was only the tip of the iceberg. Throughout the years, Shougang has faced numerous social resistances due to labor and environmental issues. Consequently, Shougang has earned itself a poor reputation regarding its labor and environmental practices. Over the decades, conflicts arose from time to time between the company and the unions, most of which were ignited by Shougang breaking its investment commitments and refusing to negotiate with the unions. (Irwin and Gallagher, 2012) The majority of the older cases were well-reported, this paper will have an emphasis on the more recent incidents, specifically during and post-pandemic.

1.2.1 Shougang: The Inheritance that Nobody Wanted: An Unhappy Aging Workforce

Initially, Shougang's workers did not particularly dislike the idea of a Chinese takeover. The public perception is that Shougang's trouble with labor relations started with its actions

following the takeover in 1993 when the Chinese managers immediately cut half of the Peruvian workforce and brought in Chinese laborers, according to *Forbes*, *New York Times*, and the Peruvian *El Comercio* reports. ([Parish Flannery, 2012](#); [Simon Romero, 2010](#); Combe 1996; Irwin and Gallagher, 2012)

According to Irwin and Gallagher, those workers were already fired by the Peruvian Fujimori government before Shougang's takeover. An American consulting firm advised the decision to make the concession profitable and attractive for potential investors, and the unions were aware and supportive of this decision:

“Shougang did not fire those workers and this was not the source of the union conflict. The workers had already been laid off months earlier by the Peruvian government. (Serna Guzmán, Perry Cruz et al. 2007, 56; Shougang Union Official 2011) An American consulting firm informed the Fujimori administration that half of the mine's bloated payroll would have to go to make the company profitable. ("Hierroperú" 1992; Ferchen 1999, 13; Willer 2000; "Marcona" No date) In October 1991, a year before anyone in Peru learned the name Shougang, MINEM began firing half the mine's workers. ("Privatización" 1991; "Fuerte" 1991; Serna Guzmán, Perry Cruz et al. 2007) By the time Shougang entered the bidding process, the workers were already unemployed. ("Hoy" 1992; "Se realizó" 1992) Recognizing the benefits of attracting new investment to renovate the mine and make it profitable, the workers' union supported privatization and acknowledged the need for the firings. ("Personal" 1992; "Huelga" 1992)” (Irwin and Gallagher, 2012)

Regardless of the chronological evidence and the public perception, Shougang did inherit a poor labor relation from its predecessor, or at least inherited the aftermath of a round of downsizing from its predecessor. Notably, after the significant job cut by the Peruvian government, the unemployed workers still had access and were living in the company housing. Effectively leaving Shougang to do the dirty work and evicting them further exacerbated the workers' existing unhappiness. (Ray et al., 2017)

1.2.2 Employment Issues: Third-Party Contractors

The trend in Shougang's employment shows that skilled young workers are becoming more desirable in Shougang. Some of the most complicated issues Shougang had to deal with were an aging labor force and a politicizing union. (Ray et al., 2017) Employment issues remain a challenge for Shougang today, according to ex-administrative personnel at a Shougang labor union, about a third of current workers at Shougang are from third-party contractors, and many of those workers reside in the towns that are newly constructed around Marcona and bus in to work at Shougang each day via buses provided by Shougang. Currently, less than half of Shougang workers are locally from Marcona. The majority of the workers are from third-party

contractors who reside in other areas or the newly established surrounding towns (*pueblos jóvenes*) and travel in for work. This is presumably one of the solutions to an aging workforce for perhaps a more skilled, younger, and more manageable workforce.

1.3 The Battle of Workers' Unions (Sindicato De Empleados) – Shougang's Sway Over the Unions

During the on-site research in Marcona, I spoke with an anonymous knowledgeable representative of one of the four existing workers' unions for Shougang Hierro Peru S.A.A. To an outsider, it might be difficult to differentiate one workers' union from another. However, only two out of four are traditional unions established by the workers, and two of them were established by the company. According to the anonymous source, the company would often encourage workers to join the company-established unions with housing and monetary incentives. Over time, those company-established unions would see an increase in pro-company workers. In addition to their advantage of having close relationships with the company, an unequal power dynamic between the four unions is created. As a result, the traditional workers' unions are minoritized, resulting in them having less say during votes.

It is still unclear if those traditional unions represent an aging workforce when a younger and more skilled workforce is desired as technology advances. When asked that question, the representative simply answered "While some of the workers age, new workers are coming in." But what we can say for certain is that it is much more enticing for workers to join pro-company unions than the traditional ones.

1.4. Chinese Managers in Shougang: Hierarchy and the Lack of Integration into Society

Management Hierarchy in Shougang

A common feedback from the unions and their staff is the management hierarchy of the Chinese workers and the Peruvian ones. According to a confidential contact within the labor union, Chinese management often would mistreat Peruvian workers, while Peruvian management would do the same to conform to that norm. They have described it as "to please the Chinese Management." There are signs of a toxic cycle of power abuse at Shougang's Marcona operations.

Lack of Integration into Society

Sources in the *New York Times* as well as local contacts indicated that they've seen signs of Shougang Chinese workers' lack of integration into Peruvian society. According to Romero from the *New York Times*: "Chinese managers now live in the same ranch-style houses built for their predecessors in a district called *Playa Hermosa* (Beautiful Beach). They drive sport utility vehicles and talk to subordinates through translators. They eat meals at their own cafeteria,

avoiding mixing with Peruvians in town.” (Romero, 2010) This lack of social integration poses a serious issue for Shougang’s operations in Marcona, as the Chinese managers’ unwillingness to socialize with Peruvian workers and learn Spanish can be seen as a sign of superiority, disrespect, and could cause further division between the company, management, and workers.

1.5 Environmental Impacts in Recent Years

Environmental Impacts:

Dust:

Dust pollution is an issue of concern for Marcona. During the detonation stage of mining, dust agitated by dynamite can be carried through the wind to the town of Marcona, causing dust pollution. Due to the strong wind in Marcona, particles of different sizes can be lifted and remain suspended in the air, with some traveling a great distance. “For constituents of low density and dimensions below 2.3 mg/m^3 , the particles remain suspended in the air for a relatively longer time, allowing them to be inhaled by living beings, thereby affecting their health.” Additionally, the national regulatory limit is $350 \text{ }\mu\text{g/m}^3$ for suspended particles. The PM-10 monitoring shows the concentration exceeds this limit. (Baños, Rojas, Ángeles, 2020, ISSN: 1810-9993 (Electrónico))

Additionally, secondary processing plants also generate and release dust particles into the atmosphere. According to Baños, Rojas, and Ángeles’ research: “Fifteen workers have been found exposed to dust or particulate matter generated in various secondary crushing plants. Additionally, personnel working inside the plant, including mechanical and electrical maintenance staff, and plant equipment operators, have been monitored.” (Baños, Rojas, Ángeles, 2020, ISSN: 1810-9993 (Electrónico))

It is clear that mining activities at Marcona emit significant dust particles into the atmosphere and mitigation is very difficult. Mitigation measures like screen filters and water treatment are both non-sustainable ways, as filters aren’t very effective. Water would potentially contribute to biodiversity loss in the region from the overuse of water, according to Medina (2008): “In the Mantaro River, the effect of water used in material washing has caused losses of animals and cultivable lands, as well as significant damage to the economy of the area... It should be noted the ecological damage to the Junín National Reserve, in Lake Chinchaycocha, a situation that has contributed to the elimination of animals, rivers, and plants, and the deterioration of air quality; likewise, it has promoted the disappearance of species such as the Junín grebe and other birds present in the lake (Castillo, 2008). (Baños, Rojas, Ángeles, 2020, ISSN: 1810-9993 (Electrónico))

Fuel Leakage (unpublic and unreported)

On November 6th of 2023, one of the fuel tanks (for transportation and equipment operations) started leaking due to presumably maintenance-related reasons. As of January 2024, there has not been public acknowledgment nor a known solution. The leakage happened at a private company site in San Nicolas 22 km north of Marcona; currently, the tank site is closed off with security present.

Shougang's New Ways of Tailing Deposits

With a history of environmental malpractice, Shougang was in turmoil in the early days of operation, as toxic tailings were being discarded in the nearby coast areas of Marcona. Shougang has since replaced the practice with a much more sustainable approach with a tailing pond and a \$3 million UV light sewage processing plant. Through the tailing pond, according to Zhang and HO YU KIT YI in an article for the Chinese Ministry of Commerce (MOFCOM): “Minera Shouxin Peru S.A., a joint venture of Shougang Hierro Peru and Baiyin Nonferrous Group Co. Ltd. of China, launched the first tailing reclamation project in Peru to recover valuable metals such as copper, zinc and iron from the tailings discharged by Shougang” (Zhang, HO YU KIT YI, MOFCOM). The efficient recycling of tailing metals is an important first step in more sustainable mining practices in Peru, and its deployment contributed to the local economy, but in many ways still struggled to shed its image from the past.

1.6 Shougang is Profiting: Did Shougang Really “Overpay” For Marcona?

In 1992, every analyst on the project would agree that Shougang overpaid for the Marcona iron concession. Especially because Hierro Peru was facing a significant loss of export volume and revenue as iron ore exports dropped about 8 million tons per year after the government takeover. ([Marcona: A Takeover Without Retaliation - The New York Times](#)) Additionally, due to the loss of credit for the Peruvian government and its economic state, mining sectors naturally felt similar impacts, “Hierro Peru lost its supply contracts with foreign steel manufacturers, watched its profits flow out to other state-owned mines, added hundreds of administrators to the payroll in rampant clientelism, fell victim to hyperinflation and low iron prices, and found itself draining \$50 million a year from the state budget by the early 1990s.” (Irwin and Gallagher, 2012)

Fast forward 30 years, was that initial \$120 million purchase still a bad deal for Shougang? The simple answer is no. Quickly after its initial stages of operations, despite facing numerous social challenges, Shougang returned from a \$32 million loss in 1992 and started to turn a profit of \$5 million as early as 1993. (“Shougang Hierro” 1993; Wang 1996; Gou 2005; Irwin and Gallagher, 2012) Today, Shougang Hierro Peru is still the only iron producer in Peru and has become a very profitable project. One of Shougang’s other iron ore competitors, Pampa de Pongo, a greenfield iron ore project in Arequipa (that was planned and developed by Zhongrong Xinda through its subsidiary Jinzhao Mining Peru), is still at a stage of stalemate due to social resistance and haven’t started the groundbreaking process. “In 2011 Shougang produced more than 7 million tons of iron ores and recorded a 50 percent growth in its net profit, and revenue increased another

21.26 percent in 2013.” (Ray et al., 2017) Additionally, the unique thing about the town of San Juan de Marcona is that right off the coast, exists a rare location suitable for a deep sea mega-port that can potentially be a key Chinese concession for the next 30 years. As of March of 2024, the Peruvian Government “awarded the New San Juan de Marcona Port Terminal project, in the Ica region, to Chinese firm Jinzhao Peru Port Terminal (a part of the Chinese conglomerate Zhongrong Xinda Group) for its design, financing, construction, operation, and maintenance. Work on the mega-port is expected to begin in late 2025 or early 2026, after an estimated investment of \$405 million, ProInversión indicated.” (PELCASTRE, 2024) With the operation of this port, which would function in unison with the Chancay Port north of Lima, Chinese companies like Shougang would be able to ship minerals directly out to sea at a lower cost.

However, this doesn’t change the fact that Shougang still “overpaid” for Hierro Peru considering the state of the project at the time of purchase, they were simply lucky enough to generate profit over time. While other Chinese projects in Peru that China purchased during China’s reckless foreign investment surge in the 1990s have proven that the lack of due diligence and research can have severe economic consequences.

1.7 Shougang is Moving to Privatize Energy: Money Doesn’t Grow on Trees, but It Can Be Brought by the Wind

When Shougang purchased this Iron Ore project in 1992, Shougang gained ownership over the land of Marcona and the port. As a part of the deal, Shougang was obliged to take on a major social service responsibility—providing water and electricity, in addition to a major part of the housing. Shougang’s presence can be seen in the local areas, renovations, and donations of new equipment to local schools, ambulances, and medical equipment to local hospitals. The police cars, fire trucks, ambulances, street sprinklers, and garbage trucks donated by Shougang Hierro Peru can be seen in Marcona, Ica, and the entire province of Nazca. Over the years, Shougang has shifted to privatizing these resources.

Now, along the coasts of San Juan de Marcona, rows of windmills can be seen generating electricity. 23 of the existing windmills belong to ACCIONA Energía (a Spanish energy firm) as a part of their 180 million dollar investment that went into service in late 2023. Shougang is expected to complete its own wind energy project in the upcoming months. Wind energy would be the most cost-efficient as Marcona has the highest incidence of wind nationwide at 9m/s at 40 meters above sea level. (Baños, Rojas, Ángeles, 2020, ISSN: 1810-9993 (Electrónico)) According to [GlobalData](#), Shougang’s 302.4MW onshore wind power project will be in commercial operation as early as 2024. Shougang’s new project will be under one of its subsidiaries—Shougang Generacion Electrica SAA (Shougang Generacion Electrica), which has been supporting Marcona with its Thermal technology in the region, according to GlobalData:

“Shougang Generacion Electrica SAA is a power generation company that generates and distributes electricity. The company provides services for electricity generation, transmission, and distribution through its facilities located in the South Middle of Peru. It owns and operates the San Nicolas Thermal Power Plant located in the district of San Juan de Marcona, Province of Nasca, Ica Region on the Peruvian coast southeast of Lima. Shougang Generacion Electrica also operates through the Mine Substation located in the district of San Juan de Marcona, and Jahuay Substation, which is located in the Bella Union District. It supplies electric energy to the Peruvian Interconnected National Grid. Shougang Generacion Electrica is headquartered in Jesus Maria, Peru.”
([GlobalData](#))

With the new wind farm implemented, Shougang can effectively sell their electricity to the rest of Marcona (non-Shougang workers) and its surrounding towns (Pueblos Jóvenes), as the company supplies electric energy to the Peruvian Interconnected National Grid. At the same time, ACCIONA Energía’s energy production will be transported to the Marcona substation for the rest of Peru, while Shougang maintains the main supplier of electricity in the region.

Chinalco: Toromocho Copper Mine

2.1 The Emersion of Toromocho

In 2007, Chinalco Mining Corporation International (Chinalco International) created Minera Chinalco Peru S.A. (MCP) and developed project Toromocho, a greenfield copper mine located 4,540 meters above sea level and 90 miles east of Lima in the Junín region. “In 2008, Minera Chinalco Peru (MCP) purchased certain surface rights from Centromin (the Peruvian national mining company and currently, Activos Mineros S.A.) covering the main Morococha area that the Government of Peru had reserved for the Toromocho copper project.” (Wafforn et al.,

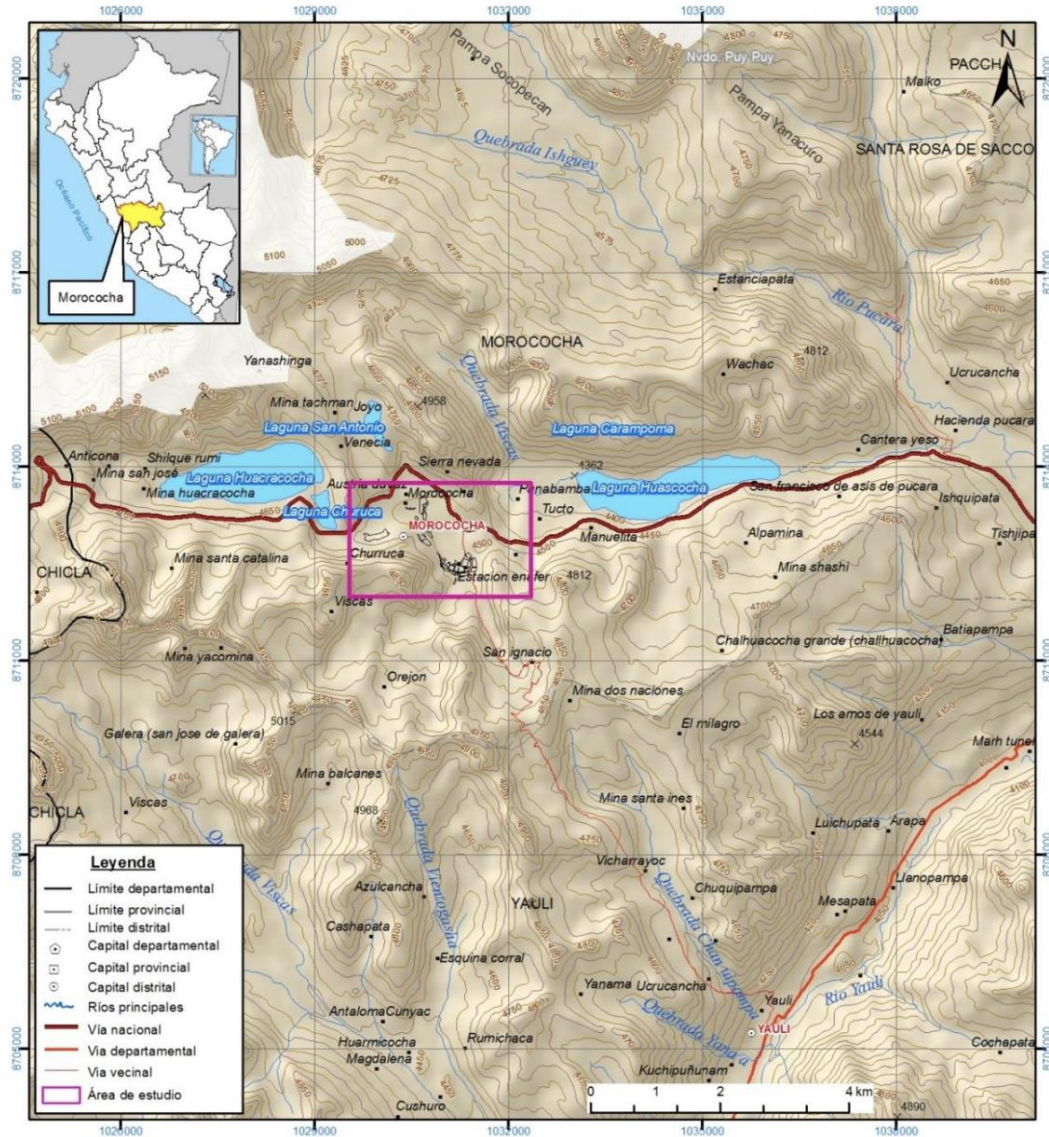


Figura 1. Ubicación del poblado Morococha

(Map from INGEMMET, [Luque Poma](#), 2017)

The project gathered immediate international attention shortly after it was purchased by the Chinese SOE. Much of the project’s high visibility came from the relocation plan for the town of Morococha, something the residents initially voted in favor of. The historic mining town of Toromocho will eventually be engulfed by the expansion plan, and residents will be relocated to a new town called Carhuacoto La Nueva Ciudad de Morococha (The New Town of Morococha).

The Chinalco expansion plan will also consume part of the Morococha mine which is owned and operated by Compañía Minera Argentum S.A., a Peruvian company.

“MCP acquired rights including surface lands in the Morococha area where the Morococha mine administration and operations are taking place, as well as certain underground areas... An agreement was reached between the two parties in 2010 which involves land swaps and cash payments. Argentum will relocate the core Morococha facilities, including the administration offices, warehouse, maintenance facilities, mine compressors, and some camp facilities construct a new plant over five years, and transfer certain mineral concessions and access rights to MCP.” (Wafforn et al.; Technical Report for the Morococha Property, Yauli, Peru; [Pan American Silver Corp.](#)) The EIA (La evaluación de Impacto Ambiental) permits Toromocho’s operations until 2044.

The old town of Morococha has since been deemed a high-risk area as seismic activities from mining and the toxic residues from over a century of mining pose a risk to residents. However, comparatively speaking, Toromocho did not receive the social resistance that other Chinese SOEs received in Peru, partially because of the historic mining identity the town had. Morococha has had a history of mining for 150 years, and much of the area was contaminated during that period, as silver ores have been extracted since colonial times. ([MAZZI HUAYCUCHO](#), 2017) In fact, on December 5th, 1929, there was a mining accident in Morococha that took the lives of 32 workers. Ex-Peruvian President Alan Garcia has made this day a commemorative holiday for the mining workers (Día del Trabajador Minero).

2.1.1 Everybody Wants to Be in Morococha, or away from it?

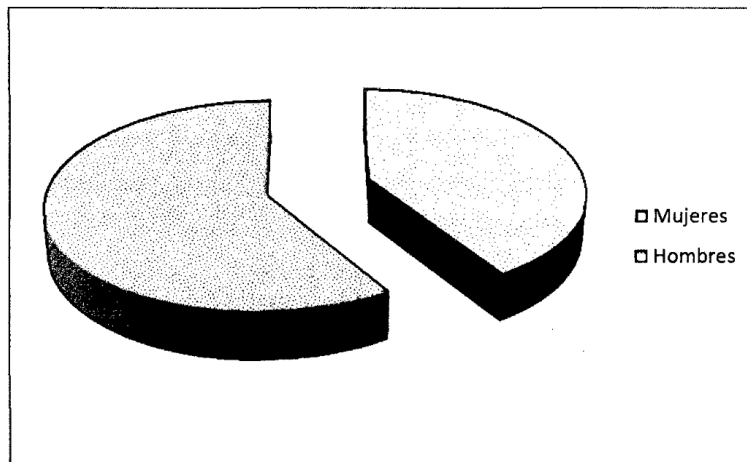
When Chinalco first came into the picture, there was a total population of 5,397, according to data from the *National Census in 2007: XI de Población y VI de Vivienda* presented in Bujaico

Oropeza's research in 2016.

2.1.4 POBLACIÓN TOTAL

Según el Censo Nacional: XI de población y VI de Vivienda, realizado el año 2007, Morococha cuenta con una población total de 5397 habitantes. De esta cifra, 3.176 habitantes son varones (58.8 %) y 2.221 son mujeres (41.2%).

FIGURA 2: Población total mujeres y hombres



FUENTE: Elaborado en base a los datos del último censo nacional.

Screengrab from Bujaico Oropeza's thesis.

Ten years later, according to the national census 2017 conducted by the Instituto Nacional de Estadística e Informática (INEI or National Institute of Statistics and Computer Science), there were about 5222 total population in Morococha.

120802	CHACAPALPA	687	707
120803	HUAY-HUAY	1 947	2 040
120804	MARCAPOMACOCHA	835	858
120805	MOROCOCHA	5 155	5 222
120806	PACCHA	1 633	1 680

Screengrab from the INEI national census in 2017

According to the Chinalco executive, initially, there were 500 eligible for work, and about 40% of the residents were directly or indirectly on the company's payroll, roughly 250-300 out of 500 people. However, the number of "residents" increased as distant relatives flooded into the town of Morococha hoping to secure a position or a settlement from Chinalco for the relocation, therefore creating an increasing "unlimited" demand for jobs. The interviewee said, "We try to do the best we can, but it's never good enough."

Interestingly, based on an interview conducted with a person familiar with the topic at the Social Capital Group, an international consulting group that has worked closely with Morococha and Chinalco, there was no significant influx of population. Instead, residents preferred to leave after receiving the settlement as the living conditions at 4,540 meters above sea level are very harsh, which is explained by the decreasing population shown on the census data. However, it is also important to note that neither parties, Chinalco nor Social Capital Group, were able to provide an exact count of the shift in population in their data.

2.2 Morococha Is a Tough Town to Move

In Old Morococha, the majority (85%) of the original residents did not own property, many of them lived in housing provided by either the municipality or the older mining companies, while others were renters. So when Chinalco offered housing with land titles issued under the residents' names in Nueva Morococha as well as cash, many were happy to relocate; Chinalco generally has been praised for their handling of the relocation ([Sanchez et al, 2014](#)). But a section of the local population, including the mayor, wasn't happy with the compensation for Chinalco's relocation plan. As of March 2014, there was a holdout of approximately 100 families at old Morococha ([Sanchez et al, 2014](#)). As the Chinalco executive indicated, many of the reluctant residents were people who had property or business in old Morococha, they considered themselves the original residents and the others migrant workers. Some were relocated successfully with larger houses and more money to cover their businesses' losses.

The current situation is becoming less ambiguous for Chinalco as old Morococha has been deemed a high-risk area with environmental and seismic risks. The Mining and Metallurgical Geological Institute of Peru (INGEMMET) has been considering declaring the Morococha district a high-risk zone since August 2013, "Such a declaration would likely prompt an executive order, signed by the nation's president Ollanta Humala, calling for an state of emergency and evacuation of the native population. The order would be enforced by the Institute of Peruvian National Civil Defense (INDECI). A declaration of hazard would give legitimacy to government efforts to clear residents from the area to allow smooth development of the mine. Yet, it would risk causing violent confrontation with the very people it would be supposedly designed to protect" ([Mena, 2020](#)). However, in June 2017, the district of Morococha was finally declared by INGEMMET as a "very high-risk area of IMMINENT NON-MITIGABLE DANGER" due to geological hazards from potential mass movements, landslides, and rock falls from seismic vibrations generated by detonations and excavations in the nearby Toromocho copper mine (Mena, 2020; [Griselda, 2017](#)).

"Las evidencias actuales de agrietamientos, asentamientos, fisuras en las paredes, veredas, etc.; la cercanía de desmontes y relaves mineros; así como el riesgo por peligro

sísmico y operaciones mineras actuales (detonaciones, movimiento de tierras) hacen que la ciudad de Morococha se encuentre en una zona de riesgo muy alto. Dadas las características de los peligros y la vulnerabilidad existente el problema es inviable ante cualquier intento de mitigación. Por lo tanto se reafirma como PELIGRO INMINENTE NO MITIGABLE.” ([Griselda](#), 2017)

Besides, Morococha’s problems go beyond the seismic risks, due to the town’s history of mining and decades of poor management, Morococha is riddled with old toxic waste tailings deposits. By objective standards, Morococha is an unsafe location for habitation with a lack of modern facilities and environmental safety. Morococha still uses communal latrines with limited water supply with residents living in overcrowded and dilapidated buildings and children playing next to a toxic tailings dump, according to Cynthia Sanborn, Director of the Center for China and Asia-Pacific Studies at the Universidad del Pacífico and a scholar on Chinese mining companies in Latin America. ([Poulden](#), 2013; [Sanborn & Chonn](#), 2015)

As time went by, it became clear that the declaration of hazard did not effectively clear out all residents, by January 2024, there were still 9 households left in old Morococha. The main reason they weren’t relocated yet is that their request is too costly financially for the company, additionally, the mayor had also indicated that he would be “extremely upset” if Chinalco gave the remaining 9 residents what they asked for; implying potential unrest as he and other residents had already relocated for a lower settlement amount.

2.3 Income Disparity in Mining Regions: How To Lose or Win On The Starting Line

Mining is a high-profit industry for both the mining companies and the personnel on their payroll. The salaries of mining employees are out of scale in comparison to the rest of the local population and the national average. According to senior executive personnel at Chinalco, a truck driver for Toromocho Mine makes about 35 times the average income of a town resident and has an annual salary higher than the average household income in the United States. By signing the collective agreement, a Toromocho worker would receive a bonus of S./50,000 to S./90,000, the equivalent of about \$13,000 to \$23,000, this bonus is paid to every employee on top of their benefits and salary regardless of their union status. Because of the high pay and the criticism they often face regarding labor conditions, mining companies have been tempted to publish their closing bonuses, but are wary of inflaming residents, and the possible increasing pressure on the demands of awarding employment to residents, as well as relatives of local and even national authorities, as indicated by a senior executive personnel at Chinalco.

The same rise of wealth can be found in Cajamarca as well, after Yanacocha, a gold mine, began operation. It was very apparent that the quality of life and the income of the mining employees improved significantly: buying new cars and houses, sending their kids to private schools, etc.

According to Newmont's 2020 Economic Impact Report, which is the majority owner of Yanacocha mine on a joint venture, Yanacocha contributed directly over \$114.5 million through salaries and payments to the government, including a \$41 million in salaries and benefits to employees in Cajamarca. ([2020 Economic Impact Report-Newmont](#)) The people quickly realized that if they were not on the mines' payrolls, they were suddenly at a severe disadvantage and making below the average wage of the region.

The impact of this sudden influx of money can be compared to the economic consequences of gentrification. The sudden increase in spending capabilities inflates commodity prices in various sectors of the local economy, making life in the region less affordable. Therefore creates a phenomenon that the average wages outside of mining payrolls are now below the living wage standard. In the case of Shougang in Marcona, Irwin and Gallagher pointed out that although the miners' increased spending is a positive for local vendors, the influx of cash also inflates prices for local buyers: "A Shougang union official pointed out that as workers enjoyed rising profit bonuses, locals began complaining that 'The workers are buying new cars and other things, causing the prices to go up.'" (Shougang Union Official 2011; Irwin and Gallagher, 2012) It is important to note, however, that Shougang has been employing mostly local Peruvian workers. Irwin and Gallagher pointed out:

"Like Western companies, Shougang employs local workers rather than importing them from China. Although Chinese mines in Africa have received criticism for importing Chinese workers, Ruben Vicente-Gonzalez notes that "Contrary to the case of their operations in Africa, Chinese SOEs [in Latin America] do not introduce Chinese contract workers in their projects." (Gonzalez Vicente 2009, 107; Pomfret 2010) As in other foreign companies, today only a handful of Shougang's managers are foreigners." (Irwin and Gallagher, 2012)

Shougang's move to not import Chinese workers is effective in avoiding racial conflicts and gentrification but still contributes to the income disparity between locals.

Besides, having a sudden increase in spending capabilities can generate other social issues too, an ex-Vice Minister of the Economy remarked: "It can be bad having this new money because it brings prostitution, drugs, and other crime... inequality and rising prices can make the community hate the mining." (Former Vice-Minister of the Economy 2011; Irwin and Gallagher, 2012) We have seen this rise in prostitution happen in Sub-Saharan Africa, where thousands of Chinese prostitutes migrated as African purchasing power tripled over the last three decades. Specifically for the special economic zones for Chinese workers in the construction and extractive industries. (Ndjio; [Herbert, 2016](#)) Generally speaking, the increase in purchasing power can bring crimes like prostitution, in these cases, neither Marcona nor Morococha is experiencing an influx of foreign sex workers like Sub-Saharan Africa is, but it is a substantial

social factor to consider when discussing the potential negative impacts of a drastic increase in cash inflows in local mining economies.

2.4 China's Early Failures in Due Diligence

During the '90s, China had a craze of rampant foreign investment and an unlimited amount of cash for overseas investment, which resulted in companies not doing enough due diligence and rushing to bid on projects. Many Chinese companies purchased mining projects for an excessive amount of money. A few examples that were listed were Galeo, Rio Blanco, and Toromocho. According to a Chinalco executive familiar with the topic, Chinalco is still unsure if they will be able to make a profit from their initial purchase, as the original purchase price for Toromocho was CAD 840 million from Peru Copper Inc. At the same time, the Canadian firm secured the site for only CAD 50 million. After the Chinalco acquisition, they found that the orebody had a lot of impurities which made it complex and costly to refine. As indicated by the *CHINALCO MINING CORPORATION INTERNATIONAL Competent Persons Report for the Toromocho Copper Project* ([*Report Number. 1660234-001-R-Rev2b*](#)): “metallurgical recovery in 2016 has been lower than expected primarily because of issues with talc in the ore feed (Table B). The high Arsenic in concentrate has resulted in high penalty costs for treatment and refining costs.” Naturally, when companies are struggling to be profitable, there are all the incentives in the world to reduce costs, which include social welfare programs or even employee salaries. Chinalco, however, has been doing a good job with their interactions and supporting the locals' demands, but cost consciousness is undoubtedly still a part of their agenda.

2.5 Corruption in the Peruvian Mining Sector

Corruption is a problem in all facets of society in Peru, and it would be naive to believe that it does not substantially affect the mining sector. In an anonymous interview with an executive in a mining company, it was indicated that it is relatively safe to say that old-school corruption (money in a paper bag) is not very common in modern-day medium to large-sized mining operations. But corruption still exists in unconventional ways, “favors” can be done for people of influence or power, often local politicians. Some common examples of more unconventional corruption in the mining industry are renting a truck owned by the mayor, or “favors” for the president of the union. While it is possible to get things done without corruption, it would take significantly more time to achieve certain objectives compared to your counterparts. This then would put the subsidiaries of the Chinese SOEs in a difficult position when reporting to the mother firm and realizing their KPI (Key Performance Indicator).

2.5.1 The Self-Sufficiency of Morococha Is a Matter of Concern

The municipality has difficulty with tax collection, as very few Morocochanos pay their land taxes. Chinalco at the moment is paying for certain public services like trash cleanup. Oftentimes, politicians are reluctant to enforce taxation as the people can very easily oust them via a recall election. This issue persists throughout the nation, as many towns and cities have difficulties collecting taxes, therefore posing a concern for self-sufficiency in the region. However, this does not necessarily mean the municipality nor the city lacks funding, said the correspondent from a consulting company in an anonymous interview.

2.5.2 Chinalco's Peruvian Subsidiary's Relationship With the Mother Firm in China

As a subsidiary of the Chinese SOE, Chinalco Peru maintains a very vertical relationship with the mother firm in China, according to a company executive, a big part of the relationship comes down to compliance. Usually, the mother firm gives a deadline or a KPI (key performance indicators), often regarding production volume and development agenda. And the subsidiaries would work to comply with that KPI. Once the requirements are met, the CEO of the subsidiary could get a very hefty bonus, which creates an incentive for achieving short-term goals with a hint of carelessness for the long-term future. Additionally, SOEs usually have less incentive to maximize profit like the smaller private companies because they tend to comply with certain KPIs.

2.6 Who Asked You to Clean Water?

According to my interview with a Chinalco executive member, each year, on top of the multi-million water processing plant used to clean a polluted water source, Chinalco is spending millions on top of that annually for maintenance. However, according to the Chinalco executive, the locals didn't seem to care much about the environment, they used it as a tool for negotiation. The locals continue to pollute the water source after it is being cleaned. It is expressed in the meetings, that the locals were "unhappy" after finding out about the amount of money being spent on cleaning water after finding out from the brochure. In response, the company had to take the amount off of the brochure. The locals claimed they are asking for much less than the amount spent on cleaning water, but the company is not giving them that.

3. Conclusion/Analysis

Critics from the US claim that diplomatic presence is the driving force for China's pursuit of business opportunities in the LATAM region instead of profit. However, considering the current state of many Chinese mines in Peru, many mines, like Shougang, are profiting and are contributing positively socially and economically through social programs and taxation. More importantly, Chinese companies (both state-owned and private companies) lacked experience with due diligence and had to learn their lesson the hard way with early rounds of improper investments. Both Shougang and Chinalco overpaid for their concession, luckily both turned out

to not be catastrophic mistakes, as Shougang was able to make a profit quickly over its initial takeover. While it is unwise to not consider potential political factors, it should also not over-influence our analysis on this issue, especially considering certain failed Chinese projects like Las Bambas, a notorious case that has faced years of social resistance which prevented the start of the project, indicate more negative influences than positive ones for China. I believe profitability remains China's primary concern for foreign direct investment in Peru.

The cases of Shougang Hierro Peru and Chinalco's Toromocho copper mine highlight the complexity of Chinese mining activities operating in Peru. Both have grappled with labor conflicts, positive and negative environmental impacts, and strained relations with locals. Shougang inherited an aging workforce and faced accusations of mistreating Peruvian employees. Chinalco's relocation of Morococha residents proved contentious, with holdouts demanding greater compensation. Underlying these tensions are issues like income disparities that mining can create in local economies and the prioritization of short-term targets by Chinese companies over long-term sustainability.

Environmental impacts have been an area of concern for all legal mining operations. In these cases, Shougang has taken steps to address tailing disposal and wastewater treatment, though an unreported recent fuel leak raises questions regarding the company's transparency and maintenance of its equipment. On the other hand, Chinalco has spent millions on water treatment, but locals have been accused of undermining these efforts out of perceived self-interest. However, it is important to acknowledge the fact that residents, workers, and the company have the right to negotiate and behave in a benefit/profit-maximizing manner. And this does not exclude the possibility of potential biases in the statement given to me during the interviews. The impacts of mining, from air to water contamination, remain significant challenges requiring mitigation through sustainable practices. Both companies have made investment moves in renewable futures, like Shougang's wind farm, which can be perceived as an encouraging sign of their commitment to a greener future despite their allegation of profiting off of green energy.

Ultimately, Chinese mining investment in Peru is a double-edged sword - providing an economic boost but also generating social upheaval and environmental degradation. Corruption, while not as overt as in the past, still manifests in favors extended to local power brokers. Both negative and positive economic, social, and environmental impacts can occur in mining. With mining being an extractive industry, it is inherently damaging, however, it would be unwise for us to not acknowledge the economic and societal benefits mining brings. With that being said, mining is still an essential tool in any form of technological, scientific, and societal development (such as EVs), instead of rejecting it for its extractive nature, it would be more productive to find ways to improve the efficacy of mining and promote and maintain more sustainable and ethical practices.

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