



ALTMUN MS 2023 Topic Guide:
UN Environment Programme

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The Environmental Impact of Textiles

“The environmental movement has been rational for too long, comparing scientific reports, arguing with the mind. We need to realize in our heart what is wrong and right for the future.”

– Cyrill Gutsch; Fashion Designer and Founder of Parley for the Oceans

Introduction

The global textile industry is ever-growing, encompassing fashion and clothing, technical textiles, household textiles, and more. As consumption of textiles increases, the environmental impact of textile production is more critical than ever to acknowledge and understand; currently, over 20% of global industrial water pollution is caused by dyeing textiles, and 10% of all global greenhouse gas emissions are caused by the textile industry.^{1,2}

Textiles are defined as any fabric or material made of woven fibers. Traditional textile production using natural fibers, such as cotton and linen, can be traced back to 5000 BCE.³ Technological advancements expanded the scope of production to include new materials, such as polyesters and nylons, and allowed for the industrialization of textiles starting in the 1800s. While these advancements have been beneficial, they also come with unintended consequences. Incorporating synthetic materials into clothing and household items leads to microplastics entering the ocean. The high demand for fibers leads to rapid destruction of the environment. The water and energy consumption from production deplete and pollute our natural resources. While textiles have highly technical and advanced applications, the focus of this committee will be on common textiles, such as clothing and household textiles.

Background

When industrialization led to the mass production of textiles, traditional materials such as silk, wool, and linen were often dismissed in favor of the growing cotton industry.⁴ While original production led to more factories and overall waste, the major issues with textiles began in 1938, when the first synthetic fabric, nylon, was manufactured by DuPont Industries.⁵ Nylon and polyester are two popular textiles, and they are often made from processing petroleum, or crude oil, into fibers. Essentially, the process involves oil first being polymerized, or turned into a plastic pellet. The plastic is then melted and pushed through small holes to create an extremely thin plastic thread which can be woven into fabric.⁶ Spandex, nylon, polyester, and other

¹ “Encourage Textile Manufacturers to Reduce Pollution.” NRDC, 16 June 2017, www.nrdc.org/issues/encourage-textile-manufacturers-reduce-pollution.

² Forrester, Nikki. “The Clothing Industry Produces 3 to 10% of Global Greenhouse Gas Emissions, as Accurately Claimed in Patagonia Post.” Climate Feedback, Climate Feedback, 6 Dec. 2020, climatefeedback.org/claimreview/the-clothing-industry-produces-3-to-10-of-global-greenhouse-gas-emissions-as-accurately-claimed-in-patagonia-post.

³ “A Timeline of Textile History.” Textile Heritage Museum, 12 Jan. 2021, textileheritagemuseum.org/textiles-ancient-times-to-modern-day.

⁴ Broadberry, Stephen, and Bishnupriya Gupta. 2009. “Lancashire, India, and Shifting Competitive Advantage in Cotton Textiles, 1700-1850: The Neglected Role of Factor Prices I.” *The Economic History Review* 62, no. 2: 279–305. doi.org/10.1111/j.1468-0289.2008.00438.x.

⁵ Kativa, Hillary. “Synthetic Threads.” Science History Institute, 16 Oct. 2016, www.sciencehistory.org/distillations/synthetic-threads.

⁶ “Polyester.” n.d. Council of Fashion Designers of America, Inc. cfda.com/resources/materials/detail/polyester.

synthetic fabrics now make up nearly 70% of all textiles because of their low cost and relative durability, leading to many unintended consequences, one being the release of microfibers.

Microfibers are a type of microplastics—tiny pieces of plastic fibers up to 5 millimeters in diameter—that are released from the laundering of clothes and other textiles.⁷ When synthetic textiles are washed, fabrics break down slowly on a microscopic level. Resulting microplastics then leak into watersheds due to a lack of properly equipped water treatment plants to filter such small particles from water. Microfibers account for 35% of all oceanic microplastics, approximating roughly 2.2 million tons of microfibers being released every year.⁸

While an elementary solution to the release of microfibers may be to revert to exclusively manufacturing with natural fibers, this would also cause major environmental issues. Overuse of traditional materials, like cotton, results in unsustainable agricultural practices, such as soil erosion and degradation, pollution and water contamination caused by harmful pesticides, and more.⁹ Even further, to grow the amount of cotton required to produce one shirt requires 2,700 liters of freshwater, amounting to 79 trillion liters of water used by the global textile industry annually.¹⁰

The environmental impact of manufacturing textiles is only exacerbated by increased consumption, leading to the rise of fast fashion. 400% more clothes are now being produced than 20 years ago.¹¹ A modern consumer buys 60% more clothes than an average consumer would have 15 years ago; however, that same modern consumer keeps their clothing half as long.¹² 80 billion new pieces of clothing are bought annually.¹³ In the United States alone, the average person buys 68 new pieces of clothing per year but only uses a piece of clothing seven times before throwing it out.¹⁴

Fast fashion is a term that refers to brands that expedite the clothing manufacturing process in order to mass produce trending clothing items. As opposed to companies following a traditional structure, releasing new clothing lines seasonally, with one to four releases per year, fast fashion companies are releasing new products every week.¹⁵ These quick-release clothing items are cheaply and constantly produced, allowing brands to keep up with constantly-shifting

⁷ “Fashion’s Tiny Hidden Secret.” UNEP, www.unep.org/news-and-stories/story/fashions-tiny-hidden-secret.

⁸ “Your Laundry Sheds Harmful Microfibers. Here’s What You Can Do About It.” The New York Times, 21 Apr. 2021, www.nytimes.com/wirecutter/blog/reduce-laundry-microfiber-pollution.

⁹ “Cotton.” n.d. World Wildlife Fund. www.worldwildlife.org/industries/cotton.

¹⁰ “The Impact of Textile Production and Waste on the Environment (Infographic).” European Parliament, 26 Apr. 2022, www.europarl.europa.eu/news/en/headlines/society/20201208STO93327/the-impact-of-textile-production-and-waste-on-the-environment-infographic.

¹¹ Bibbey, Sarah. “5 Policies to Reduce Post-Consumer Fashion Pollution.” Make Fashion Clean, 20 Apr. 2021, makefashionclean.org/blue-circle-buzz/2021/4/20/5-policies-to-reduce-post-consumer-fashion-pollution.

¹² Ranzetta, Tim. “In Percentage Terms, How Many More Items of Clothing Do People Buy Today Compared to 15 Years Ago?” Next Gen Personal Finance, 28 May 2019, www.ngpf.org/blog/question-of-the-day/qod-in-percentage-terms-how-many-more-items-of-clothing-do-people-buy-today-compared-to-15-years-ago.

¹³ Thomas, Dana. “The High Price of Fast Fashion.” The Wall Street Journal, 29 Aug. 2019, www.wsj.com/articles/the-high-price-of-fast-fashion-11567096637.

¹⁴ Ibid.

¹⁵ Ibid.

trends in popular fashion by sacrificing durability, resulting in items that degrade more rapidly compared to traditional items. Therefore, more clothing items than ever are discarded.¹⁶

One of the primary obstacles to switching to sustainable textile practices is the corporations who profit off of fast fashion. Many businesses have begun “greenwashing,” or making intentionally misleading claims to maintain eco-friendly appearances. For example, H&M is a clothing company that boasts an eco-friendly collection, which contains a slightly higher amount of plastic-based synthetic fabrics than their other lines of clothing. Additionally, the brand releases up to 52 clothing lines per year.^{17,18} To fool the public, many brands provide virtue signaling instead of actually investing in sustainable textile production.

Textiles are disposed of in a variety of ways. Some discarded textiles add to landfill waste, some become litter and further pollute the environment, and most pressingly, some are shipped off to another country.¹⁹ Through a method called secondhand clothes importation, developed nations send their discarded textiles to developing nations to be disposed. Often, these nations do not have a framework for sustainably processing these textiles to reuse or dispose of them, and the volume of textiles imported is too high for all textiles to be resold in the country. Therefore, the simplest and cheapest solution is burning the synthetic and natural textiles, causing fires that release more air pollution and chemicals to leak into the surrounding environment.²⁰ This pollution causes human health hazards, is toxic to natural ecosystems, and decreases the economic potential of the textile industry of developing nations.²¹ In 2017, six East African nations who were negatively affected by this practice attempted to ban secondhand clothing importation from the United States in order to stimulate their own economies and protect their citizens from health dangers. However, the “Office of the United States Trade Representative threatened to remove four of these six East African countries from the Africa Growth and Opportunity Act, a preferential trade deal intended to lift trade and economic growth across sub-Saharan Africa.”²² Five out of six nations dropped the matter soon after, sacrificing their own economies and nationwide health to maintain foreign relations.²³

Current Situation

There is some pre-existing international framework for combating the environmental impacts of textiles. The United Nations recognizes the negative environmental impact of the

¹⁶ Thomas, Dana. “The High Price of Fast Fashion.” The Wall Street Journal, 29 Aug. 2019, www.wsj.com/articles/the-high-price-of-fast-fashion-11567096637.

¹⁷ Rauturier, Solene. “Greenwashing Examples: 8 Notorious Fast Fashion Claims and Campaigns.” Good On You, 21 Jan. 2022, goodonyou.eco/greenwashing-examples.

¹⁸ Lebreton, Julie. “Why Our Second-Hand Clothes Are Causing an ‘Environmental Catastrophe’ on the Other Side of the World.” Fashion Roundtable. 14 Apr. 2020. www.fashionroundtable.co.uk/news/2020/4/14/6rr73axzj7qlgzvi811wwqu4myvex3.

¹⁹ Ibid.

²⁰ Ibid.

²¹ Wazir, Zoya. “How Fast Fashion Dumps Into the Global South.” US News, 11 Nov. 2021, www.usnews.com/news/best-countries/articles/2021-11-11/how-dead-white-mans-clothing-is-clogging-the-global-south.

²² Ibid.

²³ Ibid.

textile industry, and in 2022, they set a goal for greenhouse gas emissions caused by fashion production to be reduced by 50% by 2030.²⁴ Because the issue at hand is severe and complex, UNEP also launched the United Nations Alliance of Sustainable Fashion in 2019.²⁵ The alliance primarily increases coordination between UNEP and their agencies who work closely with the fashion industry and hosts various installations to educate the public about sustainable fashion practices.

Additionally, the United Nations launched the Fashion Industry Charter for Climate Change in 2018 and renewed the charter in 2021. Its stated goal is to work with member nations and fashion stakeholders to reduce the fashion industry's greenhouse gas emissions by 30% by 2030 and to net-zero by 2050.²⁶ One primary goal is to create a more sustainable textile pathway, as the current process of making textiles with dyeing, growing or manufacturing raw materials, and other steps is incredibly wasteful and energy inefficient. Any fashion brand or company is encouraged to join to work with the nations to solve the issue.

Outside of the United Nations, the European Union (EU) holds one of the international agreements on textiles. The nations involved have passed low-level textile regulations, such as requiring different tag labels including production information and the material composition of clothes.²⁷ Eleven European nations in particular are trying to reduce textile waste by acting as signatories on a letter that calls upon the EU to set clear targets for recycling textiles and reducing waste.²⁸ Currently less than 1% of worldwide textiles are recycled, so the letter also called upon the governments to pass legislation requiring a higher amount of textiles to be recycled, implementing standards for textiles to be made easily recyclable materials, and investing in research to find alternative, more renewable materials.

A few nations have chosen to take action by placing more responsibility on the manufacturers of textiles by implementing a policy called Extended Producer Responsibility (EPR). EPR encourages brands to take responsibility for the environmental impact of their products, including the item's manufacturing process, material degradation through everyday use, and eventual recycling or disposal. EPR programs have been around for over 30 years for various products, but France passed the first textile EPR in 2007, monitored by a non-profit. France's end goal is to collect half of the used textiles on the market and to reuse or recycle 95% of the textiles collected. The Netherlands and Sweden plan to follow in their footsteps. The

²⁴ Webb, Bella. "Fashion Must Cut Greenhouse Emissions in Half, Says UN Climate Group." Vogue Business, 5 Apr. 2022, www.voguebusiness.com/sustainability/fashion-must-cut-greenhouse-emissions-in-half-says-un-climate-group.

²⁵ "Home." The UN Alliance for Sustainable Fashion, n.d., unfashionalliance.org.

²⁶ "About the Fashion Industry Charter for Climate Action." United Nations Climate Change, unfccc.int/climate-action/sectoral-engagement/global-climate-action-in-fashion/about-the-fashion-industry-charter-for-climate-action.

²⁷ "Textiles and Clothing Legislation." European Commission, n.d., ec.europa.eu/growth/sectors/fashion/textiles-and-clothing-industries/legislation_en.

²⁸ "11 European Nations Seek Ambitious Measures to Tackle Waste in Textile." Fibre2Fashion, 19 Oct. 2021, www.fibre2fashion.com/news/textile-news/11-european-nations-seek-ambitious-measures-to-tackle-waste-in-textile-276901-newsdetails.htm.

Dutch and Swedish programs are less ambitious, hoping to recycle 50% of waste or start reducing waste by up to 70% by 2028.²⁹

Some nations have chosen to implement federal laws that work to decrease the negative environmental impact of textiles. Sweden introduced a tax on clothes in chemicals and canceled their Fashion Week to promote sustainability and consumer responsibility. The United Kingdom and France have both engaged in various pacts to prevent emissions, educate consumers, and decrease waste, among other goals. France's pact was additionally signed by 32 companies that have pledged to work in coordination with France to achieve the outlined goals. Switzerland is investing in research. The United States provides tax rebates for clothing donation and has one of the largest clothing sorting programs in the world to decrease waste.³⁰

Questions to Consider

1. Does your country have a large textile industry?
 - a. How many people would be affected by regulating textile legislation?
 - b. How many textiles are produced or imported?
2. What laws does your nation already have in place for textile regulation?
 - a. Are they a member of any international organizations that encourage textile industry regulations?
 - b. Does your nation have any standing partnerships with major textile corporations?
3. What parts of textile production affect your nation the most?
 - a. Does your nation export raw materials, have sewing factories, or deal in secondhand imports? What environmental impacts directly affect your country?
4. How is textile disposal handled in the country?
 - a. Are used clothing items in your nation burnt, exported, or recycled?
5. What are creative ways to create sustainable textiles to decrease environmental effects, as opposed to focusing on social issues?

Suggested Sources

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<https://www.europarl.europa.eu/news/en/headlines/society/20201208STO93327/the-impact-of-textile-production-and-waste-on-the-environment-infographic>.
3. How Fast Fashion Dumps into the Global South | Zoya Wazir
<https://www.usnews.com/news/best-countries/articles/2021-11-11/how-dead-white-mans-clothing-is-clogging-the-global-south>

²⁹ Luijckx, Marit. "Extended Producer Responsibility: Unravelling Sustainability Laws in Fashion Part 1." Sustainalize, 4 May 2022, www.sustainalize.com/news/extended-producer-responsibility-sustainability-laws-legislation-in-fashion-part-1.

³⁰ Parmar, Shaeli. "The Fashion Pacts: New Laws and Pacts to Change the Future of Fashion." Luxiders, 12 Feb. 2020, luxiders.com/the-fashion-pacts-new-laws-and-pacts-to-change-the-future-of-fashion.