

Disposal Methods of Clothing Used Globally: A Comparative Review of Developed and Emerging Economies

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ABSTRACT

The consumption of clothing in everyday life continues to rise steadily, leading to an increase in clothing waste. The disposal of such waste involves its collection, processing, recycling, or final deposition. Clothing waste is typically solid in nature and varies in composition and source. Its environmental and health impacts depend on the materials involved—some components may be hazardous, while others are relatively benign.

The disposal of clothing, particularly through conventional methods, poses significant environmental challenges. This study aims to review existing research on consumer-level clothing disposal practices across various countries, identifying prevalent methods and the factors that influence them. It highlights the dominance of landfilling and incineration in emerging economies, often exacerbated by limited public awareness of sustainable alternatives.

Innovative disposal practices such as upcycling and clothing swaps are gaining traction in select regions, notably India and Indonesia. However, the findings underscore a widespread need for increased awareness regarding sustainable clothing disposal. The study advocates for the promotion of eco-friendly garments that facilitate easier end-of-life processing and recommends mandatory awareness initiatives by garment manufacturers to encourage responsible consumer behavior.

Keywords: Clothing waste, Disposal of clothes, Clothing Disposal methods, Factors affecting clothing disposal, Reason for disposal.

Highlight

- The study reviews global clothing disposal methods, emphasizing recycling, reuse, and sustainable practices.
- Highlights fast fashion as a critical driver of increased textile waste in developed and emerging economies.
- Identifies recycling as the most common method in developed nations, with reuse and donation playing significant roles in sustainable practices.
- Points out the prevalence of landfilling and incineration in emerging economies, coupled with a lack of awareness about sustainable options.
- Discusses innovative methods like upcycling and swapping, primarily practiced in specific regions such as India and Indonesia.
- Urges the transition from a linear consumption model to a circular economy for textile waste management.
- Recommends increased public awareness and policy reforms to promote eco-friendly disposal behaviors.

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INTRODUCTION

Disposal is the act of getting rid of something or throwing something away. Disposal of clothing waste is the collection, processing, and recycling or deposition of clothing waste materials. Clothing waste is classified by source and composition. Overall, clothing waste is solid, and its components could either be detrimental or harmless when it comes to their impact on human health and the environment.

The United Nations Alliance reports on Sustainable Fashion that the fashion industry employs over 75 million people worldwide. In the United States, approximately 85% of textiles are thrown out and around 13 million tonnes were disposed of in landfills or incinerated by the US population of 32.51 crores in 2017. Around 1 million tons of clothing are thrown away every year in the UK due to people's craving for fast fashion, which is fueled by advertising, social media, and a supply of cheaper clothes. Under the Sustainable Development Goals of the UN, the UK is committed to 'ensure sustainable consumption and production'. It has been estimated that every year, the average American discards about 37 kg of clothing. Clothing that is not fitting anymore, items no longer in fashion, and clothing

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that was never used are piled up on the backs of cabinets and under drawers. In fact, as per the survey conducted by Sophie Woodward, a sociologist at the University of Manchester, 12% of women's apparel was deemed "inactive" on average (Abigail Beall, 2020).

In 2020, Kelly Crawford reported in China, that since 2000 and 2016, people have been buying twice as many clothes as

before, and they wear them for only half as long as before, so fashion has developed into what we now call “fast fashion.” That means it’s a throwaway product—one that’s only used for a couple of wears and then goes to waste. One of the huge problems of fast fashion is that today, more than 60% of our fibers are synthetic fibers, which shed a lot of microfibers with each wash.

In India, over 90% of municipal solid waste management finds its way to landfill sites, often in an extremely unhygienic manner. The landfilling process is the most unorganized one, albeit the most used one. In India, over a million tonnes of clothes are thrown away every year and the majority of it comes from household sources, as reported by Flavia Lopes in India Textile Journal (2021). Approximately 3% of a household bin’s weight is composed of textiles. Additionally, in India, the third greatest source of municipal solid waste is textile waste. Every year, up to 7800 kilotonnes of textile waste are generated, with post-consumer waste accounting for the majority, 51%, pre-consumer waste from factories and offcuts accounting for 42%, and imported waste making up the remaining 7%. In 2021, the Indian population of 140.76 crores accounted for 8.5% of global textile waste; only 59% of textile waste in India returns to the textile industry through reuse and recycling, with a mere fraction returning to the global supply chain.

India’s economy is expected to expand at a CAGR of 7 to 9%, and the per capita income is expected to rise as well. Increasing the wallet size of consumers will help them spend more money and be more enthusiastic about consuming clothes. Apparel Consumption Trends in India (2021) by the Indian Chamber of Commerce reports that the per capita expenditure on clothing was expected to be INR 6,400 in 2023 per year, rising from INR 3,900 in 2018 per year. Therefore, the total Indian clothing consumption expenditure is expected to be INR 9.35 Lac Crores in 2023 (Naqvi, B. & Wazir, 2021) in Figure 1.

With increasing consumption, the disposal scenario is alarming in India. Panipat, a city in north India, is a place where everyone else’s clothes end up. This place is seriously affected by the problem of landfills filled with discarded clothes. However, in past years, the place has been filled up with so much discarded clothes that the landfills are falling short. East Delhi’s Ghazipur landfill is as large as the National Capital of Delhi. A joint report by ASSOCHAM and accounting firm PwC claims that if this process continues, then we may need a landfill as large as Delhi to fill those clothes in. One must understand the need to use clothes optimally (<https://shikshanews.com/this-is-what-happens-to-the-discarded-clothes-we-need-to-bring-a-change/>, 19 August 2019).

Objective

As consumption shows an upward trend all over the world & so production is on the increase to match the consumption, which results in piles of clothing garbage all around. Hence, the main objective of this paper is to review the studies undertaken in the area of clothing disposal with the aim of identifying factors influencing the disposal of textiles and the disposal methods followed in different countries. It will also help identify the research methods followed to carry out the research studies.

METHODOLOGY

The search was started with the keywords: Clothing waste, disposal of clothes, Clothing disposal methods, Clothing disposal behavior, etc., in Google Scholar, Science Direct, and also on Sodhganga and Sodhgangotri. Shodhganga and Sodhgangotri are digital repositories of theses, dissertations, and research papers submitted to universities in India. Reports from BBC, Fashion for Good, Statista, LinkedIn, Scroll, Britannica, Wazir, and Taxfash have also been taken for review purposes. Preference was given to the studies that directly hit the keyword search.

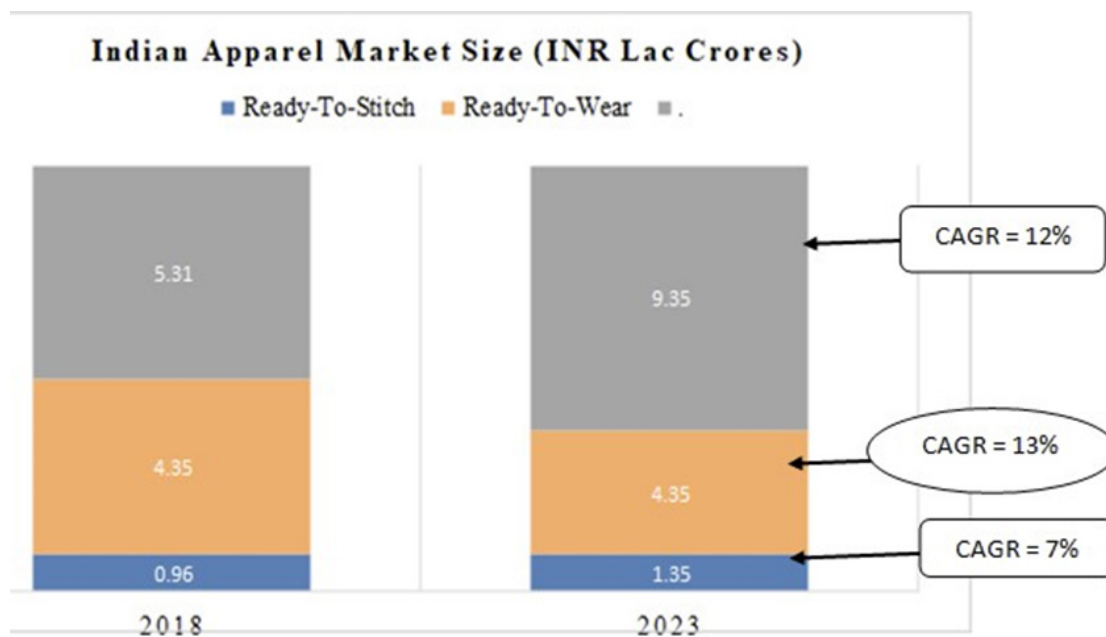


Figure 1: Indian apparel market size

For this review paper & research papers from 2010 to 2023 were examined. A total of 40 papers were identified for the study, where 15 deal with recycling, 10 deal with reuse (4 deal with both recycling and reusing), and 11 deal with clothing disposal behavior.

Several scholars provide an overview of the reasons for the disposal of clothing and the ways to dispose of it. This will help to know different trends followed globally for the disposal of clothing and will help to identify the most sustainable ones. To better understand the global scenario, the studies are presented under countries having developed and emerging economies.

Developed Economies

A developed economy, also referred to as an industrialized country, is characterized by a well-established and sophisticated economic structure. It is typically gauged by the Gross Domestic Product (GDP) and per capita income. According to the Human Development Index, countries classified as developed economies, include Norway, Iceland, Switzerland, Hong Kong, Australia, Denmark, Sweden, Ireland, Germany, Netherlands, Finland, Singapore, Belgium, New Zealand, the United Kingdom, Japan, South Korea, United States, Austria, Spain, France, Greece, Italy, Romania, and Thailand. In the global textile and clothing industry, China is the leading exporter, while the European Union is the biggest importer of these products. The scenario of textile waste disposal in developed countries is briefed below.

Devoy J. E. *et al.* (2021) highlighted the significant rise in PCTW in the United States, which has multiplied nearly 10 times since the 1960s, now exceeding 34 billion pounds per year. Out of the total waste produced, 66% ends up in landfills, 19% is burned up with energy recovery, and only 50% undergoes recycling. To achieve adequate behavior change, Devoy suggested multipronged solutions are required, including efforts and policies aimed at bringing down clothing usage and increasing the number of recycled textiles on an individual and social level.

Sandin G. and Peters G. M. (2018) reviewed the clothes reuse and recycling impact on the environment, summarizing the available research related to Sweden's population. The aim and scope of the publications were to evaluate the effects of clothing recycling on the environment. The authors noted that methodological assumptions often consider recycled textiles as waste without environmental burdens, while reused products and those made from recycled materials are assumed to replace items made from virgin fibers. The peer-reviewed studies strongly support the notion that clothes reuse and recycling generally have lower environmental impacts compared to incineration and landfill disposal, with reuse being particularly advantageous. This is largely attributed to the reduction in the need for new production.

Bukhari M. A. (2018) conducted research in France to help researchers, policymakers, shareholders, and industry professionals reduce textile and clothing waste from landfills while promoting a circular textile economy. Although textile waste makes up a smaller portion of total waste by weight, it has a significant environmental and health impact, especially as the fast fashion industry grows. The study found that 90% of post-consumer textiles could be recovered, with 50% being suitable for direct reuse. The researcher suggested that

developing a long-term, sustainable, and economically feasible national program could help change current patterns of clothing consumption and waste generation. It was also highlighted that reuse and recycling reduce harmful impacts on the environment than landfilling & incineration. Additionally, the study pointed out that forty percent of the collected post-consumer textile waste in France is sent to African countries for reuse, raising concerns about its impact on the sustainability of local textile markets.

Cuc S. & Vidovic M. (2011) studied how recycling textile waste can help achieve environmental sustainability in Romania, a country in Southeastern Europe. They found that recycling textiles can address several economic and environmental challenges, such as lowering waste disposal costs and conserving natural resources. Their research explored the three key aspects of sustainability, economic, social, and environmental, which emphasize the goal of sustainability is to extend a product's life before throwing it away. They concluded that recycling can solve various problems based on the environment. The study also highlighted that the true importance of reducing waste and pollution becomes clear when linked to the long-term goal of conserving materials. In their paper, they proposed a model that examines the balance between the costs of setting up textile waste recycling systems and their positive effects, such as a reduction in the use of virgin materials, lower landfill consumption, job creation, & revenue generation from reusable textiles.

Norum P. S. (2017) conducted a study on how consumers dispose of clothing and their choice to use trash as a disposal method in the U.S. The research used a qualitative approach with semi-structured in-depth interviews involving 24 women over the age of 35 from middle- to upper-middle-class backgrounds. Since women are the primary consumers of clothing, they also tend to be the largest group disposing of it. The study found that older consumers were more inclined to discard clothing in the trash compared to younger individuals. A key issue highlighted was the lack of awareness about what happens to clothing waste after disposal. It is important to educate consumers on better alternatives to simply throwing away textiles to minimize waste.

Lai C. C. & Chang C. E. (2020) examined the issue of excessive clothing waste, which often ends up in landfills and worsens Taiwan's environmental challenges. The study aimed to develop an eco-friendly system for managing discarded consumer textiles. Using structural equation modeling, data were collected from 407 students in Taiwan. The study findings that a person's environmental awareness and willingness to help others play an important role in their decision to donate clothing. The research also found that 25.18 years is the average age of participants. One major insight was that environmental concerns are among the key reasons individuals choose to dispose of textiles responsibly. The t-test results further confirmed that valuing the environment and having a prosocial mindset positively influenced donation behavior. These findings align with behaviorism theory and offer useful insights for studying sustainable clothing disposal.

Gwozdz W. Nielsen K. S. and Muller T. (2017) explored how today's fashion industry affects the environment at different stages—production, purchase, maintenance, and disposal—in Denmark. An important role played by both consumers and

suppliers in managing textile waste. The study analyzed data from 4,617 adults aged 18 to 65 who had discarded clothing. It aimed to understand consumer habits related to how they buy, care for, and get rid of textiles, with a focus on sustainability. The results showed that 70% of clothes are discarded in a way that they get a second life through recycling, flea markets, donation, or passing them on to family members. 30% of clothes are disposed of through various means, including downcycling (repurposing fabrics for other uses) and discarding in the trash.

Cardenas J. C., Gonzalez R. and Gasco J. (2017) examined how clothes are passed from one household to another as a form of disposal in Spain. Their research focused on the role of gifting in managing clothing waste. The study highlighted that fast fashion promotes the production of affordable garments influenced by rapidly changing trends. The authors conducted a qualitative study, carrying out 35 in-depth interviews with 20 women and 15 men. The participants' ages ranged from 18 to 63 years. Out of the 93 reported cases, the majority (80 instances) involved gifting as a disposal method, while the remaining 13 cases included selling, donating, or discarding clothing.

In developed nations, researchers have found that clothing reusing and recycling prevent environmental damage compared to incineration and throwing it in landfills, with reuse being the most sustainable option. Studies from the Langston, U.S., Sweden, and Spain (Goudeau, 2014; Norum, 2017; Sandin et al., 2018; Cardenas et al., 2017) highlight that fashion trends drive clothing disposal, with fast fashion items discarded more quickly. Devoy J. E. et al., (2021) reported that 85% of textiles in the U.S. end up in landfills, partly due to a lack of consumer awareness about post-disposal outcomes. Norum P.S. (2017) stressed the need to educate people on sustainable disposal alternatives. Swedish research suggests recycled textiles can replace virgin fibers, reinforcing the benefits of reuse. As reuse avoids the production of new products (Sandin et al., 2019). (Bukhari, 2018) Studies from Spain also show that gifting is a common way to dispose of unwanted clothes. Other research (Henzen R. et al., 2019; Vidovic M. et al., 2011) emphasizes mindful textile consumption and individual responsibility in promoting reuse and recycling. Cus & Vidovic (2011) advocate extending a product's lifespan, while Lai C.C. & Chang C.E. (2020) found that social behavior and environmental values influence garment donations. In France, initiatives are being implemented to support circular textile practices (Bukhari, 2018).

Emerging Economies

An emerging economy refers to a nation that is in the transition phase toward becoming a developed country. Such economies experience rapid growth, increased trade activity, and expanding investment opportunities. These markets exhibit certain traits of developed economies but have not yet fully reached that status. As per the Human Development Index, examples of emerging economies include Sri Lanka, Iran, Ukraine, China, Mexico, Brazil, Colombia, the Maldives, Egypt, South Africa, Indonesia, Vietnam, Iraq, Bangladesh, India, Turkey, Nepal, Myanmar, Pakistan, and Nigeria. Below are some research findings in this area.

Sinhaa P. et al., (2022) conducted a comprehensive study in Colombo, Sri Lanka on PCTW management. The research gathered insights from 431 respondents, using a Likert scale

to assess consumer waste disposal patterns. Additionally, interviews were carried out with industry workers to understand waste management practices, while surveys helped gauge public attitudes toward textile waste disposal. The study found that awareness of environmental concerns plays a crucial role in shaping consumer disposal habits. Among the identified disposal methods, the most common was discarding textiles in open spaces, with 65% of respondents following this practice. Meanwhile, 35% opted to collect and burn their discarded clothing, while reselling was the least preferred option.

Rani S. and Jamal Z. (2018) reported that a large proportion of textile waste in Hisar, Haryana (India), ends up in landfills each year. At present, only 15% of used textiles undergo recycling, while the remaining 85% are discarded. Many consumers remain unaware that recycling textiles can help minimize environmental harm. Apart from textile production, the excessive consumption of clothing also contributes to waste generation. The textile industry promotes recycling, which reduces the need for landfill space, cuts down the demand for textile chemicals, and conserves energy and water to reduce the environmental impact. The study emphasized the need for further awareness campaigns and industry efforts to incorporate recycled textile materials into new products.

Jalil M. H. and Shaharuddin S. S. (2019) in Malaysia explored user preferences and purchasing patterns toward eco-friendly clothing made from recycled materials. The study found that 66.7% of participants were women, while 33.3% were men. It examined how sustainability influenced both purchasing and disposal habits of clothing. The results showed that 14.4% of respondents were buying second-hand clothing and 35.5% of respondents were buying eco-friendly garments. However, only 3.3% were buying recycled clothes. The most common methods for getting rid of unwanted clothing in Malaysia include giving it to family or friends and donating it to charities. Some individuals also contributed unwanted clothing to NGOs that facilitate recycling or reuse programs. The research emphasized that advancements in recycling technology should align with consumer demand to ensure long-term sustainability. The study also highlighted that responsible disposal, such as reusing, recycling, donating to charity, and using second-hand stores, plays a crucial role in reducing clothing waste.

Chavan R. B. (2014) investigated textile waste recycling in Aurangabad, India, as a means of promoting environmental sustainability. Over the years, textile recycling has grown into a significant industry in India. The study highlighted the contributions of various organizations working to increase textile waste recycling from 15 to 75%. The researcher identified several key strategies for achieving this goal: (1) improving accessibility by establishing more collection points such as outdoor recycling bins, corporate collection programs, and curbside pick-up; (2) increasing public awareness through government initiatives, NGOs, and educational campaigns on textile recycling; and (3) monitoring waste diversion programs and assessing their impact. The study also emphasized that reusing old textiles could help fulfill the clothing needs of 70% of the population in developing nations.

Fenitra et al., (2021) conducted a study in Indonesia to examine consumer attitudes toward donating used clothing.

The research involved 109 participants aged 18–25, with 68.8% being female and 31.2% male. The convenience sampling method and self-reported survey method were used for data collection. The study found that environmental concerns and personal values significantly influenced respondents' willingness to donate clothing. A majority of participants identified as Muslim, comprising 61.5% of the total sample. The findings suggested that environmental awareness plays a key role in shaping consumer attitudes toward sustainable clothing disposal. To encourage higher participation in clothing donations, the study recommended engaging environmental activists, policymakers, and organizations in awareness campaigns promoting sustainable disposal options.

Buyukaslan E. Jevsni S. and Kalaoglu F. (2015) conducted a preliminary study to explore the possibility of PCTW management, recycling, and reusing garments in Turkey. Their research identified multiple reasons why people discard clothing, such as garments going out of style, losing interest in them, improper fit, poor fabric quality, excessive wear and tear, and boredom with their wardrobe choices. Additionally, the fast fashion industry impacts consumer purchasing habits, leading to increased disposal rates. Since trends change quickly, consumers are encouraged to buy new clothing and discard old ones. However, donating clothes remains a popular method of disposal in Turkey, as the nation's collectivist culture promotes giving to those in need. This sense of social responsibility is evident during national or international disasters when citizens become more inclined to help people. To facilitate this, various governmental and non-governmental organizations manage the collection and distribution of used garments. These organizations also work toward promoting sustainable clothing disposal by motivating people to recycle and reuse their clothes instead of discarding them. By creating awareness, they ensure that consumers have access to environmentally responsible disposal options. According to the study, 36% of clothes were donated in charity shops, for recycling, only 7.4% was put in recycling boxes, while the remaining portion was discarded in landfills or trash. The findings of this research may serve as a reference for developing countries that struggle with establishing efficient systems for collecting, recycling, and repurposing post-consumer textile waste. With better awareness and structured efforts, more nations can adopt sustainable waste management solutions that benefit both the environment and society.

Petrescu A. *et al.*, (2021) summarized that in Turkey, the increasing proportion of textile recycling waste will significantly contribute to the worldwide effort for sustainable future development. Their purpose was to present purchase intention regarding garments based on attitudes and experiences of the Turkish. Data was derived from the questionnaire based on the sample of over 650 participants, which focused on studying the respondents' behavior of clothes made by the recycling of unused and old clothes. Those aged between 40 and 49 years were 16.62% and females were 72.77%. Results of the survey show that the young generation, adults, and elderly have more than 50% of the valid responses according to environmentally friendly disposal. The results reveal important aspects related to the purchase intention of clothes due to the recycling of unused

or defective clothes, and describe the market share development of these products, green textile products (eco-friendly textiles), based on the awareness of the Turkish people.

Shakya A. and Swami C. (2021) reaffirmed that rapid change in fashion, and overconsumption of fast fashion, as well as buying more clothes, have a devastating impact on the environment. According to researchers, their clothing disposal behavior and attitude make it urgent to raise awareness regarding sustainable clothing disposal behavior and attitude. In India, authors identified the reasons for disposal are latest fashion trend, old fashioned, poor fitting, tired of the wearing same garment, helping needy people, lack of storage space in the wardrobe, because of damaged clothes, and practices of disposal were followed donation, giving away to family or friends, resale, reuse, and discard. They found that consumers' behavior of clothing disposal is more affected by their attitudes toward changing fashion trends. Additionally, consumers are influenced by the fast fashion industry, which causes them to buy more clothing and dispose of clothing more frequently.

In India, Jain P. and Gupta C., (2016) briefly discuss Panipat as the world's biggest recycling industry that works on other countries' second-hand clothes to create recycled yarns, doormats, rugs, blankets, and beds. Second-hand clothes, mainly cotton, are used in Indian households for cleaning purposes in the kitchen and dusting. They found that most respondents are not aware of recycling, and they can recycle old clothes and can help the environment to reduce the negative impact. In emerging economies, recycling methods are mostly used, and researchers are creating awareness and knowledge about the traditional methods of recycling that help achieve environmental sustainability. The authors point out the 5 R's that are important tools for decreasing the clothing disposal problem those are rethink before buying, reuse, reduce while disposing, recycle, and reintroduce.

In emerging economies, in Indonesia, Fenitra R. M. *et al.* (2021) found that there is a positive intention to donate unused clothes. In Sri Lanka, Sinha P. *et al.* (2022) found that 'collecting, burning and throwing away onto open ground' was the most common disposal behavior. Bairagi N. (2017), Rani S., and Jamal Z. (2018) state the lack of awareness about clothing donation in emerging economies. In Malaysia (Jali M. H. and Shaharuddin S. S., 2019), consumer behavior involves reusing clothes, recycling clothes, donating to charities, giving them away to second-hand stores, and putting unwearable clothes in the recycling bin, etc. Chavan (2014) suggests adopting a proper strategy to increase convenience in disposing of clothing waste from outdoor recycling bins and in-store collection points, and increase awareness and educate the public on textile recycling. Buyukaslan, E., *et al.* (2015) reaffirmed the rapid changes in fashion trends and the impact of fast fashion. They found several reasons for disposing of a garment, reasons out of style, the consumer no longer interested in keeping it, poor fit, low quality, worn out, and boredom are reasons for disposing of garments.

RESULTS

After reviewing the research papers, the studies are systematically organized and presented in Table 1 so as to

Table 1: Clothing disposal methods followed by developed and emerging economies

<i>Disposal methods</i>	<i>Developed economies</i>	<i>Authors, Year</i>
Landfills, Discarded in trash	US, USA, America, Taiwan, US, USA,	Devoy et.al., (2021), Okafor, C. C., (2021), Lehrburger C. And Mullen J., (2019), Lai & Chang C. E. (2020), Norum P. S. (2017), Okafor, C. C., (2021),
Recycling	UK, Romania, Malaysia, Sweden,	Morley, (2016), Cuc S. & Vidovic M. (2011), Jali M. H. and Shaharuddin S. S. (2019), Sandin G. and Peters, G. M., (2018),
Reuse	UK, America, Oklahoma (US), Italy, Sweden, France,	Morley, N., (2016), Lehrburger C. And Mullen J., (2019), Goudeau C. V. (2014), Gamberini, R., et. al., (2008), Sandin G. and Peters, G. M., (2018), Bukhari M. A. (2018),
Incineration	-	-
Gifting	Spain	Cardenas, J. C. et al., (2017),
Reselling	Spain, Netherland	Cardenas, J. C. et al., (2017), Henzen R. & Pbian S. (2019),
Donating	Taiwan, Spain, Denmark,	Lai C. C. & Chang C. E. (2020), Cardenas, J. C. et al., (2017), Gwozdz, W. et al., (2017),
<i>Disposal methods</i>	<i>Emerging economies</i>	<i>Authors, Year</i>
Landfills, Throw it away,	Pakistan, Sri Lanka, India, India, Indonesia,	Akram, M. et al., (2022), Sinhaa P. et al., (2022), Rani S. and Jamal Z. (2018), Chavan R. B. (2014), Fenitra R. M. (2021),
Recycling	India, Pakistan, India, India, Indonesia, Turkey, Turkey, Turkey,	Bairagi, N. (2014), Akram, M. et. al., (2022), Jain P. and Gupta C. (2016), Bairagi N. (2017), Fenitra R. M. (2021), Buyukaslan, E., (2015), Petrescu A. et. al., (2021), Altun S. (2012),
Reuse,	Indonesia, Turkey,	Fenitra R. M. (2021), Buyukaslan, E., (2015),
Incineration	India, Pakistan,	Chavan R. B. (2014), Akram, M. et. al., (2022),
Donating, Give it to friends or family,	India, Indonesia,	Bairagi N. (2017), Fenitra R. M. et al., (2021),
Upcycling	India, Shri Lanka	Bairagi N. (2017), Goworek H. (2013),
Selling, swapping, renting it	Indonesia,	Fenitra R. M. (2021),

draw some conclusions. Further, the table gives a snapshot of the disposal methods mostly adopted in different countries having developed and emerging economies.

In developed economies, researchers state that the most common disposal methods adopted in most countries are throwing trash in landfills, recycling, and reusing. In contrast, gifting, selling, and donating are less popular. Gifting is only followed in Spain as evidenced by this review. In developed economies, the incineration disposal method is not used. Hence, there is a need to promote awareness about selling, gifting, and donating old clothing. So, most people follow these instead of recycling, reusing, and throwing clothes as trash in landfills.

In emerging economies, researchers point out that the common disposal methods used by consumers are landfills, throwing it away, recycling, reusing, incineration, donating & giving it to friends or family, whereas upcycling and renting are followed by a limited consumers. Studies indicate that upcycling is only followed in India and selling & swapping in Indonesia and Turkey. In general, there is a lack of awareness about reusing, donating, giving to friends or family, upcycling, selling, swapping, and renting old clothes in emerging economies.

After going through all the reviews, it is concluded that in countries of developed and emerging economies, most of the

researchers point out recycling as the most common disposal method. Mostly in developed economies, more research has been done on recycling patterns as compared to emerging economies. In both developed and emerging economies, researchers found that there is a lack of awareness about the process of recycling. Some researchers found that reuse is more beneficial than recycling.

Clothing disposal has a high impact on the environment. There is an urgency to make consumers aware of the environment and the environmental impacts caused by the daily use of clothing. The researchers found that the majority of consumers all over the world use trash as a disposal mode for garments. Authors (Leonard L. N. K., Cronan T. P. (2005), Henzen R. & Pbian S. (2019) state that environmentally friendly attitudes will ultimately shape an individual's ecologically sustainable consumer behavior or individual actions of consumers who are either harmless or less detrimental to the environment and favorably aid in the preservation or regeneration of the natural environment. The disposal methods have a direct impact on the environment. Concerning disposal methods, researchers have investigated various disposal modes like charity, second-hand stores, clothing exchange, selling, reusing, and recycling. A lack of consumer awareness about clothing disposal methods



Figure 2: Hazardous effects of environment and disposal of clothing

hampers the disposal of apparel in sustainable ways. Almost all researchers suggested that awareness should be created among consumers to reduce clothing waste. Consumers can take several steps, like donating, recycling, reusing old clothes, buying second-hand clothes, rethinking while buying new garments, etc.

According to Pingki, M. J., & Kuntala, H. N. (2020), disposal behavior refers to the act of getting rid of something. Clothing is discarded as waste or delivered to recycling or reuse. This fast-paced fashion is defined as cheap fashion that is not durable and is rapidly disposed of by consumers. Garments and textile products are less efficient and less sustainable due to product characteristics such as performance or features, and social factors such as vulnerable fashion trends, surrounding lifestyle, likes, or dislikes. This unsustainable clothing disposal behavior causes severe, destructive effects on our global environment, in Figure 2.

CONCLUSION

This review assessed the motivations behind clothing disposal—fast fashion consumption, changing trends, poor fit, boredom, wear and tear, low quality, and brand loyalty, and mapped the disposal methods used globally, including recycling, reuse, landfilling, incineration, donation, repurposing as shreds, and ordinary trash. Fast fashion emerged as the predominant driver across both developed and emerging economies. Additional factors such as price, brand affinity, quality, comfort, fashionability, and convenience further shape purchasing and disposal behaviors. Notably, Brazil highlighted overconsumption itself as a disposal catalyst, while Egypt and Denmark underscored the influence of brand loyalty.

Environmental impacts of linear consumption and disposal models transcend borders, deteriorating air, water, and soil quality worldwide. Emerging economies disproportionately shoulder the burden of developed nations' textile waste exports, amplifying resource depletion and ecological strain. A transition to a circular economy prioritizing reutilizing, remanufacturing, and refurbishing, can keep materials in circulation longer and mitigate these harms.

Addressing this global challenge requires coordinated action. Consumers must adopt sustainable behaviors, buy less, rent or share garments, and choose eco-friendly products. Fashion retailers should be held accountable for the waste they generate through extended producer responsibility schemes, take-back programs, and incentives for waste reduction. Mandatory public awareness campaigns and education on the environmental impacts of disposal methods will empower consumers to make informed choices.

By uniting efforts across individuals, brands, and policymakers, we can reduce textile waste, improve resource efficiency, and shrink the carbon and water footprints of our wardrobes, flagging the way for a truly sustainable fashion industry.

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AUTHORS CONTRIBUTION

Priya has compiled and edited the review work and identified influential factors and disposal methods.

CONFLICT OF INTEREST

There is no conflict of interest.

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