



Fishermen walking across the refuse along Accra's coastline. *Photographer: Andrew Caballero-Reynolds/Bloomberg*

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## Fast Fashion Waste Is Choking Developing Countries With Mountains of Trash

Less than 1% of used clothing gets recycled into new garments, overwhelming countries like Ghana with discards.

By [Natalie Obiko Pearson](#), [Ekow Dontoh](#), and [Dhwani Pandya](#)

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Tangled coils of waterlogged clothes roll like carcasses in the waves along the coast of Ghana, one of the world's [biggest importers of used clothing](#). The castoffs arriving by the bale are known here as *obroni wawu*, or dead White people's clothes, a phrase in the local Twi language that seeks to assign a reason to the inexplicable flood of garments from overseas. Surely their owners wouldn't choose to throw away so much clothing?



At Chorkor beach, near the capital Accra, layer upon layer of rich-country detritus forms a wall more than 6 feet high, like geological strata from different fashion eras. A Crocs sandal peeps out here, a blue Ralph Lauren polo shirt there, a red Victoria's Secret bra some way down. So solid is the putrid heap that huts sit on top, a shantytown built quite literally on a foundation of rags.

The waste stretches into the distance in both directions. When it rains, the city's waterways and gutters belch garments into the ocean, says Solomon Noi, the city's head of waste management, then waves deposit much of the refuse back on shore.



A fisherman at Chorkor beach. *Photographer: Andrew Caballero-Reynolds/Bloomberg*

Noi and his sanitation crews fight a losing battle every day as they attempt to corral Accra's textile waste into landfills. His fleet of trucks is too small, and the garments destroy the vehicles' hydraulic systems that compress waste. A landfill that was supposed to have a lifespan of 25 years filled up in three.

Noi reckons that 40% of the used clothing coming through Accra's port doesn't get reworn or repurposed; it simply ends up as garbage. "The government of Ghana doesn't have the money and

infrastructure to take care of the White man’s waste,” he says. He concedes the answer isn’t simply to ban the imports, which is what some outraged Western activists and researchers would like to see Ghana’s government do; the trade supports too many livelihoods.

It’s a disaster decades in the making, as clothing has become cheaper, plentiful and ever more disposable. Each year the fashion industry produces more than 100 billion apparel items, roughly 14 for every person on Earth and more than double the amount in 2000. Every day, tens of millions of garments are tossed out to make way for new, many into so-called recycling bins.

Few are aware that old clothes are rarely recycled into new ones because the technology and infrastructure don’t exist to do that at scale. Instead, discarded garments enter a global secondhand supply chain that works to prolong their life, if only a little, by repurposing them as cleaning rags, stuffing for mattresses or insulation. But the rise of fast fashion—and shoppers’ preference for quantity over quality—has led to a glut of low-value clothing that threatens to tank the economics of that trade and inordinately burdens developing countries. Meanwhile, the myth of circularity spreads, shielding companies and consumers from the inconvenient reality that the only way out of the global textile waste crisis is to buy less, buy better and wear longer. In other words, to end fast fashion.

In early 2013, H&M became the first major retailer to start a global used-clothing collection program, setting up bins at thousands of stores in more than 40 countries. The initiative struck a chord amid a growing swell of environmental awareness. A few years later, the Swedish chain teamed up with British rapper M.I.A. to produce an edgy music video urging viewers to “join the movement” to drop off unwanted garments. “Everybody wins!” the company said on its blog. “H&M will recycle them and create new textile fibre, and in return you get vouchers to use at H&M.”

The fashion press piled in. “Thanks to H&M, It’s Never Been Easier to Recycle Your Unwanted Clothes,” Elle UK proclaimed in January 2017, and *Fashion* magazine assured its readers, “H&M’s recycling program might just make you feel better about that spring shopping spree.” (Studies have shown that when people believe an item will be recycled, they will simply consume more of it.)

Other big fast-fashion chains, Mango, Primark and Zara, followed suit with their own campaigns. Collection boxes emblazoned with upbeat messaging became ubiquitous: “Let’s close the loop!” “Recycle here!” And perhaps most important: “Long live fashion!”

What none of the campaigns acknowledge is that industrial-scale recycling of used textiles into new clothing doesn’t yet exist. Globally, less than 1% of used clothing is actually remade into new garments, according to the Ellen MacArthur Foundation, a UK nonprofit. (In contrast, 9% of plastic and about half of paper gets recycled.) The retailers have vowed that what they collect will never go to landfill or waste. But the reality is far messier. Garments dropped at in-store take-back programs enter the multibillion-dollar global secondhand supply chain, joining a torrent of discards from charity bins, thrift stores and online resale platforms like ThredUp and Sellpy.

The complex task of sorting through that waste stream falls to a largely invisible global industry of brokers and processors. Their business depends on exporting much of the clothing to developing countries for rewear. It's the most profitable option and, in theory, the most environmentally responsible, because reusing items consumes less resources than recycling them.

But there's no way to trace what happens to a garment once it enters that stream, nor does the technology or infrastructure exist to capture what accumulates at the end of the line. "I think it needs to be understood that all textiles, whether new or recycled, will ultimately end up in landfill," says Mark Burrows Smith, chief executive officer of Textile Recycling International, which processes 400 million garments annually in the UK and Ireland. "The key is to keep the garment in use as long as possible."

"Textile recycling is still an industry-wide challenge, regardless of brand or charity organization," H&M said in an email, noting that having programs to collect used garments so they don't go to waste is a key step in becoming circular.

TRI is part of a sprawling global rag trade that buys discarded clothing and transforms it back into a commodity, sorting and packaging it into one-ton bales that are loaded into containers and shipped across the world. Much of it gets chopped up and turned into the raw material for a dizzying number of applications: insulation in cars, carpet underlay, even bedding for lab mice. Clothing made of pure cotton or wool can be shredded and re-spun into a lower-quality yarn that alone is too weak to be rewoven into new clothing.

Garments that can still be reworn have the highest value, and it's that commerce that keeps the industry running. "Credential clothing"—the stuff that comes straight from the donation bin or an in-store collection box—is the most valuable because the "cream," as they say in the business, hasn't yet been skimmed off the top. The haul may contain new garments with the tags still on, designer labels or vintage finds.

It's a fraught and highly competitive business. Currency fluctuations, increases in shipping costs, shifting fashion trends—any of these can wipe out margins or shut down markets overnight. But what makes the rag trade different from most others is that buyers bid for merchandise sight unseen. "You can't choose what comes," says Brian London, president of Whitehouse & Schapiro LLC, a company in Hanover, Maryland, that's been in the business for more than a century. "You're going to get a bunch of items that you lose on, and that just comes with the territory."

More than a dozen operators interviewed for this story say profits are becoming ever more elusive. Quality is declining, and clothing falls apart after a few washes. The fabrics are complex blends of cheap synthetic fibers that are difficult to repurpose or recycle, and there's so much of it that markets are saturated. More alarming is that China is producing clothes so cheaply now that in some cases, new garments are competitive with used ones. "Buyers tell me all the time that we're competing against cheap Chinese manufactured merchandise," says Eric Stubin, president of Trans-Americas Textile Recycling Inc. in Clifton, New Jersey, which operates what it bills as North America's oldest sorting facility.

In Kandla, a special economic zone in India's western Gujarat state, a forklift digs its way into a 40-foot container packed tight with used clothing, heaving the giant bales inside Canam International's processing facility. At one end of the cavernous warehouse there's a wall of bales waiting to be sorted and graded by the 400 or so women who work at this facility. Each one will assess as many as 5,000 garments that day, determining how their use can be prolonged.

From conveyor belts, the women rapidly pick off bedsheets, curtains and other nonclothing items. Others sort garments into broad categories: pants, skirts, jackets. The heat in the facility is oppressive, surpassing 38C (100F), and the gusts from roaring fans whip the women's colorful saris and salwar tunics.

Canam has two such facilities in Kandla that can jointly process 120 million pounds a year of used textiles—enough to fill two and a half Boeing 767 cargo jets a day. Darshan Sahsi, Canam's founder and managing director, believes that makes him one of the world's biggest sorters and graders.

India restricts the import of wearable secondhand clothing to protect local industry. But the government carved out an exception in Kandla, issuing a handful of licenses to companies allowing them to bring in used apparel for processing as long as most of it is reexported. Kandla, a major port, sits on a sliver of the Arabian Sea across from Africa, the destination for 60% of Canam's exports by volume.

Once the initial sorting is done, the more highly skilled graders take over. Manisha Lalji Chawda stands at a 9-foot-wide table laden with T-shirts. She can grade a shirt within seconds—rapidly eyeing it for damage, gauging the fabric with her fingers, inspecting the quality of its stitching—before tossing it into one of eight stainless steel carts by her table, simultaneously sorting the garments by size and gender. At 15 shirts a minute, she is a blur of motion, one tee after another flying through the air. The work is tough to automate. A grader, through skill and intuition, grasps where a used garment's economic value lies: as something to be reworn, as a rag, or worthless.

Chawda has no more than an eighth grade education and doesn't read English, but she easily recognizes Western brands and designer labels, thanks in part to an array of logos pinned to the wall

of the factory: Patagonia, Ralph Lauren, Tommy Hilfiger, Nike's swoosh, as well as those with a vintage following, like Stüssy and Levi's 501s.

Once graded, the clothes are compressed by a machine into smaller bales, bound in plastic and labeled for export. Collectively the system works almost like an oil refinery, converting raw material into different categories of marketable product: sweatshirts with hoods, sweatshirts without hoods, boxer shorts, children's shorts, even sexy shorts. The system is designed to ensure that each item of apparel finds its way to the market where it'll fetch the best price. High heels do well in Guatemala and Eastern Europe, black Levi's in Malaysia. Pure cashmere goes to Prato, an Italian town that's been shredding wool and spinning it into yarn since the 19th century.

Everyone wants baby clothes; no one wants men's polyester pants. One recent afternoon, an enormous pair of shorts with a 55-inch waist surfaced in a pile, inciting peals of laughter. Because there's virtually no demand for extra-large sizes outside the US, the shorts were dispatched to the



cutting section, where 50 machines slice off buttons and zippers and chop the fabric for export to California and Australia as cleaning rags.

Roughly two-thirds of what comes into Canam's facilities gets shipped out for resale as clothing or cleaning items. But a third—as much as 3 million pounds a month—is of little or no value. Much of that gets shipped to Panipat, a town north of Delhi where garments are shredded to produce a low-quality yarn that's woven into cheap, scratchy cloth and blankets. "I am not sure what they do with garbage in Panipat though," Sahsi says.

"It's our job to make women unhappy with what they have in the way of apparel," New York department-store tycoon B. Earl Puckett told some 400 fashion and retail executives gathered for a luncheon at Manhattan's Hotel Astor in June 1950. Puckett, chairman of Allied Stores, the biggest US department-store chain at the time, was convinced that the key to juicing sales was getting the fashion

industry to come up with new looks more frequently. “Basic utility cannot be the foundation of a prosperous apparel industry,” he said. “We must accelerate obsolescence.”

His words presaged what’s been described as one of history’s great shopping sprees as incomes surged and mass production made goods abundant and cheap. In the US, consumption came to be seen as a patriotic duty, the pathway to prosperity and a stable democracy—“to consume for the good of oneself and the nation,” says Elizabeth Cohen, a historian at Harvard University. Companies found ways to keep people buying, intentionally designing goods not to last. Advertisers learned to harness the power of television to contrive demand.

DuPont de Nemours Inc. and Monsanto Co. developed petroleum-based fabrics such as nylon, acrylic and polyester that were cheap, robust and versatile, allowing for the mass production of affordable clothing. Expert tailors and seamstresses were replaced by unskilled labor. By the 1970s, consumers were grumbling about the decline in clothing quality. Norman Wechsler, president of Saks Fifth Avenue, was asked in 1974 if obsolescence was deliberately designed into women’s clothing. “That’s the name of the game,” he responded. “That’s fashion.”

If the US created the preconditions for fast fashion, it was a Spanish company that perfected the formula. Beginning in the 1980s, Inditex, the corporate parent of Zara, pioneered a retailing model that reduced lead times from months to weeks, allowing it to roll out about 10,000 designs a year, continually deliver new items to its stores and clear out unsold items within 30 days. The effect on shopping habits was astounding: Zara’s customers were dropping by its shops 17 times a year on average, more than four times the usual number, according to a Harvard Business School case study from 2003. Zara had hit on a way to commercialize FOMO before it was even a thing.

But there was something else. Zara had inadvertently tapped into the deepest neurological processes of the human brain. A 2007 study led by a Stanford neuroscientist scanned the brain activity of young adults as they shopped and found that when the subjects viewed something they wanted, a region of the brain linked to dopamine and addictive behavior was tapped. The researchers also noticed that the brain’s prefrontal cortex appeared to weigh the difference between the price the subject was willing to pay versus the actual price, indicating that we’re wired to experience a distinct pleasure from scoring a bargain.

Fast fashion’s pleasure-inducing compulsiveness has accelerated churn. Over the past two decades, the average number of times a garment is worn before it’s discarded has plummeted by 36%, according to the Ellen MacArthur Foundation. Americans wear their garments the least: fewer than 50 times on average. But the biggest decline came in China, where the average number of wears plummeted from more than 200 to 62 between 2000 and 2016. “It is clear that the way we produce and consume has to change,” said H&M. The company is working on making products last, using materials that can be recirculated multiple times, and producing only what it can sell, it said.

“We do not use advertising to push demand or promote overconsumption,” Zara said in a statement. It also pointed to a new program launching this week, Zara Pre-Owned, that will allow consumers to extend the life of its garments through repairs and resales.

It turns out that recycling clothes back into fibers for new clothes is devilishly difficult. Not only do things such as buttons and zippers need to be removed, but blended fabrics must be unblended and dyes removed.

Companies at the forefront of textile-recycling technology use solvents to break down fibers into their chemical building blocks. But because different fibers require different chemicals, the companies require a relatively pure stream of raw material, such as pure cotton or only poly-cotton blends. That’s a tall order; unlike plastic bottles or cardboard, the waste stream of used clothing is decidedly not uniform. “It’s somewhat like unscrambling the egg, and everyone has a different omelet recipe,” says Steven Bethell, founder of Bank & Vogue Ltd. in Ottawa, a major used clothing broker that’s worked with Renewcell in Sweden to chemically recycle denim into a cellulose fiber.

Many garments today contain three or more fibers and, thanks to the rise of athleisure and skinny jeans, often include elastane, a stretchy petroleum-based fiber that’s maddeningly hard to separate. “These blends are a complete nightmare,” Bethell says. “Elastane is like the leaded gasoline of the 1970s.”

As for garment tags that boast recycled fiber content, that’s often polyester made from plastic bottles, the same feedstock used by the beverage bottling industry. That’s a less optimal use case, because a plastic bottle can be recycled back into a plastic bottle many times, but a plastic bottle turned into a puffer jacket can’t.

There’s a reason waste experts warn that we can’t consume our way to sustainability: Recycling will always use more energy and resources and produce more waste than reusing something or not consuming it in the first place. “Whenever you’re thinking about the circular economy of anything, the best thing to do is to reduce demand,” says Julia Attwood, head of sustainable materials at BloombergNEF, Bloomberg LP’s primary research service on energy transition. “You would have to kill the fast-fashion market to make a meaningful difference to the emissions or footprint of textiles on the recycling side.”

Both H&M and Zara acknowledged the limitations of textile recycling at present but noted investments they’ve made to support emerging technologies seeking to recycle blended fabrics.

There comes an endpoint for discarded textiles, and one of the biggest termini is Ghana. Every Thursday morning, long before the sun rises, container trucks from the port snake their way across Accra to Kantamanto Market, a regional entrepot for used clothing. About 15 million garments enter the market each week, and just about anything imaginable is available for resale, whether wedding gowns or “Save the Chubby Unicorn” rhino conservation T-shirts.

Buyers sleep in the streets overnight to catch the first bales as they start rolling out of the containers at 3 a.m. Some bales will be transported to neighboring countries such as Benin, Nigeria and Togo. Many will head into Kantamanto itself, broken up into smaller batches and sold in stalls.

A stark reminder of the world's addiction to cheap fashion, Kantamanto is also where the behaviors required to address it are found. Here the notion of repair still exists. Shirts discarded because they're missing a button are mended. Cotton curtains and shirts are refashioned into men's boxers. Skilled upcyclers restyle clothes into new designs. Others dye faded jeans to an indigo or black, then wash, starch and press them, treating the garments with a care that their original owners likely never lavished on them. According to the nonprofit Or Foundation, Kantamanto may be the largest resale and upcycling economy in the world, recirculating 100 million garments every four months. ThredUp handled that amount in a dozen years.

Still, all the vagaries of the secondhand trade are amplified in Kantamanto. Its wholesale importers and retailers—just like sorters higher up in the supply chain—never know what they're paying for until the bales arrive. "It's a gamble," says Janet Dansua, a retailer, who buys four or five bales a month. She says the chances of a good one, where she'll make a 10% margin, are 50-50. Somehow, she's managed to build a livelihood on the odds of a coin toss.



But the heaviest human burden of the global textile waste crisis falls, quite literally, on the *kayayei*, which translates into “she who carries the load.” The women transport 120-pound bales on their heads because Kantamanto’s alleys are too narrow for carts to navigate. The loads are so heavy it takes at least two people to raise a bale onto a woman’s head. One attempt almost ended in disaster as two Bloomberg News reporters watched. The kayayo lost her balance, and the bale lurched backward; if she’d been carrying a baby on her back, as many do, it might not have survived. The following day the market was alive with chatter about a kayayo whose legs were crushed when her load tumbled from her head.

Sakina Abdulahi gets a handful of jobs on a good day transporting bales—each trip a treacherous 2-kilometer (1.2-mile) journey navigating potholes, ditches, crowds and protruding tin roofs, all with worn flip-flops on her feet and a toddler strapped to her back.

She earns 10 cedis (73¢) a trip, at most. But that doesn’t add up to nearly enough to cover her living expenses: the 80 cedis a month for the dirt-floored room she shares with seven other women, the 40 cedis for diapers, the 2 cedis a day for the mobile phone she carries in a red hair net, and the 2 cedis

for a bucket of warm water to soothe Lookman, her 2-year-old, who cries in the evenings, aching from being strapped all day to his mother's contorted frame.

Or Foundation teamed with a local chiropractor last year to X-ray 100 kayayei and found that many had completely lost the curve at the top of the spine. Bone was grinding on bone, bundles of nerve trapped in between. Sixteen-year-old girls exhibited the spinal columns of 50-year-olds. "The damage is irreversible. There's only treatment for the pain," says Chloe Asaam, program manager at Or Foundation.

Abdulahi, like the rest of her companions, takes a little white pill morning and night to dull the agony. But the painkillers also numb the body's pain signals, increasing the chance of an accident, if they tilt the wrong way, for instance. There have been cases of kayayei who've died when their necks suddenly snapped, according to the Or Foundation.

"We all carry injuries," says Aisha Abdul Razak, one of Abdulahi's roommates. "But if you don't go, you starve."

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