

Impact of Wastage of Clothing on The Environment

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Abstract

In earlier days, clothing was a necessity to protect oneself from external factors. Today, clothing has become a symbol of expression, style and fashion. Due to globalization, it has become possible to produce clothes at very lower prices, which brings in the consideration of the clothes being disposable and this is being called 'Fast Fashion'. So, we have low price clothes for every occasion which can be disposed after wearing. But as documented by Claudio (2007) fast fashion generates significant environmental and occupational hazards. As published by Martina Igini in Earth.org an alarming 1.92 million tonnes of textile waste is produced every year, and the number of times a garment is worn has been declined by 36% over the last 15 years. It is high time that we open our eyes and do our bit towards it. Today, there are a lot of brands, companies in the fashion industry which produce tonnes of clothing every day. People look towards fast fashion brands for their fast-changing clothing and as a matter-of-fact fast fashion brands are producing twice the amount of clothes they did around 2000. Millions of clothing end up in landfills every year and the industry is responsible for 10% of the global carbon emissions which would increase to 50% by 2030. In this research, we will be reviewing the studies done on this subject to spread the light on the amount of harm being done to the environment through the wastage of clothing. We will also attempt to find ways through which we as an individual can reduce our clothing wastage and give our bit towards the environment.

Key words

Carbon emissions, Clothing waste, Environment, Fast fashion

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Introduction

Today, the fashion industry works at a surprisingly faster rate, with apparels circulating from design stage to the sales floor in just as less as 12 days (Fletcher,2013). Because of the decreasing quality and prices of clothes along with the fast changing trends, the amount of clothes consumed have highly increased in the recent years (Allwood et al., 2006; Niinimäki and Hassi, 2011). Now clothing is considered as disposable because the consumers believe that the clothes will not last long as they spend lesser amount for them (Bhardwaj and Fairhurst, 2010; Lewis, 2015; Weber, 2015). The lifespan of garments has been shortened as the poorly constructed and minimised quality clothes are planned to be worn even less than ten times (Fashion Takes Action, Ghemawat and Nueno, 2003) and they cannot thrive through multiple wash cycles (Jung and Jin, 2014). Due to this, the customers feel less at fault for disposing the clothes, as these clothes tend to be easily and cheaply replaceable (Morgan and Birtwistle, 2009). Today, the clothing companies create higher amount of collections in lesser time in order to earn more (Tokatli, 2008). An increase in consumption and amounts of apparel waste has arisen a need to know how and why the customers dispose off clothes (Krogman, et al 2021).

Significance

The apparel industry is one of the most polluting industries in the world. And its, not just the companies that are the initiators but also the consumers who are held responsible for this state of the industry (Becker-Leifhold 2018). The reason that 9.2 million tonnes of apparel waste is produced every year and the number of times a garment is worn has been decreased by almost 36% in the last 15 years it becomes very significant to spread light on this environmental hazard. If there are no serious action is taken the carbon emissions globally will face an increase by almost 50% by the year 2030. The fashion industry holds the responsibility for 20% of the waste water globally.

Objective

- To study and review the researches done on the impact of the apparel industry on the environment.
- To understand and gain knowledge on the statistics related to wastage of the clothing industry.
- To identify and explore the available options that we can apply in order to reduce the impact on environment.

Results and Discussions

- Almost 100 billion of apparel is produced each year by the fashion industry.

- Each year, 92 million tonnes of clothes ends up in landfills.
- Globally, only around 20% of the textiles are collected for reusing or recycling.
- Around 60% of the clothes are plastic. Polyester, Nylon, and acrylic textiles are few examples synthetic fibers that have become essentials.
- The production of textiles generates 42 million tonnes plastic wastage every year, making this industry second-highest sector after the sector of packaging.
- Each time any synthetic cloth is washed, tiny plastic microfibers are released into water. Around 500,000 tonnes of microfibers are considered to be added in the ocean every year.
- Fashion wastes account for almost 9% of yearly microplastic pollution ending up in the oceans.
- When combined, the footwear and the garment industries hold responsibility for 8% of the greenhouse gas global emissions.
- Today, people wear more clothes than earlier, and they wear them lesser. Some years back, the wardrobes were more sustainable. Today, we buy **60% more clothing**, to discard them after wearing only **50%** of times.
- Global apparel production has been **doubled** between 2000 to 2015 because of the increase in demand for low priced clothing.

Textiles are almost a 100% recyclable, still many times they tend to end in landfills. (Blackburn, 2015) Apparel waste is a very important contributor to landfills, and the major part of it can still be recycled, which makes the reclaiming of the energy possible (Payne, 2015). Globally, nearly 87% of the disposed textiles have been ending up in the landfills, out of which higher than 90% are capable of reusing and recycling (Moazzem, et al 2021). As the textiles are almost 100% recyclable, it is the need of the hour to focus on the process and options of recycling of textiles so that the amount ending in the landfills is minimum (Hawley, 2009). Also, upcycling the clothing waste is feasible economically. To imbibe the process of recycling into apparel wastes stream, it is very important to understand the benefits and impact of different options of recycling on the environment (Moazzem, et al 2021).

Through creating awareness regarding the ecological issues, ways of disposals and sustainable ethics in business it is possible to move towards a sustainable usage and discarding of the post consumer garments (Hawley, 2009).

The on going trend of fast fashion makes people buy more clothes and discard them off in a shorter period of time, that not only results in increased demand but also wastage of a large volume of textile (Michaud et al., 2010). The decreasing prices and descreasing quality of apparel has given way to increased consumption (Allwood et al., 2006).

As a by-product of cheaper labour and a good system of transportation, the delivery of low price apparel needs producers to be in profits by increasing the production and sales (Jackson and Shaw, 2009)

Generally, the options of the end-of-life of textiles include reusing, recycling and landfills. There are a few studies that focus on the textile end-of-life options.

- Mäkelä, et al (2020) worked on the blended waste textiles so as to estimate polyester content in the blend, which is an important part for sorting and recycling the textile wastes.
- Yousef et al. (2019) in their study developed a chemical technology for reclaiming the fibre of cotton from the waste textiles.
- Subramanian, et al (2020) in their research conducted life cycle assessment (LCA) to evaluate the impact of the bio recycling method on environment. This method is used for recovering the polyester fibres from the cotton/PET blends.
- Esteve-Turrillas and de La Guardia (2017) studied the environmental impact of the recycled cotton with the organic cotton and the conventional cotton.
- Woolridge et al. (2006) determined energy benefits from clothes reusing and recycling by life cycle assessment.

Keeping in account the resource extraction, material manufacturing, generation of electricity, collection of clothes, processing and distributing and the final discarding of wastes, it was noted that the second hand clothing which replaced every kilogram of pure cotton saved approximately 65 kWh, and 90 kWh is saved for every kilogram of polyester. Therefore, the reuse and recycling of the donated clothing results in a reduction in the environmental burden compared to purchasing new clothing made from virgin materials. (Woolridge, et al 2006)

Solutions

The generation of waste is an unavoidable factor in the apparel industry. There have been a lot of researches aimed at finding the solutions to lessen the impact of wastage of fabric. A study done by Rathinamoorthy, 2018 focused on recycling the waste or leftover fabrics into fibers to develop new garments from these recycled fibres. The researcher believed that the cutting department in a manufacturing unit decides the fabric amount that will be used for garment construction and the amount that would go to waste. This study concluded that it was double advantageous for manufacturers as it could provide an increased earning out of the waste and it also solved disposal problems and management of waste.

When it comes to the environment, carbon impact, the usage of water, and waste management are the three primary challenges faced by the industry across the

globe (Business for Social Responsibility, 2009, WRAP, 2011). These challenges have created the need to create business models that are innovative enough to be able to satisfy consumer needs as well as reduce environmental burden from the apparel simultaneously. One of the innovative models include Product-Service Systems (PSS) can potentially provide many opportunities. It is important to identify a PSS that can concurrently provide economic benefits and also decrease high consumption thus providing environmental benefit for all. (Armstrong *et al* 2015).

The increasing trend of collaborative consumption like renting rather than buying has led to one possible solution that PSS can probably solve these issues (Becker-Leifhold, 2018).

Sustainability by spreading awareness in regards to reuse, reduce and recycle are very significant techniques for the management of waste and they have become very important factors responsible for the improvement of the environmental and economical conditions of the apparel industry (Chand, 2023). The increased collection of clothes by the recyclers can reduce the impact on environment significantly. (Moazzem, et al 2011).

The textile wastes can potentially be reused in the second hand shops and can be upcycled.

Conclusion

A lot of studies have been done in this area and as noticed all the studies are sharing the alarming situation that we are in. All studies show that it is high time that we start considering the numbers and doing our bit. Not just the industries but as individuals we are equally responsible. To give our bit, it is important that we adopt practices like PSS, renting, buying second hand clothing, sharing clothes, opting to buy lesser clothes. We must give clothes for recycling or to other people to wear rather than making them end up in the landfills or in the oceans. We must spread awareness regarding the 3Rs – Reuse, Reduce, Recycle that we have studied from our very childhood.

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