

Entry

Sustainable Fashion—Rationale and Policies

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Definition: Sustainable fashion refers to efforts to minimize the fashion industry's adverse environmental and social impacts. This entry describes the industry's entire production chain: from polyester production, cotton growth and wasteful fashion consumption patterns to landfilling, where so many clothes end up. The entry characterizes the drivers behind the industry's poor record regarding sustainability and employee exploitation, as well as new policies around the world designed to improve the industry's performance. These include the Australian Modern Slavery law, the French law prohibiting the destruction of textile surpluses and the New York Fashion Sustainability and Social Accountability Act.

Keywords: sustainable fashion; fast fashion; slow fashion; clothing; garment; second hand clothes; eco collections; upcycling; reducing purchases; consumption

1. Introduction and History

There is a symbiotic relationship between clothes and fashion. Clothes are a tangible manifestation of fashion—but they are not the same thing. While clothing is defined as a “garment, body cover and uniform [1]”, that is, a concrete object with a functional purpose, fashion is “the example and manner accepted at a particular time and place—in the form of clothing, furniture and so on” [1,2]. There is a natural flow between fashion and clothing: the form of clothing is designed first, making it the immediate expression of fashion. While clothing constitutes a technical item that covers the body, fashion relies on social norms. By its very definition, fashion changes frequently. Fashion historian Christopher Bravard describes its ephemeral nature in his definition of fashion: “Clothing designed primarily for the quality of its expression and decoration, and is closely related to the short-term demand of the market” [3].

This division between clothing and fashion is relatively new. In the professional literature, there are debates about the date of the emergence of *fashion* as a concept separate from *clothing* [4]. Despite the controversy, however, there is widespread agreement among fashion historians about two matters: *local dress* has always relied on tradition, as opposed to *fashion* which depends on peoples' autonomous choices which tend to change frequently [2,3]. Secondly, the rise of pre-made clothes in the 1960s constitutes the watershed line for mass fashion, that is, a uniform and global fashion produced by corporations, in which the pace of trend reversal is extremely fast, and the rise of “fast fashion” as the dominant production model in the global fashion market [5].

The term “fast fashion” first appeared in the *New York Times* in the 1990s when characterizing *Zara*, the Spanish clothing chain's ability to have a garment in a store within fifteen days of the design stage. *Fast fashion* connotes the mass-produced clothing by huge corporations in the same, uniform and global manner as fast food chains [5,6]. Other prominent examples of fast fashion corporations include *H&M*, *Uniqlo*, *TopShop*, *Primark* and *SHEIN*. These companies' profit model relies on slashing production costs along with as wide and fast a distribution capacity as possible. Speed refers both to the rate at which fashion items arrive from the runway to the consumer as well as the short-term use by consumers [7–9]. As corporate competition continues to escalate, fashion companies respond by producing



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even more frequent collections, far beyond the traditional “seasonal” lines. Spurred by saturation advertisement, consumer response has been characterized as: “see now—buy now” [10]. Following ephemeral consumer preferences ever more closely, retail outlets have been known to change stock and add new items on a weekly basis [11]. Public expectations have evolved accordingly: consumers come to expect to dress fashionably at little expense. As a result, spending levels for clothing have actually decreased even as demand has risen dramatically. Fast fashion constitutes a natural, commercial response to these new market dynamics [10]. It is important to emphasize many times, corporate policies to maximize cut in production costs lead to violation of workers’ rights and contamination of the environment. In fact, the fast fashion industry is now considered one of the most polluting industries in the world [9].

1.1. *The Rise of Fast Fashion*

The beginning of the fast fashion model can be traced to the 1950s, when the world of clothing began to gain momentum. Following incipient globalization processes, which involved trans boundary trade and production facilities. These paralleled the improvement of clothing production technology [12]. For the first time, the concept of ‘fashion’ was assimilated into the differentiation strategy of clothing brands.

Later, in the 1980s, there was a growing interest in fashion trends and widespread industrialization of the fashion market along with the emergence of global media and the rise of the post-Fordist, mass production economy, which is characterized by high product turnover and an emphasis on aesthetics and branding [13]. Industrialization allows for a significant reduction in terms of prices due to the shortening of global supply chains. These conditions combined to develop the present competitive trade model of fast fashion [9].

Along with shortened supply chains and improved production technologies, marketing strategies have also changed. Among the dramatic transitions that took place over the past thirty years is the increase in the number of collections per year in leading clothing corporations: from 2 to 4 in the 1980s, through 8 during the 1990s, to 52 collections and beyond per year, today [14]. Another important change is a separation between a brand’s image with the associated product and actual product production. According to this approach, the importance of clothes production is negligible relative to the image of the fashion brand. The production of clothes can therefore be outsourced and subcontracted [15]. The lenient environmental regulation and low salaries of workers found in developing countries have drawn many fast fashion companies to move their clothing production far away from corporate headquarters. Indeed, in recent decades most fast fashion companies have relocated clothing production to developing countries, where they enjoy inexpensive labor and easier environmental legislation [16].

This model is reflected in the extraordinary statistic that 97.5% of clothing sold in the United States are currently imported [17]. Transfer of clothing production to developing countries, based on cheap labor, made it possible to significantly lower clothing prices, resulting in the formation of fast fashion [18]. An asymmetrical hierarchy between production workers and corporations is also one of the characteristics of the post-Fordist economy. The expansion of European fast fashion chains, in particular, has outpaced the rapid growth in the global retail fashion industry employs some 300 million workers [10]. The economic advantages of the fast fashion model have been confirmed empirically: one study estimates that profit margins for traditional fashion retailers only reach 7 percent while the fast-fashion competitors average a far more lucrative 16 percent return [11]. Global brands dominate the industry. An assessment by international consultants, McKinsey, Deloitte Group and BCG (Boston Consulting Group) reports that fast fashion companies operate in an ever changing, increasingly competitive, uncertain environments, characterized, creating an increasingly concentrated market [10].

These changes are often positively described as a “democratization of the fashion”, Thanks to the rise of ready-made clothes, produced in industrial production, the strengthening of mass communication and the dynamism of the modern lifestyle, for the first time it is

possible for more and more people, particular in western countries, to purchase fashionable clothes at relatively affordable prices. This constitutes implying a positive process in which the purchasing power of consumers in the field of fashion is enhanced [19]. Ostensibly, it can be argued that the reduction in the prices of clothes, has led to an increase in the quantity of clothes sold and the quantity clothes in the possession of the consumers, improving the condition of global consumers. At the same time, the increase in the production and consumption of ready-made clothes has a number of negative environmental consequences.

1.2. Environmental Implications of Fast Fashion

Research consistently corroborates the magnitude of the pollution produced by fashion companies, ranking it second among polluting industries [20]. Each year, the fashion industry requires more than 98 million tons of non-renewable resources [10]. This involves oil utilized in synthetic fiber production and massive fertilizer applications to produce cotton, contributing a quarter of the world's polluting chemicals [9], emitting 1.2 billion greenhouse gases a year, producing 20–35% of the micro-plastics found in the sea [7], generating billions of tons of non-recyclable textile waste and 1.5 million tons of waste [20]. Fashion producers have been ranked as the second largest source of freshwater pollution [21–23]. The growth in fiber production, in particular cotton, is associated with the steady rise in the use of pesticides, with adverse ecological consequences manifested in ecosystems and farm worker health [20,24].

There are four major categories of factors to which the adverse environmental impact of the fashion industry are generally attributed: 1. Resource inefficiency (materials and energy consumed and lost); 2. Wasted Ephemeral products lifecycles (artificially short lifecycles); 3. Wasted Waste due to overproduction capabilities (unused or idle products); and 4. Wasted Wasteful embedded values (unrecovered components, materials and energy from disposed products) [25]. Fast fashion is highly linear in its design, antithetical to the circular production model which constitutes a sustainable more for manufacturing goods in a world that will continue to face increasing scarcity [25]. It should be emphasized that carbon emissions, water pollution and soil destruction associated with the clothing industries, such as burying and burning clothes at the end of use, tend to occur in poor countries in the global South, while most clothes are purchased in the West [9].

There are no signs that the adverse environmental impact caused by the fashion industry are starting to improve. In fact, projections suggest that by 2030, the industry is expected to use 35% more fiber-growing space [26]. This will compromise 115 million acres that could be used as habitat for protecting biodiversity or farmlands for growing food. The wisdom of this expansion has been challenged, inter alia, because world simply does not need so many clothes. One assessment reports that there at present there are already enough garments available to keep all the humans dressed for 50 years [8]. A comprehensive review of the academic literature on the environmental hazards associated with fast fashion identifies two contrasting perspectives that have emerged to address them, involving *pragmatic change* versus *radical change* [24].

1.3. Social Implications of Fast Fashion

The fashion industry's balance sheet is also embedded with environmental injustice. A typical Western consumer holds in his closet a prodigious amount of clothes. The result is that over 20% of the clothes in her possession is never being worn and a textile waste in the US alone is burned at a continuous rate of one truck per minute [27,28]. One out of five workers is under nine years of age. The wages earned by the vast majority (98%) of people employed in clothing production are insufficient to feed a family [29]. In addition to being the second most polluting industry, parallel assessments suggest that, after the mobile telephone production, fashion is the second most exploitive industry in the world. [29]. Another category of damage caused by the fast fashion model is the decline in the perceived value of clothing details among consumers. Because clothes have become so inexpensive and wardrobes so readily replaced, there is a drop in the public's appreciation for high

quality and lasting clothing. The saturation of advertising, and its aggressive utilization by social media, undermines the ability of presenting an alternative approach to wearing and purchasing clothes. The expectation of ever lower prices erodes the ability to offer a better and fairer alternative.

Advertising companies play a critical part in the growth and success of fast fashion companies. The fast fashion industry is based on short product cycles, which require high and steady consumer demand. This can only be maintained through aggressive advertising [30]. Between 1979 and 1998, total spending on advertising by fashion corporations in the United States increased by billions of dollars [15]. Its advertising budget then doubled between 2000 and 2010. Today, most designers' decisions in fast fashion chains are dictated by the advertising department [31]. Corporations like ZARA, H&M and *New Look* are famous for adopting a strategy of constantly renewing their product range with trend-oriented fashion styles, along with a huge investment of capital in advertising and social media, and the ultra-fast fashion company SHEIN, which bases its sales and advertising strategy on "social network influencers", uploads about 5000 new models to the website every day. In general, 'social commerce', or social media utilization to facilitate online purchases of products, is one of the main trends in developing e-commerce in particular, and a major growing trend in the fashion world as a whole [10].

In this context one must distinguish between fast fashion and ultra-fast fashion. The term "fast fashion" refers to low-cost clothing collections that emulate luxury fashion products. Fast fashion allows many young consumers to attain their repressed aspirations to have access to luxury fashion [11]. Ultra-fast fashion is represented by websites such as Boohoo, Supernova and SHEIN. Today, they have emerged as the most profitable fashion sales websites in the US, which dominate with twenty-eight percent of the American fashion market. Ultra-fast fashion also relies on social networks such as Instagram and Tik Tok, along with social network influencers to induce consumer demand, both in the context of the "design line" and in general in the context of marketing strategies.

1.4. Technology Increases Consumption of Excess Fashion

Technology also plays a significant role in the consumption associated with fast fashion. The Internet, with its emphasis on social networks, allows consumers ongoing access to massive amounts of information on the latest trends and styles. Many fast fashion consumers are fascinated by celebrity culture and the high-end, custom-fitted *haute couture*, where clothes are produced by hand from start to finish. These consumers aspire to buy the kinds of clothes that celebrities wear—clothes that they admire on televised, high fashion runway shows. Informed by aggressive advertising campaigns, they wish to purchase them immediately. Typically, however, their budgets are unable to afford such items. As a result, they compromise on "cheap" or low-quality items that can be found in fast fashion lines [32].

The fashion industry continues to be transformed by online platforms. Many fashion companies have replaced the growth strategy from expanding with geographical channels and expanding the chain of stores to destroying a digital presence—both in the context of online sales and in the context of increasing the presence in social media. Making significant investments in Information and Communications Technology and the digitalization of the value chain have become critical components of the fashion industry's economic strategy [10].

Another effect of social networks is the shortening of wear time, both in terms of duration and the number of uses of a garment. Many social network users indicate that they do not want to be seen attending two different events with the same outfit. In a culture where individuals constantly record their activities, active social media participants make enormous efforts to diversify their appearances when photographed. Many even indicate that they buy clothes specifically for photo shoots but, in fact, do not use them other than for posting online [33].

Moreover, a 2016 study in Europe found that teenagers aged 13–18 spend at least three hours a day on social media. In 2018 and 2019, McKinsey and the BoF Fashion Survey evaluated how consumers attain their information. Their findings confirmed that mobile data traffic had become more significant than desktop traffic. “Millennial consumers” process information on their smartphones for more than three hours every day [34]. Due to its convenience, the centrality of smart phones to commercial transactions and mobile payments is growing rapidly. As consumers every year discover the convenience of using their mobile phones for shopping [10]. Other studies examined the impact of social networks, including business pages and sponsored advertising, on fashion consumption. They assessed the overt preference of teens and found that the impact of social networks is far greater than 21%, and most often occurs subconsciously. A global PWC survey found that social networks are the first source of inspiration for teens to purchase various products [35,36]. A full 49% of consumers aged 18–34 indicate that they shop according to the recommendations of network influencers, a figure that climbs to 67% in the field of fashion [37].

Another technological aspect informing fast fashion consumption is online commerce. During the last decade, with the penetration of smartphones, the volume of online commerce in all categories of consumption increased to unprecedented levels. A study conducted in 28 different countries [38] found that 71% of consumers purchase clothes from a mobile phone while performing other tasks; a third of them do so at least once a week, and sometimes even several times a day. Another a study by ComScore [39] about mobile shopping conducted in five key European countries found that buying clothes and accessories was the leading, single buying category.

Purchasing online through mobile phones has a number of unique elements to consider: First, online shopping is characterized by blurring physical boundaries making it possible anywhere, anytime. Targeted online advertisements offer purchases according to the customer’s preferences, as revealed from his smartphone [40]. The time lag between the moment of purchase and the receipt of the product creates a psychological illusion that the money is not really wasted [41].

In addition, the fact that it is not possible to measure or feel the garment before purchasing, often leads to buying items that often are not the right size, or do not look as seen on the website. Once they clothes arrive, frequently they do not meet the buyer’s expectations. The result is a significant increase in the amount of new clothing being shipped to thrift stores, recycling and landfill facilities without ever being worn [7,8,42]. This is reflected in a steady increase in textile waste. The past sixty years have witnessed an 800% rise in the generation and burial of textile waste. At the same time, a mere 1 percent of discarded textiles have been recycled [9].

2. Sustainable Fashion—Assumptions and Constructs

Like all sectors of the world economy, the fashion industry has begun to take note of both regulatory pressures and public concern about climate change and the environmental impact of their production processes. The consumer preferences of the younger generation are increasingly informed by social and environmental concerns [10]. Survey research confirms that the recent COVID-19 pandemic has only served to strengthen this trend in shopping preference, with millennial and gen Z respondents expressing a commitment to corporations’ environmental and social responsibilities including issues such as integrating recycled materials in production, the condition of workers and the location of apparel production [43]. Highlighting high performance in social and environmental areas, among young consumers has proven to be a successful marketing strategy for new brands. This was one factor during the past decade that contributed to the emergence of “slow” or “sustainable fashion”.

Under the category of slow and sustainable fashion it is customary to associate a wide range of solutions in the field of fashion, including second-hand clothes, independent

designers and a general reduction in purchases [44]. Below is a list and a summarizing table of the main alternatives (See Table 1):

Table 1. Different approaches to sustainable fashion, advantages and disadvantages.

A Possible Solution for Consuming Sustainable Fashion	Details	Benefits of Each Solution	Disadvantages of Each Solution
second-hand clothes	Increasing the legitimacy and even prestige of clothes that have been bought and usually also worn in the past by other consumers	Does not add clothes or waste to what already exists in the world	<ul style="list-style-type: none"> • Does not allow the consumer to control the terms of employment of the clothing manufacturers. • Has a smaller range of sizes for each garment. • Due to the unique nature of each item, it produces a feeling of FOMO and can lead to overconsumption.
Local design and independent designers	Small and medium-sized designers, who are not affiliated with a fashion corporation, who produce a low number of collections each year and aspire for as short a supply chain as possible	<ul style="list-style-type: none"> • Allows control over the • Does not allow the consumer to control the terms of employment of the clothing manufacturers. • Has a smaller range of sizes for each garment. • Due to the unique nature of each item, it produces a feeling of FOMO and can lead to overconsumption 	<ul style="list-style-type: none"> • Produces new clothes in a process that is not waste-free and adds to the pressure on natural resources. • Being an independent designer does not guarantee an awareness of sustainability issues.
Fashion produced in small quantities	Fashion companies that produce from one to six collections a year	Averts the need for constant renewal and, with it, the anxiety inducing “fear of missing out” (FOMO) syndrome among consumers	<ul style="list-style-type: none"> • Produces new clothes in a process that is not waste-free, adding to the pressure on natural resources.
Making clothing from more sustainable materials	Involves constituents like organic cotton, bamboo and linen	Reduces the environmental impact of creating new clothes	<ul style="list-style-type: none"> • Considered a solution with low environmental benefits. • Many times is adopted by fast fashion companies and associated with greenwash. • Does not refer to the employment conditions of the production workers.
Upcycled Clothes	Refers to clothes made from textile scraps, old fabrics such as curtains and bedding and clothes that have become obsolete. In upcycling, all materials are dismantled to the level of construction rather than to the fiber-level, as in recycling	Based on existing resources and uses textile scraps	Each item is one of a kind so it is difficult to implement on a commercial scale.
Purchasing quality clothing that will last for many years	This is done with the understanding that extending the life of garment use is the single most significant environmental action one can take in relation to fashion	Based on deep consumer understanding	<ul style="list-style-type: none"> • Requires public education. • Does not guarantee the absence of over-consumption of quality clothing.

Table 1. Cont.

A Possible Solution for Consuming Sustainable Fashion	Details	Benefits of Each Solution	Disadvantages of Each Solution
Prioritizing clothing manufactured under fair trade conditions	Based on the understanding that sustainability is not solely concerned with the environment, but considers all aspects of the relationship between humans, the environment and the economy	Refers to the terms of employment of the workers in the most substantial and significant manner	Refers little or often does not refer to the environmental aspects at all.
Consumption patterns that strive for a general reduction in the number of items purchased	General reduction in the number of clothes purchased. Most often in a willingness to pay more money for a low number of items.	Constitutes a truly sustainable solution	<ul style="list-style-type: none"> • Involves high consumer costs and market education. • Ignores the benefits of fashion including creativity, a tool for self-expression and joy.
Changing consumer perceptions about the role of price of clothing	One of the underlying suppositions found in alternative, sustainable fashion strategies is the as-sumption that a central contributor to the environmental and social problems associated with the fast fashion industry, is the “race to the bottom”. Pursuing the lowest possible price frequently produces environmental and social externalities.	Leads to a long-term market education and expected to lead to a reduction in the total amount of clothing purchased and even to the support of freelance designers and manufacturing workers, who will receive a fairer wage for fewer working hours	<ul style="list-style-type: none"> • Being an expensive garment does not guarantee its being environmentally sustainable. • May alienate many consumers from sustainable fashion.
Extending the use of our items and caring for and washing clothes in a way that reduces microplastics and prolongs life	Many of the clothes produced by the fast fashion corporations are produced in low quality, with built-in aging mechanisms. This planned obsolescence model is designed so that consumer buy more and more clothes.	Treating clothes properly once they are purchased is important to avoid the secretion of micro-plastics into the sea and maintain the colors and quality of the clothes, while extending shelf life	There are no disadvantages
Promote models of a circular economy	Circular economy strives to eliminate the waste outside the system, by relying on new business models (such as collaboration or use without ownership), designing products for long-term use with minimal residuals in production, as well as designing product sand materials in a way that allows them to be repaired, or at least easily recycled. In the context of fashion, a circular economy refers to all stages of the life cycle of the garment from design, through the ways and frequency of use to the treatment of textile waste	Addresses issues of the fashion industry from the root	The fact that a garment is sustainable and manufactured in circular economy processes does not guarantee sustainable use by consumers. For example: Jeans can be made from recycled textile scraps, but if the consumer wears it a few times and then sends it, the loop does not close.

2.1. Sustainable Fashion Can Take Many Forms

From the consumer perspective, it can include:

- *Markets for second-hand clothes:* increasing the legitimacy and even prestige of clothes that have been bought and usually also worn in the past by other consumers [42].
- *Local design and independent designers:* small and medium-sized designers, who are not affiliated with a fashion corporation, who produce a low number of collections each year and aspire for as short a supply chain as possible [42].
- *Fashion produced in small quantities:* fashion companies that produce from one to six collections a year. This averts the need for constant renewal and with it, the anxiety inducing “fear of missing out” (FOMO) syndrome among consumers [20,45].

- *Making clothing from more sustainable materials*: this involves constituents like organic cotton, bamboo and linen [44].
- *Upcycled Clothes*: This refers to clothes made from textile scraps, old fabrics such as curtains and bedding and clothes that have become obsolete. In upcycling all materials are dismantled to the level of construction rather than to the fiber-level, as in recycling [45].
- *Purchasing quality clothing that will last for many years*: This is done with the understanding that extending the life of garment use is the single most significant environmental action one can take in relation to fashion [20,42].
- *Prioritizing clothing manufactured under fair trade conditions*: This is based on the understanding that sustainability is not solely concerned with the environment, but considers all aspects of the relationship between humans, the environment and the economy [25,45].
- *Consumption patterns that strive for a general reduction in the number of items purchased*: this implicitly suggests a willingness to pay more for a smaller number of items.
- *Changing consumer perceptions about the role of price of clothing*: One of the underlying suppositions found in alternative, sustainable fashion strategies is the assumption that a central contributor to the environmental and social problems associated with the fast fashion industry, is the “race to the bottom”. Pursuing the lowest possible price frequently produces environmental and social externalities [44]. In this context, an interesting convergence of interests has taken place between luxury fashion brands and slow fashion advocates, who both embrace a greater appreciation, not only of the environment but of artisans [11]. By producing unique items, individually while targeting a specific clientele, luxury fashion brands distinguish themselves from the alternative fast fashion model. The fact that consumers are willing to wait for over a year to receive a Hermes bag becomes a selling point which flies in the face of fast fashion’s emphasis on immediate gratification of consumer desires [11].
- *Extending the use of our items and caring for and washing clothes in a way that reduces microplastics and prolongs life*: Many of the clothes produced by the fast fashion corporations are produced in low quality, with built-in aging mechanisms. This planned obsolescence model is designed so that consumer buy more and more clothes [25,42,45]. This includes treating clothes properly once they are purchased is important to avoid the secretion of micro-plastics into the sea and maintain the colors and quality of the clothes, while extending shelf life.
- Another way to consume and produce slow fashion is to promote models of a circular economy. On a theoretical level, a circular economy seeks to emulate cycles found in nature, where no materials are lost. In so doing, this economic paradigm decouples economic growth from unsustainable exploitation of virgin or perishable natural resources. Waste outside the system can be reduced by applying alternative business models including utilization without ownership or collaboration and prioritization of social justice and sustainability. Products are designed to last, and thus are minimized during production. Products can be repaired and, when this is not possible, recycled. These are the same principles which drive natural systems [46].

In the context of fashion, a circular economy refers to all stages of the life cycle of the garment from design, through the ways and frequency of use to the treatment of textile waste [25]. Circular economy is an important alternative to the fast fashion model based on a constant stream of ever-improved, ever more alluring, products that takes place under the auspices of impulsive consumer behavior and employing the planned obsolescence practices i.e., limited functional life design and options for repair, design aesthetics that eventually lead to reduced satisfaction, design for transient fashion, and design for functional enhancement that requires adding new product features. In fact, fashion, more than any other industry in the world, embraces obsolescence as a primary goal [11].

2.2. Slow Fashion

The idea of *slow fashion* was proposed in 2007, when Kate Fletcher, author and eco-textile consultant, published an article in the journal *Ecologist* in which she compared the sustainable fashion movement to the slow food movement [21]. The definition of slow fashion, like the definition of sustainable consumption, is controversial and non-uniform [44]. Buying clothes from sustainable materials contradicts the principle of reducing the purchase price; buying from independent designers is in conflict with the aspiration to use existing clothes; and buying second-hand clothes significantly reduces transparency in the production processes: when a consumer buys clothes from a second-hand store he loses the initial connection with the brand that produces and thus loses a significant part of the possibility of influencing the manufacturer, making it difficult to choose the type of fabric and ideal size. All of these approaches share a common objective: replacing the fast fashion model with a more sustainable alternative with improved environmental and social outcomes.

Public Policies to Promote Sustainable Fashion

Progress towards slow fashion, is slow. There are many complexities and obstacles arising from the multiplicity of manufacturers, economic exigencies and market dynamics involved in the clothing industry [47–50]. Based on performance, those companies with the best environmental and social performance integrate sustainability considerations in their governance processes and strategies for pursuing growth opportunities [10]. Public policy presumably can help overcome many of these and push the industry in a more sustainable direction. Sustainable fashion policy includes laws and regulations on textile manufacturing and import industries; creating incentive for manufacturers to choose environmentally friendly manufacturing processes alongside ethical distribution and retail, sanctions on polluting textile waste, more stringent global standards and increasing consumer awareness, through measures such as education, environmental labeling (Eco-Labeling), campaigns and choice architecture [51]

New legislation and regulations have passed in the last decade [46]. Among the more significant interventions to date are as follows:

1. In June 2015, in response to the Rana Plaza disaster, in which over a thousand workers were killed due to noncompliance with proper safety conditions, G7 Leaders' issued a Declaration that "welcomed international efforts to promulgate industry-wide due diligence standards in the textile and ready-made garment sector".
2. The United Nations Alliance for Sustainable Fashion was started in 2019. The Alliance is an initiative that brings together myriad UN agencies and associated organizations, with the objective of contributing to sustainable development goals, through coordinated action in the field of fashion. Inter alia, the Alliance works to facilitate coordination between UN bodies working in the field of fashion and prioritize projects and policies in the fashion industry that can contribute to achieving sustainable development goals [9].

The Alliance's broad approach is cradle to grave: beginning with the production of raw materials and clothing, accessories and footwear, and continuing through to their distribution, consumption and ultimate disposal. Its mandate also includes a variety of social areas, such as improving employment conditions and compensation for workers along with environmental objectives for reducing waste in industry, discharge of water pollution and greenhouse gas emissions. The UN has publicly declared its commitment through the Alliance, not only to reducing the negative environmental and social impacts of the fashion industry, but also to make the fashion industry the engine of implementation of all sustainable development goals [52].

3. In 2017, the OECD published the *Due Diligence Guidance for Responsible Supply Chains in the Garment and Footwear Sector*. The Guidance was developed through a multi-

- stakeholder process and has been approved by forty-eight governments. This constitutes about 72% of the clothing importers in the global industry [53].
4. Australia's Modern Slavery Law was enacted in December 2018. It requires companies with revenues above AUD 100 million to publish an annual *Modern Slavery Statement*, that detail potential modern slavery risks and practices in their operations and supply chains. These statements are then submitted to a central government-run repository to ensure that there is public oversight [54].
 5. Under a French statute adopted in 2019, fashion sellers and retailers are not allowed to discard or incinerate unsold clothes. The law requires unsold clothing to be collected, with their disposal in conventional landfill strictly prohibited. Surplus clothing and unsold clothing must be donated by clothing companies, compelling them to implement the associated logistics required [55–57].
 6. A 2021 regulation enacted in the state of New York broadly expands and extends manufacturers' warranties. The rule contains specific provisions regulating the textile sector requiring that if textiles make up over 10% of a company's wastes, the business must send their residuals for recycling [58].
 7. The California Legislature enacted sb62 in 2021. The statute proscribes payment by output, payment below the threshold allowed in the wage laws as well as exploitation that might take place due to lack of follow-up [59]. Apparel factories are required to pay garment workers an hourly wage (rather than payment by piecework). At the same time, the law employers to offer productivity-based incentives to workers. Workers are allowed to demand the return of stolen wages from large fashion brands and retailers.
 8. In New York State, at the beginning of 2022, the Fashion Sustainability and Social Accountability Act ("Fashion Act") legislation was passed which became known as the "America's First Fashion Sustainability Law". The statute stipulates that clothing companies with an annual revenue turnover greater than USD 100 million are required to expose the climatic and social impacts of their production methods and take action to reduce greenhouse gas emissions. The law also requires them to map at least 50% of their suppliers, and to report the wages that their suppliers pay to production workers, compared to the local minimum wage.

Moreover, fashion companies are required to upload the report to their websites, where citizens will be allowed to file civil lawsuits to require compliance with the new legislation. Companies that do not comply with the law are expected to be fined up to 2% of their revenues, a fine estimated to average USD 450 million. There are two significant innovations that the law introduces: first, it connects the environmental and the social dimensions, conveys a message that there green strategies must take into account conditions of production workers. The second innovation is empowering the public to demand responsibility from fashion houses and imposing liability on the industry for its production methods [60].

These disparate regulations and initiatives have varying effects on different problems and aspects of the fashion industry. The French law prohibiting the destruction of unsold clothing and the New York legislation from 2021 primarily target the environmental aspects of the fashion industry. The Australian Modern Slavery Law, the OECD Due Diligence Guidance for Responsible Supply Chains and the sb62 Act, mainly focus on the social aspects of the fashion industry, highlighting employment conditions and prevention of exploitation. The United Nations Alliance for Sustainable Fashion, alongside the latest New York statute, which was enacted in early 2022, are expected to address both the social and environmental aspects of the fashion industry. On the other hand, it should be borne in mind that many cases, such as association United Nations declaration regarding, are essentially voluntary initiatives that are not binding.

In this context, it is worth noting the study of University of California Santa Barbara professor, Ronald Geyer, reported in his book, *The Business of Less*. Geyer and his team found that meaningful improvement in the sustainability of the fashion world, does not

involve the exchange of materials at all, but payment of minimum wages to textile workers. According to the study, raising the wages of 35 million workers by USD 100 a week would immediately reduce 65.3 million tons of CO₂. The rationale behind the study rests on the *reverse rebound effect*. Accordingly, every dollar spent on labor, that is, on higher wages for workers, or services, is a dollar *not* spent on a product with a climatic effect. In this context, it is important to remember that even for technological developments, such as textile fibers from recycled plastic, there remains a significant environmental impact during the production of synthetic materials, land use for growing alternative materials such as organic cotton and damage to the biodiversity of natural materials [61].

The idea of paying minimum wage to workers in the fashion world sounds simple and even simplistic. But in fact, no major clothing brand presently pays workers in their Asia, Africa, Central America or Eastern Europe plants a decent wage that might allow them to break the cycle of poverty. Indeed, no environmental action plan among leading fashion brands includes reference to the terms of employment for the people who produce the clothing. According to the study, the associated reduction in carbon emissions from reduced consumption is significantly higher than the realization of all existing strategies amongst major fashion brands, involving the replacement of production materials with more sustainable ones, textile recycling and alternative fibers.

3. Conclusions and Prospects

It is possible to argue about the effectiveness of a given regulation or the desired strategy for addressing the environmental and social consequences of the fashion industry. However, it is not possible to argue about the importance of the issue in general and its growing emergence as a challenge for the world's environmental and social justice movements. Fashion's penetration into the global sustainability agenda has already affected corporate policy.

It can be seen in the strategy announcements of fast fashion companies such as ZARA's commitment to use only organic, sustainable or recycled cotton by 2025 and H&M's commitment to complete a similar move by 2030. Trade journal BoF (The Business of Fashion) published its first sustainability report in 2021 and ranked the top 15 fashion corporations in the world according to fashion sustainability criteria. During the UN Climate Conference COP26 in Glasgow, the UN Fashion Industry Charter for Climate Action presented the UN Fashion Industry Charter for Climate Action, with 130 signatories signing on by the second week of the gathering.

The global economy, including the world of fashion, is increasingly waking up to the urgent challenges associated with producing goods in an environmentally sustainable way that will not exacerbate the climate crisis. The question at present is not whether the fashion world needs to change its ways, or even how the fashion world can become more sustainable. Rather, can it do so efficiently and to stop global warming and preserve the planet's natural resources?

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