

Leather processing is big business in Bangladesh, India, and other parts of the developing world, where regulations are lax and poisons run freely.

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For decades, Hazaribagh has been the epicenter of Bangladesh's leather tanning industry. More than 150 tanneries in the Dhaka neighborhood pump untreated wastewater into open canals lined with rotting hides and leather scraps.

As 2016 marched to a close, rumors and panic raced through the leather tanneries in the Hazaribagh neighborhood of Dhaka. After years of extensions

and delays, the government would finally require the remaining 150 or so tanneries in this [historically unregulated and polluted corner](#) of Bangladesh's capital city to shutter. Any tanners who wanted to remain in business would have to relocate to a planned industrial park in Savar, a community roughly 14 miles away.

Authorities vowed to cut off utilities, blockade roads to prevent shipments of raw hides from entering Hazaribagh, go door-to-door to roust disobedient tanners, and revoke the licenses of all who defied their orders.



Part 1 2/21	Part 2 2/22	Part 3 2/23	Part 4 2/24
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Days before the deadline, Mohammad Shohorab Hossain Jhony, a director of FFM Leather Complex, scrolled through his smartphone to show a friend photographs of his new facility under construction at the Tannery Estate Dhaka at Savar — a concrete slab, two walls, no roof, just 40 percent completed. Weighing the loss of his license against six months of lost production while the Savar building was finished, Jhony said he would be forced to close, at least temporarily, putting 70 to 100 men out of work. If they chose not to follow him to the industrial park, a six-hour round-trip commute in bumper-to-bumper Dhaka traffic, some might never return to

FFM.

On December 30 the blockades went up, and then on January 1 the government stood down, [extending the deadline](#) again by telling the tanners they would have to stop processing wet animal hides on January 31, without exception. They would have until March 31 to move their entire operations. “This is the final decision,” Mosharraf Hossain Bhuiyan, the Bangladesh industries secretary, [told the local press](#).

So it has gone for years, as the Bangladesh government attempts, in fits and starts, to make good on promises to clean up its leather processing industry and propel what is, in effect, a 19th-century operation into the 21st century.

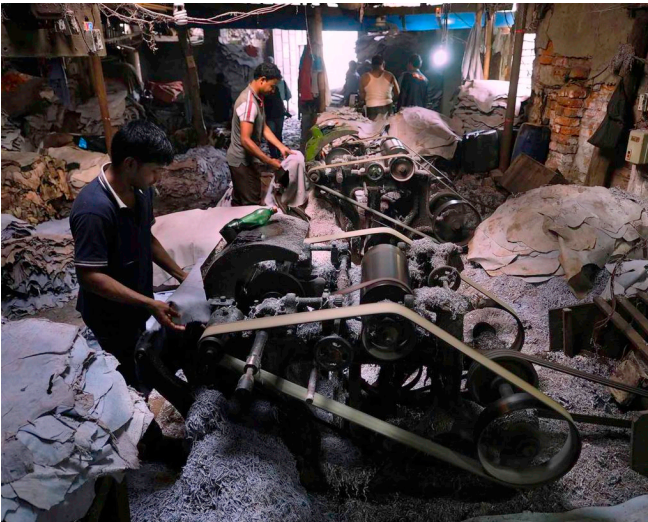
About 90 percent of Bangladesh’s leather is tanned in Hazaribagh. And the country’s economy depends heavily upon leather and the manufacture of leather goods — which explains in no small measure the government’s reluctance to crack down on polluters. In 2015 and 2016 Bangladesh [produced](#) about \$1.5 billion in leather and leather goods, most of it exported, according to the Bangladesh Board of Investment. Leather and leather goods represent the country’s second largest export, after garments. Turmoil in Hazaribagh threatens to upend the country’s efforts to increase its tiny share of the more than \$200 billion global leather market.

Should that come to pass, it would be just one more step in a long journey for the tanning industry, which has spent decades hopscotching across the globe, assiduously fleeing regulation and rising labor costs, and leaving long-lasting toxic footprints at each stop.

So far, fewer than 40 of Hazaribagh’s tanneries have moved to Savar, and an abrupt shutdown of the remaining tanneries could put thousands of people instantly out of work. That would almost certainly provoke civil unrest and deal a major blow to the country’s leather industry — just when the

government is trying to grow exports and fend off competition from China and Vietnam. On the flip side, as The Dhaka Tribune [reported in September](#), negative publicity about conditions in Hazaribagh is scaring away international buyers and driving down finished leather exports, which fell by 30 percent last year, according to government figures.

In fact, the international shaming of Bangladesh's leather industry could succeed where government decrees have failed. It has been seven years since the Bangladesh High Court ordered the government to move or close Hazaribagh's tanneries. Almost 14 years have passed since the Bangladeshi government [announced plans](#) to develop an industrial park with a shared effluent treatment plant for tanneries. Yet Hazaribagh remains arguably one of the most intensely polluted places on the planet.



Inside a Hazaribagh tannery, workers smooth and flatten freshly tanned hides on pulley-driven machines. Bangladesh tanners routinely work around dangerous machinery without protective gear.



Raw hides arriving at the tannery are soaked in lime and sodium sulfide to remove hair and fat. Some workers wade barefoot through the caustic solution to tend the hides.

By official estimates, the tanneries of Hazaribagh pump almost [5.8 million gallons](#) of untreated effluent a day into open canals that pour into the Buriganga River and generate more than 100 tons of solid waste in the form of raw hide scraps, flesh, and fat. The tannery effluent, laced with chromium (III) sulfate, sulfuric acid, salts, lime, surfactants, degreasers, ammonium sulfate, and many other chemicals, contaminates the water and river bed and kills aquatic life. Numerous [studies](#) have found highly elevated levels of chromium and other chemicals in the soil and water of Hazaribagh. For years, government officials, citing the planned move to Savar, have [openly admitted](#) that they do not enforce environmental regulations in the district.

The Buriganga itself, once the main source of drinking water for Dhaka, has [become so polluted](#) by tannery and other industrial and human wastes that it is widely regarded as unsafe for human use — even as the greater metropolitan area of more than 17 million people struggles with episodic droughts and depleted groundwater supplies. Leather scraps accumulate in rotting heaps six feet high along the canals.

Chickens — a staple of the Bangladeshi diet — are often fed tannery scraps, and Dhaka University chemistry professor Mohammad Abul Hossain, Ph.D., and his colleagues have found high levels of chromium in the bones, brain, and muscle of the birds. Residents who ate 250 grams of chicken a day, about a quarter of a bird, would consume up to four times the recommended amount of dietary chromium, according to [Hossain's research](#). Chicken-feed producers officially [ceased using tannery scraps](#) after his report came out, but unregistered factories abound and locals still boil the waste and feed it to their household poultry, he says.



Very young children can often be found playing and working around deep, open vats of tanning chemicals. This child stirs hides soaking in a chemical bath.



Teenagers work alongside men in some of the most dangerous tannery jobs. Bahadur tosses goat hides into a large drum

full of chromium sulfate and other chemicals.



Inside the Hazaribagh tanneries, child workers are also exposed to hazardous machinery. Here, a 10-year-old boy named Joey pulls leather from a smoothing machine.



Most tannery employees face unhealthy conditions. Here, a worker stands knee-deep in a soaking solution. The hides are then hung overhead to dry.



Open sores and peeling skin

are common among workers who handle tanning chemicals without gloves. Some say their hands become so stiff that they cannot open their fingers unless their skin is wet.



A barefoot worker stands inside an 8-foot tall-tumbling drum filled with chromium (III) sulfate and other chemicals. Workers often have to crawl inside the drums to remove hides.

While chromium (III), also known as trivalent chromium, is far less dangerous than the carcinogenic compound chromium (VI), or hexavalent chromium, long-term and direct exposure to chromium (III) is known to cause serious skin and respiratory irritation. Hossain [and others](#) have also found that when leather scraps are exposed to high heat under certain conditions, some of the trivalent chromium converts to hexavalent chromium, posing more serious risks.

Chrome tanning is the leading method used worldwide, and most argue that chromium (III) sulfate can be used safely as long as workers are properly protected and the factory effluent is captured and treated. But many of the more than 30 chemicals used in tanning animal hides also have their own dangers. Some of the workers photographed had blackened and peeling skin

on their hands and feet from long exposure to tanning chemicals. Others coughed almost constantly.

In Hazaribagh, worker protections are scarce and child labor is common, as the nonprofit group Human Rights Watch documented in an [extensive 2012 report](#).

“Tanning is an industry that is extremely hazardous, which means two broad things in terms of labor,” says Richard Pearshouse, the author of the Human Rights Watch report and a frequent visitor to Hazaribagh. “You need to take reasonable steps to protect your workers — protective equipment, masks, gloves, aprons, to protect against chemical burns — and you do not employ children.”

A few of the workers photographed for this essay did wear boots and gloves. Most, though, worked with their bare hands, stood barefoot in chemicals on the tannery floor, waded into tanks filled with tanning solutions, and climbed into drums to retrieve the wet blue leather, literally bathing themselves in a soup of caustic and potentially toxic chemicals. Young boys carried water and hides and operated stretching machines, while smaller children tended pieces of leather soaking in open vats.

“If they don’t address the problems of worker safety and working conditions and child labor, they are just moving the problem from Hazaribagh to Savar,” says Pearshouse.



The situation in Hazaribagh is not unlike that in parts of India. This woman protects herself with gloves and sheet plastic as she plucks hair by hand from goat hides soaked in an alkaline solution to loosen the fibers, at a processing facility in Tamil Nadu.



Tanned hides are softened and stretched at India's Kolkata Leather Complex. While a common effluent treatment center at the complex provides pollution controls, working conditions inside the tanneries can be dirty and dangerous.



Freshly tanned hides dry in the sun next to a large effluent collection tank at the Kolkata Leather Complex. In the 1990s, the Indian government relocated tanneries from the heart of Kolkata to the industrial park about 7 miles outside the city.



A man collecting grass for his cattle walks through

chromium-contaminated water on the grounds of the abandoned Tamil Nadu Chromates & Chemicals Ltd. plant in Ranipet, India. The factory made chemicals for use in tanning leather.



Local officials estimate that about 165,000 tons of tanning waste, including the carcinogenic hexavalent chromium, remain on the grounds of the abandoned Tamil Nadu Chromates & Chemicals Ltd. factory. Rains wash the chemicals into channels that feed into local storm drains.



Raw goat skins pile up at a tannery near Vaniyambadi,

in the Vellore district, Tamil Nadu, India. The skins will be soaked in an alkaline solution to remove the hair and fat before tanning.



At a tannery near Vaniyambadi, Tamil Nadu, India, workers handle hides that have been soaking in buckets filled with a chromium solution. The chromium bath produces a tanned leather known at this stage of the process as “wet blue.”



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The turmoil today in Hazaribagh is reminiscent of the situation in Kolkata, India in the 1990s and of the collapse of the century-old tannery industry in Gloversville, New York in the 1980s. In Gloversville, competition from cheaper labor coupled with tougher local and federal environmental laws forced one tannery after another out of business. The town and surrounding county have spent the decades since rebuilding the economy and cleaning up pollution the factories left behind.

In Kolkata, the Supreme Court of India ordered all tanners out of the city [almost two decades ago](#). In response, the government built the Kolkata Leather Complex with a common effluent treatment plant. About 300 tanneries located in the complex today [produce about 25 percent of India's leather](#). Environmental controls are better at the industrial park than at the

old Kolkata tanneries. Labor oversight, authorities say, also has improved, although horrific accidents still happen. In December 2015, three workers died from inhaling toxic fumes while cleaning out a holding tank without protective gear.

India, one of the world's leather giants, exported \$5.92 billion in leather and leather goods between 2015 and 2016, with about [14 percent](#) of that going to the United States, according to the India Brand Equity Foundation. Roughly 60 to 70 percent of the country's leather and leather goods is produced in the southern Indian state of Tamil Nadu, where tanneries still look a lot like those in Hazaribagh.

Here women — wrapped in plastic to protect their brightly colored saris — sit or stand for hours plucking hair from softened goat skins stretched over frames, while the men tend the drums filled with hides and chemicals.

Despite efforts at reform, human rights groups continue to find widespread pollution and horrendous working conditions in the tanneries of Tamil Nadu. A [joint study](#) in 2015 by Norwegian and Indian organizations found workers, particularly migrants, unprotected and unaware of the hazards. In January 2015, 10 migrant workers [were killed](#) where they slept when a wall of a Ranipet tannery collapsed and released a torrent of slurry upon them. It was one of India's most horrific tannery accidents.

Tamil Nadu also is beset with serious environmental contamination caused in part by abandoned tanneries and factories that made chemicals for the leather-processing industry. More than 20 years after the Tamil Nadu Chromates & Chemicals Ltd. factory closed, the grounds of the abandoned factory on the SIPCOT Industrial Complex outside Ranipet remain covered in 165,000 tons of chromium-bearing waste. Government agencies and international environmental groups have been studying the site and

developing remediation plans since the late 1990s. Meanwhile, the bright-yellow runoff has contaminated land 1.5 miles south of the plant with hexavalent chromium, a [2010 study](#) shows.

Bangladesh authorities, too, will face a monumental environmental cleanup when the tanners finally leave Hazaribagh. Mizanur Rahman, treasurer of the Bangladesh Tanners Association and executive director of Samota Leather Complex, said the association and tanners will contribute to the efforts to restore Hazaribagh out of “social responsibility.”

So far, though, the government has yet to announce official plans to address lingering pollution. Pearshouse says that when he asked a government official last year about remediation plans, the official told him a cleanup would not be necessary because “all the pollution would be washed away.”

“They have no idea who would actually fund [a cleanup],” Pearshouse adds.



Primitive factories boil leather scraps to make glue. Here, a worker carries a basket of scraps to an enormous cauldron atop a brick oven at a glue factory near the Kolkata Leather Complex in India.

Shipping records compiled by Datamyne, a provider of international trade data, provide a snapshot of Bangladesh exports to the United States. From January through the end of October 2016, Datamyne reported \$52.24 million worth of individual shipments of leather and leather goods to companies in the United States. Very little of that was processed leather shipped directly from Hazaribagh tanneries. Most of the shipments contained finished leather goods bound for major U.S. and European fashion retailers. There is virtually no way for consumers to know where the leather in those shoes, purses, or belts came from unless the companies themselves reveal their supply chains.

According to the Datamyne records, more than a dozen fashion and shoe companies imported products made in Bangladesh through November 2016.

The largest of these include Michael Kors, Timberland, Hugo Boss, C & J Clark America, Puma, and the Gap Inc. brand Banana Republic.

Timberland, Hugo Boss, Puma, Clarks, and Gap each told Undark that their companies do not use leather from Hazaribagh in their products manufactured in Bangladesh. Timberland provided the most explicit information, including photographs of shipping cartons and invoices, to verify that the leather used in its products made in Bangladesh came from a Vietnamese tannery rated “gold” by the [Leather Working Group](#), an international association that audits tanneries and promotes best practices for the industry. A company spokeswoman said that Timberland employs numerous checks and balances to ensure the integrity of its supply chain and audits its manufacturing partners and suppliers at least annually ensure that the companies treat their workers fairly and meet the company’s standards for environmental quality.

“To ensure the integrity of our products and brand, we have to be vigilant about our leather supply chain. Not to mention, of course, it’s the right thing to do,” said Colleen Vien, the company’s sustainability director. “One way we ensure that we are sourcing the best leathers, in terms of quality as well as sound manufacturing practices, is only using tanneries that are rated gold or silver by the Leather Working Group. No tanneries in Bangladesh today meet our stringent standards.”

Puma said that 90 percent of its leather comes from from tanneries rated by the Leather Working Group. The Bangladesh factory that makes shoes for Puma was last audited in November 2016, the company said. “We are aware of the challenges related to leather production in Bangladesh,” they said. “Therefore Puma does not source any leather from Bangladesh and as far as we are aware, our suppliers are also not sourcing any leather from Bangladesh.”

Clarks, a founding member of the Leather Working Group, said the company conducts “social audits” at tanneries supplying 80 percent of the leather for its products, and that it sources more than 75 percent of its leather from LWG-rated tanneries. About 20 percent of the leather comes from tanneries in regions considered at low risk for social abuses, the company said, and tanneries that have not achieved LWG medal-rated status are closely monitored to ensure that they are making progress toward meeting the higher standards.

“Clarks has never specified leather from tanneries in Hazaribagh,” wrote Anthea Carter, the company’s global head of corporate responsibility, in an email. “Prior to 2013 the Clarks business sourced a small proportion of footwear from Bangladesh through agents. Due to the commercial arrangements with those agents Clarks did not specify or have visibility of the sources of the leather used in that production. From the information available, we have not found any links to sourcing from Hazaribagh tanneries prior to 2013.”



While leather buyers in the U.S. and elsewhere are working to clean up their supply chains, the inequities of the global leather market persist. Tanneries in Hazaribagh still dump wastewater into ditches that, in turn, empty into open canals. Here, a worker carries

buckets of waste from a tannery.



A boy stands on a pile of leather scraps beside a canal in Hazaribagh. Reforms are coming slowly — perhaps too slowly — to places like this, but for now, waste from unregulated leather tanneries continue to make this district one of the most intensely polluted places on Earth.

Michael Kors, which, according to Datamyne, received more than 200 shipments from Bangladesh factories in 2016, did not respond to repeated telephone and emailed requests to discuss its leather supply chain.

Dozens of companies now have statements on their websites espousing support for ethical sourcing, human rights, and sustainable manufacturing processes. But few disclose detailed information about their suppliers. As conditions in Hazaribagh and other tanning centers of the world become more well known, consumers are asking whether the leather in their boots or bags was produced by tanneries that pollute and expose workers to hazardous conditions. Pearshouse maintains that companies have an obligation to answer those questions.

“If there are large companies that are importing from Bangladesh, the question of ‘where did your leather come from’ must be known,” says

Pearshouse. “It’s no longer adequate for a company to say ‘We don’t know,’ or ‘We don’t say.’”

“Leather companies should be on notice,” he adds, “that if they’re importing from Bangladesh, this is the most notorious tanning area in the world.”

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