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THE REAL PRICE OF ATLANTIC SALMON

by Courtney Henson*

The price of salmon has drastically decreased in the United States in the past decade, largely because of increased salmon aquaculture in countries like Chile. However, this price reduction was not achieved with sustainable methods. The real costs have been absorbed by the environment and workers in Chile's salmon industry.

Salmon aquaculture has developed commercially in countries with natural salmon populations since the 1970s.¹ Aquaculture is the farming of fish under controlled conditions in natural water bodies or in closed systems. Fundación Chile, a nonprofit organization associated with the government whose goal is to foster Chilean business and industrial growth, introduced salmon aquaculture to Chile in the 1980s. The industry has boomed and Chile has become the world's second largest salmon-producing country.² Chilean salmon and trout exports have increased about 500% in the past decade.³ The expansion of commercial salmon aquaculture has resulted in the cost of salmon to consumers being one-fourth the cost in the 1980s.⁴ Salmon has shifted from being an expensive delicacy to a common substitute for meat and poultry.⁵ The drastic price reduction is a result of simple supply economics: aquaculture and improved technology caused increased salmon production in more geographical areas, like Chile, which did not historically supply wild-caught salmon. Lower prices lead consumers to consume more salmon and has increased demand, particularly for value-added products like fillets, smoked salmon, and prepared meals.⁶ This shift has been particularly pronounced in the United States, the largest importer of salmon.⁷ Chile supplies sixty-five percent of the salmon consumed in the United States.⁸

Salmon aquaculture in Chile has been credited as bringing development to several regions in Southern Chile. In Southern Chile's Region X, with the majority of aquaculture sites, poverty has decreased by nearly half within a decade.⁹ Extreme poverty in the same period dropped from thirteen to seven percent, and even further gains have been made since 2000.¹⁰ SalmonChile, an industry organization, estimates fifty-five thousand workers are directly or indirectly employed by the salmon industry.¹¹ In addition, Chile's export-oriented economy has diversified its exports from copper and fruit; salmon is now Chile's third largest export.¹² Foreign direct investment has also increased, especially from Norway and Japan.¹³ Development of roads, banking services, and universities have also extended into the southern regions because of the salmon industry.¹⁴

Cheaper prices in the supermarket and rapid development are not without costs, however. Impacts to the environment are more severe in Chile, because there is less regulation than in Norway, its primary competitor.¹⁵ There are several major environmental impacts from the salmon aquaculture industry. The salmon themselves produce waste in addition to the

antibiotics and other chemicals in their food. Escaped salmon present another environmental hazard. Salmon that escape their farm pens, which can amount to millions of salmon, are especially harmful in Chile because they are not a native species. They upset the ecological balance of the Pacific waters they are penned in because they are carnivorous and have few predators in their adopted habitat.

Like Chilean environmental concerns, Chile's labor practices in the salmon industry do not match their peers due to inadequate regulation. The industry's close relationship with the government and the emphasis on exporting salmon has resulted in anti-union practices, substandard working conditions, and very low wages for workers.¹⁶ For example, Norwegian salmon industry workers make 378% more than their Chilean counterparts.¹⁷

Economic development in southern Chile is highly dependent on the salmon industry, which thus far has not demonstrated long-term sustainability. The industry faces an additional threat in the form of infectious salmon anemia ("ISA"), a disease that has plagued the salmon farming industry all over the world. ISA does not affect humans, but it is fatal to salmon and extremely contagious, especially to farmed salmon which are kept in close quarters. ISA finally spread to Chile in 2007, when much of the salmon stock in the country had to be destroyed. In the wake of the disease outbreak some importers, such as Safeway, refused to import Chilean salmon because the quality of the stock had declined.¹⁸ The effect of ISA has led to the loss of jobs in Region X as companies—especially the giant in the industry, Marine Harvest—relocate or close.¹⁹

The ISA outbreak has dramatically exacerbated the negative impacts of poor environmental regulation and labor practices on the salmon aquaculture industry in Region X, where ninety percent of salmon production is located. Many of the companies in Chile have moved their operations further south to Regions XI and XII, or have closed, laying off over four thousand workers in Region X.²⁰ The disease outbreak has illustrated the unsustainability of the salmon farms' practices. To prevent further outbreaks, companies have to improve their husbandry practices, and the government has to ensure greater regulation, such as protecting union efforts, mandating the space between aquaculture sites, and monitoring the chemicals administered to the fish. Regulatory agencies need to catch up to the growth of the salmon industry in Chile in order for the industry to become sustainable.²¹



Endnotes: The Real Price of Atlantic Salmon *continued on page 67*

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ENDNOTES: THE REAL PRICE OF ATLANTIC SALMON *continued from page 12*

¹ FRANK ASCHE & SIGBJØRN TVETERÅS, SALMON AQUACULTURE: PRODUCTION GROWTH AND NEW MARKETS 1, (University of Stavanger, Norway) *available at* <http://www.globefish.org/filedownload.php?fileId=532> (last visited Nov. 11, 2006).

² U.N. CONFERENCE ON TRADE & DEVELOPMENT [UNCTAD], A CASE STUDY OF THE SALMON INDUSTRY IN CHILE 2 (2006), *available at* http://www.unctad.org/en/docs/iteiit200512_en.pdf (last visited Nov. 11, 2006).

³ *See id.* at 2.

⁴ ASCHE & TVETERÅS, *supra* note 1. at 3.

⁵ *See generally* Charles Fishman, *Global Fishiness*, SALON, (Jan. 23, 2006), *available at* http://www.salon.com/tech/books/2006/01/23/walmart_effect/ (last visited Nov. 11, 2006).

⁶ UNCTAD, *supra* note 2, at 2.

⁷ *Id.* at 22.

⁸ Fishman, *supra* note 5.

⁹ UNCTAD, *supra* note 2, at 2.

¹⁰ *Id.*

¹¹ SalmonChile, Salmon Industry Profile, Slide No. 9 (June 6, 2008) <http://www.salmonchile.cl/frontend/seccion.asp?contid=397&secid=33&seccid=33&subsecid=117&pag=1> (then follow “descargar” link next to Salmon Industry Profile) (last visited Nov. 11, 2006).

¹² Alexei Barrionuevo, *Facing Deadly Fish Virus, Chile Introduces Reform*, N.Y. TIMES, Sept. 3, 2008 at A14, *available at* http://www.nytimes.com/2008/09/04/world/americas/04chile.html?_r=1&oref=slogin (last visited Nov. 11, 2008).

¹³ *See generally* UNCTAD, *supra* note 2, at 25.

¹⁴ *Id.* at 27.

¹⁵ *Id.* at 30.

¹⁶ Pure Salmon Campaign, Labor Practices in the Farmed Salmon Industry, <http://www.puresalmon.org/pdfs/labor.pdf> (last visited Oct. 30, 2008).

¹⁷ *Id.*

¹⁸ Alexei Barrionuevo, *Safeway Restricts Purchase of Chilean Salmon, Citing Fish Virus*, N.Y. TIMES (Apr. 18, 2008), *available at* <http://www.nytimes.com/2008/04/17/world/americas/17chile.html?scp=3&sq=chile%20salmon&st=cse> (last visited Nov. 11, 2008).

¹⁹ *See Marine Harvest Reports Chile Production Drop*, THE PATAGONIA TIMES (July 18, 2008), *available at* <http://www.patagoniatimes.cl/index.php/News/Salmon-News/MARINE-HARVEST-REPORTS-CHILE-PRODUCTION-DROP.html> (last visited Nov. 11, 2008).

²⁰ Alexei Barrionuevo, *Salmon Virus Indicts Chile's Fishing Methods*, N.Y. TIMES, Mar. 27, 2008, *available at* <http://www.nytimes.com/2008/03/27/world/americas/27salmon.html?scp=1&sq=chile%20salmon&st=cse> (last visited Nov. 11, 2008).

²¹ *See* UNCTAD, *supra* note 2, at 30.