

# Chimbote in the Blue Revolution, 1940-1980

A large, stylized graphic of a tree with a thick, dark grey trunk and several branches extending upwards and to the right. The branches are composed of thick, dark grey lines. The foliage is represented by several large, light grey, rounded shapes that resemble clouds or soft-edged leaves. The entire graphic is set against a light grey background.

Nathan Clarke<sup>1</sup>

## ABSTRACT

This paper looks at how the export-led growth and dependent development pursued by Peruvian politicians and capitalists produced a new nature in Chimbote. Starting in 1955, Peruvians extracted incalculable wealth from its ocean, and erected the world's largest fishing industry, centered on the production of fishmeal, a high-protein hog- and chicken-feed additive. Two decades of unrestrained exploitation of the country's natural resources and unregulated industrialization produced an ecological catastrophe in Chimbote, the center of the fishmeal industry. In 1940, it had been a serene village of 4,000; thirty years later it had become the world's biggest fishing port, a 'tragic city' in which some 200,000 people lived amid thirty disturbingly polluting fishmeal processing factories. The once clear and fecund bay had become a cesspool of industrial and human wastes: Chimbote had been sacrificed to the nation's pursuit of capitalist development. This chapter decenters narratives of economic development and the environmental impact of industrialization. Most studies of Peru's postwar industrial boom have focused on the Lima-Callao metropolitan area, to the exclusion of the vast majority of the rest of the nation. By shifting the focus from Lima to the intersections of nature, labor, and politics of rapid industrialization on the postwar Peruvian coast, we can better understand how elite schemes emanating from the metropole have impacted the people and ecologies of the periphery.

**Keywords:** fishing; environment; industrialization; pollution, chimbote.

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<sup>1</sup> Ph.D. in History from the University of Illinois at Urbana-Champaign, history teacher at Vel Phillips Memorial High School (Madison, Wisc.). E-mail: [nwclarke@gmail.com](mailto:nwclarke@gmail.com)

In 1941, it would have seemed unlikely that Chimbote, population 4,243, would become the "Peruvian El Dorado." Within forty years, this small village's population surpassed 300,000. It had become the world's largest fishing port, one of Peru's most important industrial cities, and according to journalists from Lima, "the largest and definitively most miserable city in the country."<sup>2</sup> The industrialization of the city and the bay saw the installation of thirty fishmeal factories along with the nation's first steel mill. From 1963 to 1971, Chimbote claimed the informal title of *primer puerto pesquero del mundo*, the foremost fishing port of the world, signifying its position as the port where more fish was landed than any other in the world. Throughout the 1960s, Chimbote's fishermen routinely landed more fish than the entire US industrial fleet.

Forty years of rapid and uncontrolled industrialization transformed the urban environment into something unrecognizable: the once renowned beaches disappeared, and the bay's water levels rose so high that waves lapped at a seaside *malecón* that had been 30 meters inland. Thirty fishmeal reduction plants and a steel mill pumped smoke and industrial effluvia into the city's aquatic, terrestrial, and atmospheric environments. Informal settlements enveloped the city center, where up to 75 percent of the population dwelled. Those forty years of intensive capitalist development, in the words of housing rights leader Manuel Piminchumo, had turned Chimbote into "giant *pueblo joven*."<sup>3</sup>

This paper shows how fishing magnates and the developmentalist plans of an ambitious, but weak, government transformed Chimbote in the postwar era, integrating the city's economy, society, and nature into a key position in the global Blue Revolution.<sup>4</sup> Beginning in 1950, industrialists from Peru and abroad, including

<sup>2</sup> Eduardo Ballón and José María Salcedo, "Reportaje a Chimbote," *Quehacer* 3 (1980): 67-72. The authors cite an official 1978 population estimate from Chimbote, but it is difficult to know how many people actually lived there.

<sup>3</sup> Ballón and Salcedo, "Reportaje," 81. *Pueblo joven* was how the Velasco government's (1968-1975) officially referred to the quasi-illegal and informal settlements that popped up in many Peruvian cities after the Second World War. *Pueblo joven*, or young town, replaced the official term *barriada*, due to a negative connotation. After the end of military rule (1980), other official terms have been employed, like *asentamiento humano* (human settlement). *Pueblo joven* is still used today unofficially.

<sup>4</sup> The Blue Revolution refers to the rise of aquaculture in the postwar era. Fishmeal has been a crucial part of this Revolution. Some optimistic observers saw the Blue Revolution as the key to saving the global oceans while assuring a healthy protein supply. For example, Jeffrey Sachs, "The Promise of the Blue Revolution (Extended Version)," *Scientific American*, July 1, 2007, accessed July 25, 2018, <https://www.scientificamerican.com/article/promise-of-the-blue-revolution-aquaculture/>. Others take a more skeptical approach to the environmental impact of the feed used in aquaculture, which contained large amounts of fishmeal made directly from pelagic forage fish. The production of fishmeal not only impacted the health of the oceans, but also affected the areas where it was produced. See H. Bruce Franklin, *The Most Important Fish in the Sea: Menhaden and America* (Washington: Island Press/Shearwater Books, 2008); Saidul Islam, *Confronting the Blue Revolution: Industrial Aquaculture and Sustainability in the Global South* (Toronto: University of Toronto Press, 2014); Charles Clover, *The End of the Line:*

multinational corporations like Cargill and Ralston-Purina, installed more than thirty factories and moored four hundred boats in the waters of Ferrol Bay. The fishermen of Chimbote hauled in never before seen quantities of just one species of fish, the Peruvian anchoveta (*Engraulis ringens*). Industrialists converted their massive catches into fishmeal, a high-protein additive for hog, poultry, and fish feeds. Fishmeal quickly surpassed wool and copper to become the nation's leading export.<sup>5</sup> Industrialists sold and shipped over 99 percent of the fishmeal produced to markets on both sides of the Iron Curtain.<sup>6</sup> Chimbote's natural resource endowments fueled the global consumption of meat in the postwar era.

This article focuses on the relationship between the rise and fall of the fishing industry in Chimbote and the social, political, and environmental impact of its insertion into the global fishing market during the Blue Revolution. As the first link in a global commodity chain, Chimbote's development, or lack thereof, provides a fundamental insight into the costs of the global demand for the raw materials and industrial products of the developing world. In Chimbote's case, industry extracted and processed resources, leaving behind a devastated environment and hundreds of thousands living in impromptu, quasi-legal housing settlements with limited access to electricity and running water. With few of the decisions about the city's fate being made in the city itself, this paper argues Chimbote became an externality to the state's desire to appear as a member of the league of modern nations, capitalists' desire for profits, and the world's desire to increasing amounts of cheaper meat. Chimbote embodies the postwar development of Peru: the stunted attempts at import-substitution industrialization, the persistence of an export-oriented, free-market economic model, the *desborde popular* of migrants fleeing the Andes for the

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*How Overfishing Is Changing the World and What We Eat* (Berkeley: University of California Press, 2008); Andrew Wasley and Jim Wickens, "The Greed of Feed – the Hidden Cost of Your Cheap Farmed Salmon," *The Ecologist*, December 1, 2008, <https://theecologist.org/2008/dec/01/greed-feed-hidden-cost-your-cheap-farmed-salmon>; Elspeth Probyn, *Eating the Ocean* (Durham, N.C.: Duke University Press, 2016); Kristin Wintersteen, *The Fishmeal Revolution: The Industrialization of the Humboldt Current Ecosystem* (Oakland: University of California Press, 2021). Many critics of the Blue Revolution have expressed concern about the feed source for the farmed salmon, shrimp, and tilapia that have flooded fishmongers' cases around the globe: using pelagic filter fish to feed hogs and farmed salmon, instead of humans or larger predatory fish and sea life (for example guano birds and sea lions), allowed farmers to bring their animals to market more quickly and more cheaply. Fishmeal has been a major component of chicken and hog feed since the 1950s. William Boyd, "Making Meat: Science, Technology, and American Poultry Production," *Technology and Culture* 42, no. 4 (2001): 631–64; Kristin Wintersteen, "The Smell of Money: Fishmeal on the Periphery of the Global Food Economy," *Harvard Design Magazine: Architecture, Landscape Architecture, Urban Design and Planning*, no. 39 (2014): 32–41.

<sup>5</sup> Rosemary Thorp and Geoffrey Bertram, *Peru, 1890-1977: Growth and Policy in an Open Economy* (New York: Columbia University Press, 1978), 208.

<sup>6</sup> Gregory T. Cushman, "The Most Valuable Birds in the World": International Conservation Science and the Revival of Peru's Guano Industry, 1909-1965," *Environmental History* 10, no. 3 (2005): 477–509; Arturo Vásquez Parraga, "Economic Cycle, Migration, and Employment: A Model of Conjunctural Development: The Fishmeal Industry in Peru, 1940-1985" (Unpublished Ph.D. Dissertation, University of Texas at Austin, 1986), 93.

booming coastal cities, and the promise, and tragedy, of the Peruvian Revolution. This paper starts with a brief overview of Chimbote prior to the boom before moving on to an analysis of the rise, fall, and resurgence of fishing in Chimbote. Finally, I focus on the urban political, social, and environmental impact of the fishing boom.

## CHIMBOTE BEFORE THE BLUE REVOLUTION

Located 400 kilometers north of Lima, Chimbote did not play a major role in Peruvian politics or economics until the 1940s. During the colonial period, few people lived near Ferrol Bay; the bulk of the region's population lived in Santa, located near the mouth of the Santa River some thirty kilometers to the north. According to local lore, in the late 18th century, six families migrated to Chimbote from Huanchaco, a fishing village near Trujillo.<sup>7</sup> These migrant families formed the core of local society and politics until the 1940s, as the leaders of the Indigenous Community of Chimbote and Coishco (CICC). The creation of the CICC in 1927 had widespread implications for the future of Chimbote as the Huanchaqueros, through the Comunidad, assumed an almost dominant cultural position as the descendants of the true founders and forgers of Chimbote and as the legal owners of much of the city's land.<sup>8</sup>

Both states and industrialists, foreign and domestic, had long had their eyes on Chimbote as a potential deep-water port or industrial center.<sup>9</sup> In 1944, the Peruvian state chose to build the nation's first steel mill in Chimbote. Its deep and sheltered bay could dock the large ships both carrying iron ore from the Marcona mines near Ica (south of Lima) and shipping the finished steel to Lima and other Peruvian ports.<sup>10</sup> The Andes to the east of the port held vast reserves of coal, and the

<sup>7</sup> These six families, the Arroyo, Mendoza, Morales, Beltrán, Díaz, and Leytón families, settled in the northern part of the bay, where they fished and lived in a neighborhood they called Huanchaquito. Until the 1970s, many members of the city council and mayors often had one or two of these last names.

<sup>8</sup> Fidel Diestra Peña, *Historia del movimiento barrial de la Provincia del Santa: Período 1948 - 1980* (Chimbote: Instituto de Promoción y Educación Popular, 1986); Fernando Bazán Blass, *Historia de Chimbote* (Chimbote; Lima: Universidad Los Ángeles de Chimbote; Editorial San Marcos, 2003), 94–109; Fernando Bazán Blass, *Historia de la Comunidad de Indígenas de Chimbote y Coishco* (Lima: Asesoría Legal Rodríguez Montenegro & Asociados, 2009); Víctor Unyén Velezmoro, *El departar [sic] de un coloso: Homenaje a la ciudad de Chimbote*, 2nd ed. (Chimbote: Talleres Gráficos de la Imprenta de la Comunidad Industrial Siderperú, 1987), 69–74; Antonio Pinedo Cáceres, "Comunidad Indígena de Chimbote y Coishco" (Bachiller en Derecho, Universidad Nacional de Trujillo, Facultad de Derecho, 1959).

<sup>9</sup> The US government eyed Chimbote as a potential coaling station in the late 1800s and the Peruvian state named it a *puerto mayor*, a designation that includes the installation of a customs station, in 1871, even though the port did not have a wharf suitable to dock large ships. See Lawrence A. Clayton, *Peru and the United States: The Condor and the Eagle*, The United States and the Americas (Athens: University of Georgia Press, 1999); Seward W. Livermore, "American Strategy Diplomacy in the South Pacific 1890-1914," *The Pacific Historical Review* 12, no. 1 (March 1943): 33–51. Throughout the 1910s, the congressman and scientist Santiago Antúnez de Mayolo (1887-1967), promoted the creation of a hydroelectric dam (and several other industries) in his home department of Ancash, focusing on Chimbote. Santiago Antúnez de Mayolo, *Relato de una idea a su realización ó, la Central Hidroeléctrica del Cañón del Pato*. (Lima: [n.p.], 1957).

<sup>10</sup> Thorp and Bertram, *Peru*, 186.

powerful Santa River proved the perfect place to install a hydroelectric dam to generate the electricity necessary to not only power the steel mill, but also to fuel the industrial development of the rest of the town.<sup>11</sup> Peruvian and US experts undertook a vast and rapid urban development plan to provide the steel mill with the necessary infrastructure and sanitary conditions for the projected growth of the city's population. They drained the mosquito-infested lagoons that surrounded the city, built the city's first hospital with sixty beds, paved the city's downtown core, opened a luxury hotel, and began construction on the steel mill.<sup>12</sup> Chimbote would be the key to Peru's industrial future, a "Pittsburgh peruano."<sup>13</sup> Preparing the city for the steel mill sparked the city's industrialization, but it progressed slowly: the construction of the steel works took almost two decades to complete, ultimately producing some of the world's most expensive steel;<sup>14</sup> the railroad brought dozens of new residents every time it arrived at the Chimbote station;<sup>15</sup> and the draining of the lagoons made much of the city inhabitable for the first time. In short, the biggest impact of the steel mill project was the foundational infrastructure changes that allowed for the transition of Chimbote into world's largest fishing port.

While the steel mill provided the foundation, the unique ecology of Peruvian coast, especially around Chimbote, presented the ideal conditions for the development of the fishmeal industry. Three key ecological endowments played into fishmeal's growth. First, the Peruvian coast is one of the globe's five upwelling zones, where nutrient rich waters rise to the surface from lower depths. While comprising only 5 percent of the oceans, these five zones contain up to 40 percent of the world's fish catch.<sup>16</sup> Second, in Peru, coastal currents, including the Humboldt Current, also bring cold waters with high levels of nutrients, like phytoplankton, the basis of the aquatic food chain, into the ecosystem. Finally, the continental shelf, which is at its widest point off Chimbote, ensures a constant flow of nutrients throughout the entire year. Chimbote, in short, has some of the best conditions in the world for spawning

<sup>11</sup> "A Sanitary Foundation for a City with a Future, Chimbote, Peru," *Newsletter. Institute of Inter-American Affairs* 110 (1947): 2-8.

<sup>12</sup> United States Information Service (Lima), *Chimbote emerge de las charcas* (Lima, 1956).

<sup>13</sup> E.J. Clearly, "Chimbote, El Pittsburgh peruano en potencia," *Boletín de la Escuela Nacional de Ingeniería* 3, no. 17 (1944): 3-27, cited in César N. Caviedes, "Chimbote. El caso de una ciudad boom," *Revista Geográfica*, no. 83 (1975): 52.

<sup>14</sup> The steel mill had to disprove this popularly held belief in a local newspaper article - "SOGESA Informa," *El Santa (Chimbote)*, 1965. Thorp and Bertram called the steel mill one of the "conspicuous failures" of the 1960s. Thorp and Bertram, *Peru*, 269.

<sup>15</sup> Interview CUH1803, Chimbote, January 3, 2018.

<sup>16</sup> Other upwelling zones are located on coasts off California and Oregon (California Current), Southern Africa (Benguela Current), the Horn of Africa (Somali Current), and Northeast Africa (Canary Current).

the massive schools of forage fish, like anchoveta and sardines, that became the basis for the industrial boom of the 1950s and 1960s.<sup>17</sup>

Peru's first fishmeal reduction plant opened in Chimbote in 1950, a tiny factory using imported machinery from the failed California sardine fishery made famous by John Steinbeck.<sup>18</sup> Within a few years of its start, Peru shot up the charts of world fishing nations, surging from its traditional spot as one of the twenty- to thirty-largest fishing nations in the 1950s to claim first place by 1963. Each year between 1963 and 1972, Peruvian fishermen landed more fish than any other nation, and by the 1970s, fishmeal had overtaken copper as the nation's leading export.<sup>19</sup> The fishing industry grew swiftly, as entrepreneurs realized they could make enormous profits by exploiting the schools of anchoveta teeming off the shore. The industry operated with little effective regulation from the state for more than a decade: under the leadership of finance minister Pedro Beltrán (1959-61), the state's export-oriented economic policy encouraged exports, especially for the exciting and new fishmeal industry.<sup>20</sup>

Only the environment seemed to constrain the constant growth of the industry in the 1960s. In 1964, boats returned empty for the first time, as the re-emergence of the warm waters of the El Niño Southern Oscillation displaced the typically cool, nutrient-rich water, and the anchoveta, from the coast. The lack of fish

<sup>17</sup> These fish have been the basis of the vibrant coastal ecosystem and economy since time immemorial. Pre-Columbian societies ate and traded fish. For thousands of years, millions of seabirds ate anchoveta producing the mountains of guano Peruvians mined and exported in the nineteenth century. Heraclio Bonilla, *Guano y burguesía en el Perú: El contraste de la experiencia peruana con las economías de exportación del Ecuador y de Bolivia* (Quito: Facultad Latinoamericana de Ciencias Sociales, Sede Ecuador, 1994); Shane J. Hunt, *Growth and Guano in Nineteenth Century Peru* (Princeton, N.J.: Research Program in Economic Development, Woodrow Wilson School, Princeton University, 1973); Paul Gootenberg, *Imagining Development: Economic Ideas in Peru's "Fictitious Prosperity" of Guano, 1840-1880* (Berkeley: University of California Press, 1993). Further, anchoveta and pilchards serve as the main food for the hundreds of fish species found off the west coast of South America, including hake and bonito. Gerald J. Paulik, "Anchovies, Birds, and Fishermen in the Peru Current," in *Resource Management and Environmental Uncertainty: Lessons from Coastal Upwelling Fisheries*, ed. Michael H. Glantz and J. Dana Thompson, *Advances in Environmental Science and Technology* (New York: John Wiley & Sons, 1981), 54. On the ecological conditions in Chimbote and the Peruvian coast, see J. Dana Thompson, "Climate, Upwelling, and Biological Productivity: Some Primary Relationships," in *Resource Management and Environmental Uncertainty: Lessons from Coastal Upwelling Fisheries*, ed. Michael H. Glantz and J. Dana Thompson, *Advances in Environmental Science and Technology* (New York: John Wiley & Sons, 1981), 20-23; Alan R. Longhurst, *Ecological Geography of the Sea* (San Diego: Academic Press, 1998), esp. 318; Erwin Schweigiger, *El litoral peruano* (Lima: Compañía Administradora del Guano, 1947); Robert E. Coker, "Ocean Temperatures off the Coast of Peru," *Geographical Review* 5, no. 2 (1918): 127-35; Michael H. Glantz, *Currents of Change: Impacts of El Niño and La Niña on Climate and Society*, 2nd ed. (Cambridge: Cambridge University Press, 2001).

<sup>18</sup> Arthur F. McEvoy, *The Fisherman's Problem: Ecology and Law in the California Fisheries, 1850-1980* (Cambridge: Cambridge University Press, 1986); John Steinbeck, *Cannery Row* (New York: Viking Press, 1945).

<sup>19</sup> Pedro-Pablo Kuczynski-Godard, *Peruvian Democracy under Economic Stress: An Account of the Belaúnde Administration, 1963-1968*, Reprint (Princeton, N.J.: Princeton University Press, 2015), 6.

<sup>20</sup> Gregory T. Cushman, "The Lords of Guano: Science and the Management of Peru's Marine Environment, 1800-1973" (Unpublished Ph. D. Dissertation, University of Texas, Austin, 2003); Kristin Wintersteen, "Protein from the Sea: The Global Rise of Fishmeal and the Industrialization of Southeast Pacific Fisheries, 1918-1973," *Desigualdades.net*, 2012, [http://www.desigualdades.net/Working\\_Papers/Search-Working-Papers/Working-Paper-26-Protein-from-the-Sea\\_/index.html](http://www.desigualdades.net/Working_Papers/Search-Working-Papers/Working-Paper-26-Protein-from-the-Sea_/index.html); Antonio Zapata, "Los actores y la problemática de la pesca industrial peruana, 1955-1997," in *Estado y mercado en la historia del Perú*, eds. Carlos Contreras and Manuel Glave (Lima: Pontificia Universidad Católica del Perú, 2002), 351-414.

caused panic among smaller producers, who sold their boats and factories to the larger conglomerates to pay creditors. Workers used the crisis to demand, and win, some of their most significant victories, including the creation of the Fisherman's Social Security Bank.<sup>21</sup> Guano birds suffered the brunt of the impact, as their numbers plummeted by up to 90 percent.<sup>22</sup> The 1964-5 crisis foretold a devastating future: the death of the industry less than a decade later.

Between 1965 and 1972, Peruvian fishermen officially extracted 68 million metric tons (MMT) from the oceans; anchoveta comprised 98 percent of this catch. If we include the widely accepted figure of an extra 30 percent for the unreported or 'black' catch, Peruvians most likely extracted over 88 MMT of anchoveta.<sup>23</sup> The state's aquatic research institution, the Institute of the Sea (*Instituto del Mar de Peru*, hereafter IMARPE), had set the maximum annual extraction limits at between 7 MMT (in 1965) and 9.5 MMT (after 1967); Peru's fishermen surpassed these limits every year, putting extreme stress upon the ecosystem and its most vital species, the anchoveta. Crucially, IMARPE's funding came largely through a tax upon fishmeal exports; industrialists provided IMARPE with a research vessel and "funnel[ed] large sums to support [it]."<sup>24</sup> IMARPE, instead of preventing the overexploitation of the country's ichthyological resources, ended up serving the interests of the industrialists and the state, desirous of tax revenues.<sup>25</sup>

The industry kept growing more oligopolistic through this period: larger producers snapped up smaller operations. The largest group, OYSSA, led by Luis Banchemo Rossi, controlled over 30 percent of the industry by 1970.<sup>26</sup> Peruvian shipyards, many owned by the same Lima-based fishmeal industrialists, built boats with holds as large as 400 tons, twenty times larger than a decade earlier. They also established over one hundred fishmeal plants all along the coast to take advantage of

<sup>21</sup> Humberto Luna Montes, "Homenaje a sus bodas de plata 1965-1990 de la Caja de Beneficios Sociales del Pescador," *El Pescador*, 1990.

<sup>22</sup> Cushman, "Most Valuable Birds."

<sup>23</sup> Catch levels from Nathan Clarke, "Traces on the Peruvian Shore: The Environmental History of the Fishmeal Boom in Chimbote, Peru, 1940-1980" (Unpublished Ph. D. Dissertation, University of Illinois at Urbana-Champaign, 2009), 162.

<sup>24</sup> Cushman, "Most Valuable Birds," 498.

<sup>25</sup> Stuart McCook argued that scientists oriented the nature of scientific research in Latin America towards the concerns of the "developmentalist priorities of their patrons." Stuart McCook, "Prodigality and Sustainability: The Environmental Sciences and the Quest for Development," in *A Living Past: Environmental Histories of Modern Latin America*, eds. John Soluri, Claudia Leal, and José Augusto Pádua (New York: Berghann Books, 2018), 226-245.

<sup>26</sup> On the size of the fishmeal industry, see Jaysuno Abramovich, *La industria pesquera en el Perú: Génesis, apogeo y crisis. Ensayo de interpretación* (Lima: Ediciones EUNAFEV, 1973.)

the ecological variation.<sup>27</sup> As a result of this growth, the capacity of the industry to capture and process fish far outstripped the ecosystem's ability to provide those fish sustainability. By 1972, the fishing industry had grown to such an extent that its nearly 1,500 boats had the ability to fish up to 30 MMT per year, over three times the maximum sustainable yield. In 1971, the fleet caught 10 MMT in just 77 days.<sup>28</sup> Both industrialists and fishermen, if left to their own devices, would have extracted every last fish. This unrestrained assault on the anchoveta, including immature fish, contributed to the tragedy that occurred when the El Niño waters returned in 1972.

In April 1972, boats once again started to come in empty. Scientists diagnosed the presence of the El Niño phenomenon as the cause for the low catch levels. Whereas previous El Niños had been less severe and over quickly, in 1972-3, the anchoveta showed no signs of reappearing for months. With no revenue, the heavily indebted industrialists found it difficult to meet their credit obligations.<sup>29</sup> Fishermen had a worse time: many did not have enough savings to survive a prolonged period on land.

After a summer of violent labor clashes,<sup>30</sup> the industry teetering on economic implosion, and few signs of commercially exploitable schools of fish returning, on May 7, 1973, the federal government, under the control of a left-leaning and self-proclaimed revolutionary military junta, expropriated the entire fishmeal industry. This new monopoly, called Pesca Perú, assumed the industry's debt, and overnight became the world's largest fishing company with 27,000 employees, 1,486 boats, and 105 factories throughout Peru.<sup>31</sup> In Chimbote, the state instantly gained some 6,000 new workers.

<sup>27</sup> The Peruvian coast is 2,414 kilometers long; industrial fishermen exploited schools of anchoveta from ports in Chicama in the north to Ilo near the Chilean border. The ecological conditions necessary for the spawning, growth, and feeding of the anchoveta vary throughout the year and along the coast.

<sup>28</sup> Hernán Peralta Bouroncle, *La ley del octavo año: Nueva ley de pesquería* (Lima: Instituto para el Desarrollo de la Pesca y la Minería, 1988).

<sup>29</sup> According to the government, industrialists owed S/.9 billion (roughly US\$191 million), against S/.4.8 billion (roughly US\$102 million) in capital. Of that debt, S/.5.354 billion (US\$114 million) was owed to state-owned banks (Banco de la Nación, Banco Industrial, and Banco Asociada). Peru. SINAMOS ORAMS III Ancash, *La nacionalización de la pesca por la revolución*, 1973, 1-2. On p. 3 of this document, the exchange rate is listed at 47 soles to the dollar. Pesca Perú lost money throughout the 1970s and 1980s. On the financial aspects of the expropriation, see Carlos Malpica Silva Santisteban, *Anchovetas y tiburones* (Lima: Editora Runamarka, 1976); Peru. Empresa Pública de Producción de Harina y Aceite de Pescado, *¿Qué ha hecho y adonde va PESCA-PERU?* (Lima: Empresa Nacional Pesquera PESCA PERU, 1981); Hernán Peralta Bouroncle, *Crisis en la pesquería peruana* (Chimbote: Instituto de Desarrollo Pesquero, 1982).

<sup>30</sup> See Nathan Clarke, "Chimbotazo: The Peruvian Revolution and Labor in Chimbote, 1968-1973," in *The Peculiar Revolution: Rethinking the Peruvian Experiment under Military Rule*, ed. Paulo Drinot and Carlos Aguirre (Austin: University of Texas Press, 2017), 267-93.

<sup>31</sup> SINAMOS, *La nacionalización*.



The state justified the creation of Pesca Perú to provide the opportunity to rationalize the industry. Pesca Perú shuttered obsolete or redundant factories, decommissioning boats and fishing gear, and gradually reducing personnel. Many fishermen welcomed the incorporation into the state, because for the first time they had stable jobs with protections and benefits from the state.<sup>32</sup> Over the course of the decade, Pesca Perú reduced its workforce by 70 percent and closed or sold more than 60 of its 105 factories.

Pesca Perú, ultimately, became one of the revolutionary government's greatest failures. The state made several mistakes with its fishing monopoly, including assuming the entirety of the industry's enormous debt obligations, an action that hampered the nascent company's ability to ever turn a profit (which it struggled to do). Compounding the inherited debt crisis, the company grossly mismanaged its holdings: many managers had been transferred (forcibly) into the public sector from the expropriated companies, and demonstrated a dubious loyalty to the government and its project.<sup>33</sup> Likewise, the lax control over the company's capital goods saw many of them disappear - interviewees reported thefts of nets and motors from Pesca Perú's installations. Finally, ecology challenged the company: Pesca Perú made profits by turning fish into fishmeal. With a lack of anchoveta, which did not return to the ecosystem in any significant quantities until the 1990s, the company had a limited ability to pay back its debt. In the mid-1970s, the South American pilchard (*Sardinops sagax*) replaced anchoveta in Peruvian waters; this larger and more palatable pelagic fish proved a new challenge to the military government. Unlike the anchoveta, people enjoy eating pilchards, which come from the same family as sardines.<sup>34</sup> The Peruvian coast, and especially Chimbote, saw dozens of privately owned canneries open, starting a 'second canning boom.'<sup>35</sup>

<sup>32</sup> Fishermen had been paid on a piecemeal basis, and often were cheated out of their fair pay. As state employees they were guaranteed, or thought they were guaranteed, a more equitable treatment. See Interview PEH002, Chimbote, April 25, 2005; "PESCAPERU dará trabajo a pescadores: Tantaleán," *Correo*, May 24, 1973; "Ministro de Trabajo dijo ayer: Considerarán a pescador como trabajador estable," *Correo*, May 24, 1973.

<sup>33</sup> One notable example is Benito Rossi, cousin of the fishmeal magnate Luis Banchemo Rossi. Manuel Benito Rossi Barrios, *La pesca en el Perú: reminiscencias de una vida en la industria, 1955-2005* (Lima, Peru: QG Editores, 2011).

<sup>34</sup> The Peruvian fishing industry has tried for fifty years to get the nation's residents to eat anchoveta and has failed. See Wintersteen, "Protein from the Sea"; Pamela Cuthbert, "Hold Your Nose, Not the Anchovies," *Macleans* 126, no. 12 (4/1/2013); Patricia Majluf, Santiago De la Puente, and Villy Christensen, "The Little Fish That Can Feed the World," *Fish and Fisheries* 18, no. 4 (2017): 772-77, <https://doi.org/10.1111/faf.12206>.

<sup>35</sup> Peralta Bouroncle, *Crisis en la pesquería peruana*, 33. Hector Peralta spent several years in the 1970s living in Chimbote, working in leftist politics and with the fishermen's union. In the 1980s, he was advisor to the Fishermen's Federation, the national fishing union umbrella group (like the AFL-CIO in the US), and worked as a congressional aide.

Fishing entrepreneurs, many times the same groups that had their assets seized just a few years prior, opened canneries in Chimbote beginning in 1974. Peru quickly emerged as a major exporter of canned fish products. Several of the factories operated close to the downtown or in middle of overpopulated residential neighborhoods. The state also permitted these canneries to produce fishmeal from the scraps and discards of the canning process: as a result, the new industrialists opted to manufacture fishmeal instead of canning their catch. Given the higher profits in the production of fishmeal and oil, industrialists did everything possible to acquire stock to produce fishmeal, even purposefully letting fish rot so that it would not be suitable for canning.<sup>36</sup> Héctor Peralta Bouroncle showed that only 8 to 12 percent of the fish catch went into canning, the remainder became fishmeal. Peralta argued that this illicit production directly affected the ability of Pesca Perú's waning economic fortunes, because the state, through Pesca Perú, would have received millions of soles from the sale of this illegally produced fishmeal. Instead, those profits went to the cannery owners.

By relaxing its monopoly on fishmeal production, the state opened a Pandora's box of pollution and ecosystem abuse once again. Furthermore, industrialists would not report catch levels correctly, avoiding government controls and paying fishermen less than their due wage of 33 percent of the value of the total catch.<sup>37</sup> Not only did *pesca negra* (black or illegal fishing) still exist, but also now *harina negra* (black or illegal fishmeal) emerged.<sup>38</sup> In short, the state had missed out on its opportunity to recreate and control the fishmeal industry and its effects on the nation's ecosystems, especially in Chimbote. Instead of controlling fishing and the extraction of fish, the state instead permitted prior practices, like *harina negra* instead of *pesca negra*, to persist.

<sup>36</sup> For example, see *Resolución Directorial 139-78-PE/DS*, 13 June 1978. "Dan licencia de funcionamiento a empresas que operan 2 plantas de harina de pescado." Document located in the Ministerio de Pesquería Archive, Chimbote.

<sup>37</sup> Document titled *Anexo*. Ministerio de Pesquería Archive, Chimbote; *ibid.*, 34 In the 1950s and 1960s, fishermen were paid per ton of fish caught; this system changed in the 1970s to a fixed percentage of the sale price. Initially it was set at 33 percent, but has continually fallen since the 1970s.

<sup>38</sup> MIPE recorded the increase in the production of *harina de pampa*, or pampa fishmeal, a process that involved sun drying fish and grinding it, a process that had been declared illegal previously. Informe no. 050-81-ORDENOR CENTRO-DRP/DR., 15 September 1981 From: Manuel Pinchi Olivares to Alfredo Bellido Delgado, Director General de Transformación. Asunto: Informe sobre acciones tomadas al detectarse un depósito de Harina de Pescado Clandestino con 697 Sacos de Harina. [sic] Ministerio de Pesquería Archive, Chimbote.

## THE BLUE REVOLUTION IN CHIMBOTE

Fishmeal industrialists opened plants all along the Peruvian coast during the 1950s and 1960s. By 1962, Chimbote had become the central port in the industry, becoming synonymous with fishing, and unfortunately, the industrial pollution and the social chaos typical of boomtowns. I argue Chimbote became the center of the fishmeal industry precisely because of its expendability. This section focuses on three reasons why: politics, economics, and identity.

As Lima's main port since the colonial period, Callao logically had become the leading producer of fishmeal as the boom began in the 1950s. By the early 1960s, Chimbote had overtaken Callao as the nation's, and eventually the world's, leading fishing port. Callao's location near Lima made it an ideal spot for the development of this industry, given the available workforce and well-established shipping infrastructure. The ecological impact of the industry, however, proved too much for the residents of Callao and neighboring Lima to tolerate. Soon after the opening of the first fishmeal plants, letters to the editor appeared in Lima newspapers and magazines.<sup>39</sup> Likewise, constituents registered complaints with their elected representatives, decrying the stench produced by the industry and the disruption the incessant traffic jams caused by the dump trucks loaded with fish, as they made their way from the Callao wharves to the factories. Lawmakers passed (or decreed) several legal instruments (ministerial resolutions, etc.) in the early 1960s to try to reign in the impact the fishing industry on the environment. These laws limited the hours both plants could operate and fishermen could unload their catch or restricted where the fishmeal plants could be located.<sup>40</sup> These regulations came piecemeal throughout the

<sup>39</sup> For example, "Sección: Radar Parlamentario. Las cámaras y el asunto de la harina de pescado," *Gente: la revista del Perú* IV: 32 (April 1962): 9. See Lise Sedrez and Regina Horta Duarte, "The Ivy and the Wall: Environmental Narratives from an Urban Continent," in *A Living Past: Environmental Histories of Modern Latin America*, eds. John Soluri, Claudia Leal, and José Augusto Pádua (New York: Berghann Books, 2018), 154.

<sup>40</sup> Milena Arias Schreiber, "The Evolution of Legal Instruments and the Sustainability of the Peruvian Anchovy Fishery," *Marine Policy* 36 (January 1, 2012): 78–89, <https://doi.org/10.1016/j.marpol.2011.03.010>; César Belaúnde Guinassi, *La legislación pesquera en el Perú* (Lima: Editorial Universitaria, 1963). Belaúnde Guinassi republished the texts of several government decrees (laws, resolutions, etc.). This legislation included Resolución Suprema 217, 1 November 1956 "No se otorgará permiso para instalar plantas para elaboración de harina de pescado," in Belaúnde Guinassi, *La Legislación Pesquera En El Perú*, 141; Resolución Suprema 240, 14 June 1961, "El Ministerio de Fomento informará previamente para el otorgamiento de licencias a fábricas de harina de pescado," in *ibid.*, 174; Decreto Supremo 14, 19 June 1961, "Se prohíbe la instalación de plantas de harina de pescado sin el requisito previo de la resolución autoritativa," in *ibid.*, 176; Decreto Supremo 24, August 22, 1961, "Se aprueba el reglamento sanitario para el transporte de materia prima a las fábricas de harina de pescado," in *ibid.*, 177; "Reglamento sanitario para el transporte de materia prima a las fábricas de harina de pescado y conservas," in *ibid.*, 178–180; Resolución Ministerial 4965, August 29, 1962, "Apruébase el reglamento de Decreto Supremo N° 11 de 29 de agosto de 1962, sobre fábricas de harina de pescado," in *ibid.*, 193; and Resolución Ministerial 1163, September 1962, "Requisitos para el otorgamiento de licencias de instalación de fabricas de harina de pescado," in *ibid.*, 192.

early 1960s, but applied to Callao only. Chimbote and the other ports, where these disruptions were perhaps greater, did not figure into this legislation. With the increased public pressure and advocacy against them in Lima-Callao, the fishmeal industry shifted its focus to Chimbote in the early 1960s.

Chimbote attracted investment because its civic leaders seemingly could not control or influence fishmeal industrialists. This lack of control had several foundations. First, few decisions about Chimbote's fate were made in the city itself. Peru's centralized governmental structure meant most decisions emanated from Lima; within the Department of Ancash, politicians from the highland capital city, Huaraz, decided on most other issues. In the eyes of many people from Chimbote, the city's political isolation caused many of its environmental and social problems. Second, the city's politicians could not, or did not want to, regulate the industry. At times, the local government attempted to protect the environment, passing laws and edicts, but these regulations often went ignored and unenforced, or were unenforceable.<sup>41</sup> The people of Chimbote vociferously complained about the negative impact the port's industrialization was having on the bay, but the dozens of letters to the editor and protests remained ignored.<sup>42</sup> Industrialists ignored the government's regulatory edicts and worked with venal local leaders, including the same politicians who passed the weak and unenforceable local environmental ordinances, to pollute the skies, seas, and sands of Chimbote.<sup>43</sup>

Furthermore, the city's economy depended upon fishing and suffered the vicissitudes and externalities of the industry: when fishing was down, the whole city was down. Likewise the factories incessantly emitted a horrendous odor, but locals called it the "smell of money."<sup>44</sup> The inconvenience created by the pollution became

<sup>41</sup> The case of Oscar Arciniega is illustrative of the inability of local politicians to stop or even confront the fishmeal industry's interests. As mayor in 1950, he denied the building permit for one of the city's first canneries, claiming it would pollute the city's growing downtown core. In response to the denial, Arciniega was removed from office by dictator Manuel Odría and the factory was installed. Thirty more followed over the next twenty years. See Peru. Consejo Nacional del Ambiente and Peru. Universidad Nacional del Santa Chimbote, *Diagnóstico ambiental y propuestas técnicas para la recuperación de la Bahía el Ferrol* (Lima: Consejo Nacional del Ambiente, 2000), 49; María Elena Foronda Farro, "Chimbote's Local Agenda 21: Initiatives to Support its Development and Implementation," *Environment and Urbanization* 10, no. 2 (1998): 129–48.

<sup>42</sup> I was able to identify over one hundred such letters to the editor published in Chimbote newspapers between 1956 and 1977.

<sup>43</sup> In my interviews, many Chimbotanos laid blame for this weak political position on the prominence of the American Popular Revolutionary Alliance (APRA) party in local politics. Many of the migrants came from the *sólido norte* and APRA had a strong presence in every local union. These interviewees blamed weak and venal ARPA politicians for allowing the fishing industrialists to act as they wanted. For example, Interview CUH002, Chimbote, May 25, 2005; Interview TRH003, Chimbote, May 10, 2005.

<sup>44</sup> This is a common refrain heard in Chimbote even to today. This trope even gave one prominent book about Chimbote its name. See Juan Carlos Sueiro, *El olor del dinero: La contaminación por la industria de harina de pescado en Chimbote* (Lima: Instituto para el Desarrollo de la Pesca y la

rationalized as a part of living in Chimbote. One interviewee, a former fisherman who lived two blocks from a fishmeal factory, claimed that people who protested resided in downtown Chimbote, and not in a neighborhood directly affected, like him.<sup>45</sup> Putting up with immense and unrelenting pollution was a badge of honor for him.

Finally, Chimbote became the center of the industry because no one who owned a fishmeal factory lived there. The grand industrialists resided mostly in Lima, and operated their businesses from there. As they did not live in Chimbote, the environmental and social impacts of rapid development did not affect them where they lived. Local lore held that the local politicians and many residents had not been born in the city and were not “Chimbotanos”; they had no affinity for Chimbote or concern about the port or its residents’ health.<sup>46</sup> Luis Banchemero, the most powerful industrialist, famously lived in the Hotel Crillón in downtown Lima, visiting his Chimbote factories, boats, and workers when necessary.<sup>47</sup> In the mid-1960s, some of the city’s elite created a new housing development well to the south of the city—and the factories and their pollution. They called this planned neighborhood “Buenos Aires,” or Good Air (as far as I know, no Argentines lived there). Chimbote became polluted and expendable because of a sort of reverse NIMBYism. As a result, Chimbotanos felt their town, the environment, and their health was readily sacrificed to the demands of industry and capitalism, rather than limiting pollution and promoting urban development in order to make the city livable. The fishmeal industry took from Chimbote, but never gave back: according to one former fishing boat captain “people have come here to get rich and they took their money with them.”<sup>48</sup>

## URBAN EFFECTS OF THE BLUE REVOLUTION

The Blue Revolution transformed the village of Chimbote into a major industrial center almost overnight, creating a boomtown culture reminiscent of the Wild West. The fishermen, among the best paid of Peru’s proletariat, found themselves enmeshed

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Minería, 1994). In my interviews with fishermen and the people who lived in Chimbote during its boom, this trope emerged several times. For example, Interview FLH1001.2.3.4, Chimbote, July 7, 2010, and Interview PEH203, Chimbote, July 3, 2002.

<sup>45</sup> His house was three kilometers from the city center. Interview FLH1001, Chimbote, July 8, 2010.

<sup>46</sup> One common complaint heard even today is that the city’s leadership, whether industrial or political, did not grow up in Chimbote and therefore had no skin in the game when it came to the protecting the environment or improving the city.

<sup>47</sup> Banchemero Rossi, the largest fishmeal producer in the world by 1970, had fishmeal reduction plants along the entire Peruvian coast and had diversified his holdings to include food canneries, insurance companies, and transoceanic shipping. Interview with Orlando Cerruti, Lima, July 16, 2002. Interview with Juan Banchemero Rossi, Lima, July 17, 2002.

<sup>48</sup> Interview PEH1001, Chimbote, June 27, 2010.

in a culture that encouraged excessive drinking and womanizing. Contemporary observers noted that along with the factories, the most notable edifices in the city were the hundreds of bars (up to four on every downtown block) and two legal brothels.<sup>49</sup> This saloon culture defined of the fishing industry and the development of the boomtown culture in Chimbote: until the 1980s, fishermen were paid in bars, in cash, surrounded by cases of beer.<sup>50</sup> So much money circulated in the port that both international entertainers and foreign sex workers went to Chimbote to perform, before going to Lima.<sup>51</sup> While plenty of cash flowed through the city, it seemed like little of it remained.<sup>52</sup> The rest of this paper looks at the environmental, urban planning, and social struggles of the port during the Blue Revolution to understand why contemporary descriptions of boomtown Chimbote described it as tragic, foul-smelling, or a giant slum.

Pollution came to define Chimbote for many Peruvians.<sup>53</sup> The industrialization of the coast had a devastating impact on the environment, and the city's residents quickly noticed the changes.<sup>54</sup> The atmosphere changed: the skies of Chimbote became dotted with chimneys that expelled a thick white smoke seemingly all day and night. This exhaust, which has an odor reminiscent of burnt fried rotten eggs, permeated the entire town, especially the shantytowns surrounding the factories. The smell from the factories, usually the result of the factories processing rotting or rotten fish, was one of the earliest and most persistent complaints of residents against the industry; it became a defining feature of the city.

The fishmeal and steel industries changed the waters of the bay as well. The production of fishmeal is one of the most polluting enterprises in the world: the United Nations Food and Agriculture Organization estimated that one continuously operating, medium-sized fishmeal factory used the same amount of oxygen (both in

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<sup>49</sup> The city had several informal or illegal brothels, including rooms within the dozens of bars located throughout the downtown.

<sup>50</sup> Interview CUH002; Interview PEH002.

<sup>51</sup> Interview CUH002.

<sup>52</sup> Interview PEH001, Chimbote, April 22, 2005.

<sup>53</sup> One travel guide described Chimbote: "the fleet of over 400 fishing boats, the smoke and penetrating odors from the fishmeal factories are the landscapes that penetrate the soul of the traveler." Pedro Felipe Cortázar, ed., *Documental del Perú*, vol. 2 (Departamento de Ancash) (Lima: Información, Opinión Pública, Publicidad y Encuestas, 1966), 12. For example, in his famed novel *No se lo digas a nadie*, Jaime Bayly wrote: "It's fishmeal - ... All of Chimbote smells like *cojones*." Jaime Bayly, *No se lo digas a nadie* (Doral, FL: Alfaguara, 2010), 92.

<sup>54</sup> The complaints about the environmental impact shortly after the opening of the first plants. In November 1956, local newspaper *El Santa* published an article denouncing the fetid smells from the plants, complaining that last year it stank, and this year there are more plants and more industrial waste (deshechos). "Fábricas de pescado: Verano - fétidos olores," *El Santa* (Chimbote), November 29, 1956, p. 1.

the air and water) as a city of a million people;<sup>55</sup> at its height, Chimbote had thirty plants of this size or larger. Few factories possessed the technology to process the liquid byproduct, called stickwater; as a result, this foul mixture of fish scales, blood, and oil was dumped directly into the bay.<sup>56</sup> Even though the technology to capture and process stickwater was readily available throughout the 1960s, plants rarely installed it. Likewise, raising chimneys would have let smoke dissipate more effectively, but it was few plants employed this technology.

Each of the four-hundred boats and the dozens of offloading docks (*chatas*) were their own potential ecological catastrophes: “organic waste, scales, gas, and grease that come from the boats and form black sediment with sulfuric smells and filmy scales that prevent the rapid oxygenation of the sea floor and the death of live organisms.”<sup>57</sup> The fishmeal production processes used vast quantities of water and diesel fuel in the engines and motors of the boats and factories; the water was not treated until the 1990s,<sup>58</sup> and only in the last decade has industry started to work with local civic and environmental leaders to reduce the impact of the industry by building a wastewater collector, linked to the city’s major factories, that takes the untreatable water and dumps it several miles offshore. Likewise, much of the residential waste (sewage, etc.) has been dumped untreated in the bay. Those who grew up in Chimbote still remember the city’s beaches and its waters as a space for recreation and of an abundance of aquatic resources;<sup>59</sup> the industrialization of the bay converted its waters into a eutrophic cesspool.

The fishmeal industry also impacted the land. During production, pollution was unavoidable – the skies would fill with white smoke, and fish ash would fall on

<sup>55</sup> Sueiro, *El olor del dinero*, 7.

<sup>56</sup> Not only did the lack of processing of stickwater impact the environment, it also produced a serious economic loss. Anthony Bimbo estimated that the Peruvian fishmeal industry lost over US\$2.5 billion between 1950 and 1994 by not recovering and processing stickwater, instead of dumping it directly in the ocean. Bimbo, Anthony. “Pollution Prevention and Control in the Seafood Industry and Particularly for Small and Medium Sized Fishmeal Plants.” Lima: Centro Panamericano de Ingeniería Sanitaria y Ciencias del Ambiente, 1996. <http://www.bvsde.ops-oms.org/cdrom-repi86/fulltexts/muwww/fulltext/epa/pcsi/pcsi.html>

<sup>57</sup> Carlos Cabrera Carranza, “Compatibilidad ambiental de la industria de harina de pescado en Paracas - Pisco,” *Revista del Instituto de Investigación* 2, no. 3 (1999), [http://sisbib.unmsm.edu.pe/bibvirtual/publicaciones/geologia/v02\\_n3/compatibilidad.htm](http://sisbib.unmsm.edu.pe/bibvirtual/publicaciones/geologia/v02_n3/compatibilidad.htm).

<sup>58</sup> In 1994, the state forced fishmeal plants and canneries to produce an environmental management and adaptation plan, or PAMA, to analyze the environmental impact of the plants and the methods they would take to protect the environment. See “Decreto Ley N° 25977 - Ley General de Pesca.” Accessed September 14, 2018. <https://www.ecolex.org/details/legislation/decreto-ley-no-25977-ley-general-de-pesca-lex-faoc001377/>; “Decreto Supremo N° 001-94-PE — Reglamento de La Ley General de Pesca.” Accessed September 14, 2018. <https://www.ecolex.org/details/legislation/decreto-supremo-no-001-94-pe-reglamento-de-la-ley-general-de-pesca-lex-faoc002920/>.

<sup>59</sup> For example, Percy Robles Guibovich, *El Chimbote que se fue* (Chimbote: Rio Santa Editores, 2006).

people's homes.<sup>60</sup> Sluices of untreated factory runoff crisscrossed the shantytowns on its way to the sea. The location of the municipal wharves augmented the effect on the terrestrial environment. The dump trucks which transported fish from the wharves, located in the north of the city to the factories of the south, leaked bloody water and often lost parts of their loads as they took sharp corners as they crossed town. As a result, trails of fish blood and piles of anchoveta adorned many of the main truck routes traversing the city, attracting stray dogs and flies. Eminent author José María Arguedas described Chimbote during fishmeal production as

[t]he stench of the sea displaced the reek of the smoke from the boilers in which millions of anchovies were coming apart, melting, exhaling that rather foodlike odor as they were boiling and sweating oil. The dense odor of waste matter, of blood, of the tiny entrails trampled in the trawlers and hosed out over the sea, and the smell of the water that gushed out of the factories onto the beach made jellylike worms rise up out of the sand; that stench kept drifting along at ground level and rising.<sup>61</sup>

During the boom, the boilers and smokestacks never stopped.

The lack of urban planning and zoning complicated the local environment. The convoluted legalities of landholding in Chimbote engendered the urban crisis that developed during the boom. Three groups could legally own land in Chimbote: first, the majority of the northern part of the city belonged the CICC, which divided it among its members. Second, the Peruvian state claimed the barren lands to the south of the CICC's domain. In 1941, the government expropriated a large tract of land from the CICC in order to build the steel mill and house its workers. Third, the residents of the city center (*casco urbano*), the sixty blocks (*sesenta manzanas*) the Peruvian state had given to John G. Meiggs in exchange for building a railroad from Chimbote into the coal regions of the Ancash highlands, could own their homes.<sup>62</sup> These sixty blocks, laid out on a grid like many Latin American cities, was the only part of the city with any infrastructure like sewers, sidewalks, and potable water. Much of the rest of the land surrounding Ferrol Bay was a mix of desert, typical of the Peruvian coast, and mosquito-infested lagoons; the potential for Chimbote exploded in the 1940s when they were drained.

<sup>60</sup> Interview MIH001, Chimbote, May 20, 2005.

<sup>61</sup> José María Arguedas, *The Fox from Up Above and the Fox from Down Below*, trans. Frances Horning Barraclough (Pittsburgh: University of Pittsburgh Press, 2000), 43.

<sup>62</sup> Bazán Blass, *Historia de Chimbote*.



The massive population growth overwhelmed the existing housing market of the sixty blocks. Migrants “were forced”<sup>63</sup> to settle on the lands surrounding the casco, first to the north in what would become the massive Barrio El Acero (Steel Town), and later to the south and east along the Pan-American highway, the city’s main thoroughfare. Throughout the boom, industrialists had attempted to place their canneries and fishmeal reduction plants on the outskirts of the city, but as the city was growing so rapidly, the shantytowns enveloped the factories, engulfing residents in pollution. By 1970, well over 70 percent of the city’s residents lived in these nascent communities. Migrants saw little benefit in investing in these homes, as they did not have legal title; Chimbote had become a metropolis of reed mat and adobe houses located in massive communities without running water, electricity, or sewerage, living amidst oppressive atmospheric, aquatic, and terrestrial pollution. The city had pronounced lack of green space: the town only had one major public park, the Vivero Forestal, located on the edge of the steel mill. Most neighborhoods (81 percent in 1972) did not have green spaces: the absence of planning in the legally dubious young towns either did not leave space for recreation areas or those spaces designated as green spaces remained empty, dusty lots.<sup>64</sup>

Chimbote grew at such a frantic pace that the bureaucrats in charge of controlling and regulating urban development could not keep up. The commissions, organizations, and juntas based in Lima and charged with managing the nation’s housing problems favored the capital over provincial backwater Chimbote. The municipal government in Chimbote, responsible for urban infrastructure, roads, sidewalks, sewerage, garbage collection, potable water, electricity, etc., was overwhelmed by the influx of people and industry. It was difficult to tax the fluid populations and the municipality received little economic support from the state, and had little funds to keep up with demands the booming city put on it. Extending the city’s infrastructure from the downtown core was painstakingly slow: for example, by the mid 1960s, there were less than 1,600 water and sewage connections in Chimbote,

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<sup>63</sup> Interview PEH1001.

<sup>64</sup> Peru. Comisión de Reconstrucción y Rehabilitación de la Zona Afectada por el Terremoto del 31 de Mayo de 1970, *Resumen en detalle de la realidad físico-urbano en la ciudad de Chimbote* (Chimbote, 1972). Green spaces, like parks and even trees, have salubrious effects for urban residents mental and physical health. See *Urban Green Spaces and Health*. Copenhagen: WHO Regional Office for Europe, 2016.

at that time a city of over 150,000.<sup>65</sup> Furthermore, the citizenry's constant complaints about the unhealthy development of Chimbote had reached a national audience, and the local environment had deteriorated to the extent that politicians had their hands forced into action. Chimbote was growing at such a rapid pace that the state found itself obliged to attempt to control the rampant growth.

The solution, or so the state thought, would come through congressional action. Law 15686, or the Chimbote Law, provided funds for the urban expansion and economic promotion of Chimbote, including the paving and elongating streets and avenues; relocation of industry; cleaning the bay; construction of a wholesale food market (*mercado mayorista*), neighborhood markets, and libraries; urban housing projects; and for the establishment of parks, sports fields, and green spaces.<sup>66</sup> The promulgation of the law in November 1965,<sup>67</sup> marked a key moment in the history of Chimbote: in the eyes of the city's residents, for the first time since the boom's beginning the state finally had done something for Chimbote. One of the most common complaints held by the residents of Chimbote had been, and still is, that even though Chimbote produced fantastic tax revenues for the national and departmental government, this money was rarely sent back to Chimbote, remaining in the centers of power like Lima and Huaraz, capital of the Department of Ancash. This law would give Chimbote, it was estimated, up to S/.18 million per year, around US\$700,000, for the infrastructure projects.

The fruits of the Ley Chimbote did not go too far towards urbanizing and sanitizing the city. The city concentrated its initial improvement projects in the downtown core. The monies provided by the Ley Chimbote did not touch the majority of Chimbote, like the squatter settlements that were the home to the overwhelming portion of the city's population and many of its industries. Furthermore, the Municipality did not receive all the promised funds: of the estimated S/.18 million soles, the city received less than S/.6 million. An accountant's review of the finances of the Chimbote Municipality during the late 1960s showed that there were a number of financial irregularities in the municipal treasury in the sixties, including missing

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<sup>65</sup> Peru. Senado. *Diario de los Debates, Sesión Ordinaria 28ª "A"* October 12, 1965, p. 481.

<sup>66</sup> Celula Parlamentaria Aprista, Proyecto 1167, 2da Extraordinaria 1964. Archivo del Senado. Expediente 1098, folio No. 2. 25 March 1965

<sup>67</sup> Ley 15686, "Disponiendo la realización del Plan de Construcción de Obras Municipales en la Provincia del Santa." Located online at <http://www.congreso.gob.pe/ntley/Imagenes/Leyes/15686.pdf> (accessed March 2008).

funds and illegal awarding of contracts.<sup>68</sup> Not surprisingly, the several members of the local government were accused of corruption during this period. The provisions of the 1965 law barely sufficed for what the city needed in order for its citizens to live in a healthy environment. Chimbote's residents would have to wait for the creative destruction of the devastating May 31, 1970 earthquake for the state to make a concerted effort to develop Chimbote.

The worst natural disaster in the western hemisphere until the Haiti Earthquake of 2010, the 7.9-degree quake created an "Affected Zone" the size of South Carolina. It leveled 80 to 90 percent of the buildings in the area, killed upwards of 80,000, and buried highlands Yungay under an avalanche of mud and ice.<sup>69</sup> In Chimbote, the earthquake killed around 500 people and knocked down over 80 percent of the city's buildings. Amazingly there was little physical damage to homes, as most people lived in houses made from impermanent and lightweight materials, like reed mats. Many homes built from adobe collapsed. Cracks developed in the asphalt of the city's few paved roads making transit difficult. The city's two major industries, fishing and steel, came away relatively unscathed, and resumed operating in early June. Along with coordinating a vast international response, the state seized on the chaos created by the quake to reform and develop its most disorganized and productive port. The revolutionary government created a new cabinet-level position to oversee its reconstruction efforts, called CRYRZA (Rehabilitation and Reconstruction Commission of the Affected Zone). The UN Development Program sent a cadre of disaster engineers and planners to help rebuild and develop the affected zone into a second industrial growth pole, based in Chimbote.<sup>70</sup>

The major impact of the earthquake in Chimbote, it seems now, has been in the formalization and legalization of the chaotic housing situation that had defined Chimbote prior to May 31, 1970. In the wake of the quake, several improvised neighborhoods popped up, as long-term Chimbote residents who had lost their (often rented) homes, displaced migrants from other parts of the affected zone, and even some shady types who sought to profit from the bedlam of the disaster. Throughout

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<sup>68</sup> Comptroller's Report located in the Urban Development Archive of the Chimbote Municipal Council.

<sup>69</sup> Anthony Oliver-Smith, *The Martyred City: Death and Rebirth in the Andes* (Albuquerque: University of New Mexico Press, 1986).

<sup>70</sup> On the larger project of reconstruction, see Nathan Clarke, "Revolutionizing the Tragic City: Rebuilding Chimbote, Peru, after the 1970 Earthquake," *Journal of Urban History* 41, no. 1 (2015): 93–115.

early June, new land occupations emerged, each with a name reflective of the earthquake.<sup>71</sup> The state sent teams of lawyers, social workers, and architects into the shantytowns to record who the residents were, to make sure they had not occupied more than their fair share of land, and ultimately provide legal title to their homes.<sup>72</sup> Thus, the earthquake provided migrant families with the ability to acquire and remain in their own dignified home for the first time. By legalizing and formalizing the city's chaotic urban system, it made the dysfunction permanent and incentivized people to stay. Many settlers-turned-land owners opted to remain in Chimbote, even as its economy cratered after the 1973 fisheries collapse and the national fiscal crises of the late 1970s and 1980s.<sup>73</sup>

The insertion of Chimbote into the global economy during the Blue Revolution greatly impacted the social development of the port. The urban explosion stimulated by the development of the fishing industry, and to a lesser extent the steel mill, overwhelmed the state's ability to provide even the most basic of services, like education and health care, to the growing population. Access to primary and secondary education constantly challenged the people of Chimbote: by the early 1970s, there were nearly 40,000 school-aged residents, but only 88 schools in the entire city. Many pueblos jóvenes lacked access to even primary schools.<sup>74</sup> Even with a growing, young population, the only institutions of higher education were vocational schools – students looking to study for a college degree had to go to Trujillo or Lima, an expensive proposition for most families. Access to health care proved another problem. By the early 1970s, there were only 246 hospital beds in a city with more than 200,000 people; just 72 doctors and 35 nurses worked in Chimbote.<sup>75</sup> There were just over 2,000 patients for each doctor.

Even though Chimbote had been billed as the future of Peru and attracted a vast number of migrants, it remained one of the country's poorest cities. By 1975, more than half the city's population was unemployed or underemployed,<sup>76</sup> and 71

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<sup>71</sup> Some names include Dos de Junio (June Second) referring to the date the neighborhood was settled, just two days after the earthquake; Tres de Octubre (October Third), the date of the coup in 1968; La Victoria (Victory); and 31 de Mayo (May 31<sup>st</sup>), the date of the earthquake.

<sup>72</sup> Interview SNH001, Chimbote, April 30, 2005; Interview with Walter, Chimbote, July 30, 2002.

<sup>73</sup> Clarke, "Revolutionizing the Tragic City."

<sup>74</sup> CRYRZA, *Resumen*.

<sup>75</sup> CRYRZA, *Resumen*.

<sup>76</sup> Oscar Ramos Carbajal, *Chimbote Hora Cero* (Chimbote: Editorial Progreso, 1974), 42.

percent of chimbotano families lived on less than S/.5,000 per month, slightly over one hundred dollars.<sup>77</sup> In one of Chimbote's oldest pueblos, Esperanza Baja, priest and sociologist Diego Irarrázaval found that 85 percent of the 4,088 residents lived on less than a dollar a day, with most of the wage going to food.<sup>78</sup> Chimbote was one of a handful of cities in Peru that had a relationship with the Foster Parents Plan: Chimbote's children received a monthly letter from their *padrino* in the developed world, along with money.<sup>79</sup> Critics of the city's development argued that the high indices of poverty led to serious social problems, like petty crime, prostitution, homicide, alcoholism, and the breakdown of the nuclear family.<sup>80</sup>

## CONCLUSION

Chimbote, the unrecognized origination point of the Blue Revolution, provides a fundamental case study for history of capitalist development on the Peruvian coast in the postwar era. As foreign and national entrepreneurs captured the abundant natural resources located off the coast and processed it into fishmeal for export, they left behind a devastated urban and aquatic environment. This chapter has argued that they were able to transform Chimbote from a tiny village into one of the global economy's most critical ports not only because of the unique natural resource endowments, but also because of the expendability of Chimbote. Politicians, whether from Lima, Huaraz, or even Chimbote, showed little preference for the city, opting to support industrialization instead. Industrial entrepreneurs took advantage of venal politicians and a desperately impoverished population to convert the city's unparalleled ecological wealth into a product that few Peruvians ever used. The development of the fishmeal industry left little behind in Chimbote, aside from gross amounts of pollution, hundreds of thousands of workers and their families living in precarious conditions in the town's dozens of pueblos jóvenes, and an ailing ecosystem.

Chimbote remains one of Peru's foremost fishing ports, though it is not the dominant force it once was in the 'Golden Age'. For the past two decades, the

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<sup>77</sup> Diego Irarrázaval, *Religión del pobre y liberación en Chimbote* (Lima: Centro de Estudios y Publicaciones, 1978), 44.

<sup>78</sup> Irarrázaval, *Religión*, 286.

<sup>79</sup> Irarrázaval *Religión*, 294. One of the most famous Chimbote foster parents was Robert F. Kennedy.

<sup>80</sup> Ramos Carbajal, *Chimbote Hora Cero*, 84–90.

Peruvian fishmeal industry is dominated by six major companies,<sup>81</sup> each with its own presence in Chimbote. They operate under regulations aimed at protecting the anchoveta and the city's environment, like the Environmental Management Adaptation Program (PAMA), a third general fisheries law, and a quota system aimed at limiting the amount of fish each boat could extract. While fishmeal reduction continues, it happens much less frequently than in the past. The emergence in the 1990s of several non-governmental organizations dedicated to protecting Chimbote's environment, most notably Natura, has brought an international light to the continuing challenges posed by development.<sup>82</sup> These NGOs have been able to fight for a cleaner bay, and urged the factories moved out from residential areas.

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<sup>81</sup>These companies are Tecnológica de Alimentos S.A. (Tasa), Pesquera Hayduk S.A., Pesquera Exalmar S.A.A., Pesquera Diamante, Corporación Pesquera Inca S.A.C. (Copeinca) and Austral Group. "Las principales empresas pesqueras del país" *Revista Pesca y Medio Ambiente*, 07 November 2017 <https://pescaymedioambiente.com/las-principales-empresas-pesqueras-del-pais/>. Accessed 15 November 2022.

<sup>82</sup>"Ecologist Film Unit: Feed for Greed." <https://theecologist.org/2008/dec/04/ecologist-film-unit-feed-greed>. Accessed 15 November 2022.

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## Chimbote en la Revolución Azul, 1940-1980

### RESUMEN

Este artículo analiza cómo el crecimiento impulsado por las exportaciones y el desarrollo dependiente perseguido por los políticos y capitalistas peruanos produjeron una nueva naturaleza en Chimbote. A partir de 1955, los peruanos extrajeron riquezas incalculables de su océano y erigieron la industria pesquera más grande del mundo, centrada en la producción de harina de pescado, un aditivo rico en proteínas para la alimentación de cerdos y pollos. Dos décadas de explotación desenfrenada de los recursos naturales del país y de industrialización sin regulación produjeron una catástrofe ecológica en Chimbote, el centro de la industria de la harina de pescado. En 1940, Chimbote era un pueblo sereno de 4.000 habitantes; treinta años después, se había convertido en el puerto pesquero más grande del mundo, una 'ciudad trágica' en la que vivían unas 200.000 personas en medio de treinta fábricas de procesamiento de harina de pescado preocupantemente contaminantes. La bahía, alguna vez clara y fértil, se había convertido en un pozo negro de desechos industriales y humanos: Chimbote había sido sacrificado a la búsqueda del desarrollo capitalista de la nación.

Este artículo descentra las narrativas del desarrollo económico y el impacto ambiental de la industrialización. La mayoría de los estudios sobre el auge industrial de la posguerra en el Perú se han centrado en el área metropolitana de Lima-Callao, con exclusión de la gran mayoría del resto del país. Al cambiar el enfoque desde Lima hacia las intersecciones de la naturaleza, el trabajo y las políticas de industrialización rápida en la costa peruana de la posguerra, podemos comprender mejor cómo los esquemas de la élite, emanadas de la metrópolis, han impactado a las personas y las ecologías de la periferia.

**Palabras clave:** pesca; ambiente; industrialización; contaminación, chimbote.

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