



# INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES



[www.hrmars.com](http://www.hrmars.com)

ISSN: 2222-6990

## Sustaining the Environment: A case study of the Garment Industry in Bangladesh

Islam Md Nazrul and Haliza Abdul Rahman

To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v11-i8/10789>

DOI:10.6007/IJARBSS/v11-i8/10789

**Received:** 07 June 2021, **Revised:** 12 July 2021, **Accepted:** 28 July 2021

**Published Online:** 20 August 2021

**In-Text Citation:** (Nazrul & Rahman, 2021)

**To Cite this Article:** Nazrul, I. M., & Rahman, H. A. (2021). Sustaining the Environment: A case study of the Garment Industry in Bangladesh. *International Journal of Academic Research in Business and Social Sciences*, 11(8), 947-963.

**Copyright:** © 2021 The Author(s)

Published by Human Resource Management Academic Research Society ([www.hrmars.com](http://www.hrmars.com))

This article is published under the Creative Commons Attribution (CC BY 4.0) license. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this license may be seen at: <http://creativecommons.org/licences/by/4.0/legalcode>

**Vol. 11, No. 8, 2021, Pg. 947 – 963**

<http://hrmars.com/index.php/pages/detail/IJARBSS>

JOURNAL HOMEPAGE

Full Terms & Conditions of access and use can be found at  
<http://hrmars.com/index.php/pages/detail/publication-ethics>



# INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES



[www.hrmar.com](http://www.hrmar.com)

ISSN: 2222-6990

## Sustaining the Environment: A case study of the Garment Industry in Bangladesh

Islam Md Nazrul<sup>2</sup> and Haliza Abdul Rahman<sup>1,2</sup>

<sup>2</sup>Institute for Social Sciences Studies, Putra Infoport, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia, <sup>1</sup>Department of Environmental and Occupational Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia.

Email: [dr.haliza@upm.edu.my](mailto:dr.haliza@upm.edu.my)

### Abstract

**Introduction:** Garment industry is one of the leading manufacturing sectors and plays a significant role in improving social, financial impact, building employment and exporting in developed economies in Bangladesh. Nevertheless, textiles are accused of being one of the most genetically dangerous industries, especially to the environment because it also produces waste, not just for clothing production and use. Thus, many scholars have recognized how important it is to explore a better environment for effective utilization in these sectors. **Objective:** This review paper explores the Garment industry's sustainability environment's evolution and examined how its Management can play a pioneering role in staying so long. **Method:** This review paper involved with secondary data which are collected from journal, proceedings, books and social media using the keywords of "garment industry" and "sustainable waste management and strategies in the garments industry". Articles with key words in its titles or abstract were selected. This was done for articles published mainly in 2015-2020. **Results:** In mitigating its adverse environmental impacts, the textile company has made many measures to counter it. Each of these measures is the recycling and replication of waste fibers. Recycling methods may be used with thermal and biological techniques. Textile processing improves sustainable health and decreases the market for technical textiles, eliminates waste requirements, reduces energy demand and water emissions. **Conclusion:** Sustainable Waste Management and Strategies is very crucial in the garments Industry. Thus, advertising plans and procedures must improve consumer loyalty and encourage manufacturers' use of recycled waste in new products.

**Keywords:** Management Role, Garments Industry, Waste Management, Sustainability, Improve

### Introduction

The fully prepared clothing (RMG) sector is the cornerstone (Morshed, 2007) of Bangladesh's economy, as per Hasan Mia et al (2016) estimated that which acts as just a driver and a central player in the country (Hasan et al., 2016) economic growth. 'Made in Bangladesh' is a slogan

that (Kurpad, 2014) has also attracted international fame to Bangladesh and has made it a well-known label worldwide.

According to Ahmed et al. (2014), Bangladesh is the second-largest (Ahmed et al., 2014) manufacturer of ready-made clothing in globally and has been placed the most considerable export income. Following Farhana et al. (2015) examined additional 5000 garment factories are an association, employing a minimum of 4 million population of which more than 80% of employees remain female (Farhana et al., 2015).

As many other countries, Bangladesh are going forward a rising nation. Economic progress mostly relies on farming and industry (Ma and Ma, 1998). Even though this country is not urbanized in manufacturing, it has already been established in the region's garment sector. The industrial revolution of the clothing industry is a successful initiative for all Bangladeshi. As example, millions of unemployed persons taking the opportunity, incredibly numerous poorly educated women of the country, earn money and smoothly lead life. Hence, export earnings are going to enrich by this (Goyal et al., 2018).

Refer to Paul et al (2019), the Garments of Bangladesh achieved worldwide recognition, owing to especially for Muslim and Jamdani (was famous) fabric (Delowar Hossain and Ferdous, 2015) (Paul et al., 2019). At that time, this country was used as the comfortable garments zone achieving glorious records in Europe and many parts of other countries. In the meantime, the British administration in India hasn't established this clothing sector at all. They damaged our industry and imported clothes from other countries or other parts of the world. Massive manufacturing of fully prepared clothing (RMG) in prearranged industries is a comparatively new observable fact for Bangladesh. In compliance with Berg et al (2011), the industry is currently experiencing massive development and challenges (Berg et al., 2011) to domestic and international direct investment. Nevertheless, numerous unforeseen events such as strikes, clashes between management and workers, etc., cause tremendous obstacles to the economy's projected growth.

RMG is Bangladesh's leading export-oriented industrial sector and appears to become the key industry in the coming years, as export figures show. In the year, upwards of 84% of the country's total exports came from RMG (Saheed, 2003) exports, which is a soothing and worrying problem.

Bangladesh's ready-made apparel (RMG) industry has more substantial productivity (Moazzem and Sehrin, 2016), and foreign profits face more than just about any other sector. It represents a considerable profit in the process by providing lucrative job actions to reduce poverty through social and economic growth. About three million people are directly related, while twenty million people are involved in this sector. So it can be said that it has a significant impact on the economy and image of Bangladesh. It has also impacted women's empowerment, as almost 90% of their population is female, ranking the highest in South East Asia. However, according to Cao et al (2014) that explained the words used here sound good, but the RMG sector's environment is not good. As the garment management of the apparel (Cao et al., 2014) does not follow the standard (Oral, 2019) of the environment that remaining all over the world. environmental standards (Selim, 2013) are very relevant for employees and the RMG sector's growth.

## Objective

The aims of this paper is to review and discuss how to make a sound environment in all garments sections following the best standard and make the inside and the outside healthier to maintain the overall situation and make it more sustainable.

## Method

This review paper involved with secondary data which are collected from journal, proceedings, books and social media using the keywords of “garment industry” and “sustainable waste management and strategies in the garments industry”. Articles with key words in its titles or abstract were selected. This was done for articles published mainly in 2015-2020.

## Result and Discussion

### Garments Management Sustainability Environment

According to Khan et al (2020) zeroed in from top to bottom examination and administrative rules, social execution, and a normalized announcing structure utilizing the Worldwide Detailing Activity rules on QSR with regards to Bangladesh. It incorporates guidelines and social performance that have hardly ever been used to manage writing (Khan et al., 2020). The establishment of abilities and long-lasting learning occasions flourish in expert and public activity (Panth and Maclean, 2020). Notwithstanding, students' current age faces phenomenal vulnerability for raising abilities and occupations because of computerization, likely in articles of clothing or some other area, and persistent, innovative interruptions. (Panth and Maclean, 2020)

In consistence with Chowdhury et al., (2020), the Inventory network the board assumes a fundamental part in supporting organizations in the present severe climate. In this manner, mechanical administrators concentrated on investigating the necessary execution improvement credits of the executives' production network to accomplish a superior worldwide market position. This examination presents the key execution improvement credits, known as essential elements of accomplishment inside the setting of Bangladesh's attire production network. Its discoveries uncover that production network cooperation and consumer loyalty are urgent to winning in the production network the board of the ready-made (RMG) articles of Bangladesh's clothing industry (Chowdhury et al., 2020).

In accompanying Handfield et al (2020) investigated that the main long-haul dangers of supply disturbance for LCC attire are human asset administrative dangers, work environment issues, expansion expenses, security, and social government assistance infringement. They likewise propose that clothing brands looking for providers in Cambodia, India, Brazil, Bangladesh, and Vietnam should be informed of these areas substantial risks, which could need relief. It can be followed this in Bangladesh. This methodology sets up a novel strategy for impartially anticipating future worldwide sourcing danger and yields outwardly planned results that can be extended to ensuring better and managing potential hazards while evaluating LCC procurement regions (Handfield et al., 2020)

In favor of Park-Poaps et al. (2020) enhanced Influences of fare position, top Management obligation (TMC), severe weight (CP), capital expense (CC), and advanced skills (TS).

Information is gathered from Bangladeshi dressmakers via an online review. That is why it's anything but an experimental investigation; just a firm treats as a unit of examination (Park-Poaps et al., 2020).

According to Ashraf and Prentice (2019) exhibited the connection between workers' guilds and worked precocity in Bangladesh's clothing industry article. They likewise said that it adds to our comprehension of the loaded relationship between tricky specialists and customary workers' organizations. Without facing the underlying states of giftedness itself, laborers can be weaker when elevated regarding rapid mechanical development (Ashraf and Prentice, 2019).

In Štefko and Steffek (2018) analyzed the report in Switzerland of clothing trade industry's seriousness. The nation's new and useful monetary advancement has depended to an abnormally weighty degree. Relying on a wide variety of auxiliary outlets, taken into the world's lucrative garment chains, on internal projects, job misery, official debasement, and the lack of presence of proper home-grown material industry, all of which tend to limit its attractiveness to global purchasers (Štefko and Steffek, 2018).

As Nasrullah and Rahim (2014) assessed corporate social duty (CSR) as a strategy that is developing and getting perceived in non-industrial nations' private undertakings, taking the ready-made articles of Bangladesh's clothing manufacturing seeing that a contextual analysis. CSR rehearses in the RMG area of Bangladesh, and the latest things in CSR rehearse in private ventures - close encounters of Bangladesh and Vietnam (Nasrullah and Rahim, 2014). Instead, the development and acceptance of CSR (corporate social responsibility) as just a trade strategy in developed countries' private companies as well as the adoption of prepared apparel (RMG) manufacturing in Bangladesh (Haque and Azmat, 2015).

Arayici (2008) clarified the existing clothing creation pattern; it requires a lot of energy and groundwater and expresses various toxic chemical drugs. Globalized architecture poses a variety of concerns related to the spiritual work of workers. Project decisions have to be taken for the length of the life cycle. But most of this is also exceptionally constrained by the sector's economic influences through reduced total revenues. Finding the best option in the schedule is just a rule, a list of its most effortless alternative. In either case, it affirms that a few designers have identified action plans which allow them to produce clothing products in its most – anti way. It ends with a brief conversation of the system's contrasting operators after an opportunity in the fashion and product industries (Arayici, 2008).

Hussain et al (2020) inspected the impacts of practical promoting resources, such as brand value and showcasing advancement, on market execution within sight of a feasible upper hand as a middle person in the cordiality business. It likewise shows that practical advertising resources have positive and enormous consequences for market execution. This examination also shows that a feasible upper hand ultimately intervenes with the connection between brand value and market execution while somewhat interceding the link flanked by promoting the advancement and market execution (Hussain et al., 2020).

Sonobe (2016) researched the significance of innovation move from abroad in advancing modern bunches in agricultural nations by contrasting to instances of group improvement

and without presenting mechanical and administrative information from abroad. Also, for effective advancement in current clusters, the enterprising human resources assume a vital part as fruitful innovation move requires developments in improving item quality, creation strategies, and advertising (Sonobe, 2016).

Rustam et al (2020) assessed the likely impacts of corporate ecological manageability covering green commercialization. The investigation utilized both essential and auxiliary information. The necessary information gathered using a study strategy. While the optional information on supportability detailing compiled from the organization's yearly reports and data set for announcing events worldwide. Different relapse procedures utilize to evaluate information results. The investigation results demonstrate that the association's support introduction and ecological responsiveness are distinct advantages for green utilization rehearses, which eventually lead to changing the level-headedness and client's green decisions (Rustam et al., 2020).

In favor of Akhter et al (2019) enhanced that 2013 Rana Court occurrence in Bangladesh. Bangladesh's public authority has been feeling the squeeze to improve laborers' wellbeing and security conditions in the clothing industry's instant article. Its endeavors have zeroed in intensely on the underlying security of the structures yet have, to a great extent, overlooked an extensive word related wellbeing framework issues. Anyway, it recognizes the essential requirement to name related wellbeing framework fortifying. Explicitly framework limit should improve by expanding HR for in-industrial facility perils and wellbeing checking, administrative assessment, implementation, and improved government authorities' preparation to observe and reveal (Akhter et al., 2019).

Gouvea (2012) predicted that business, wages, and working to environment in the material and clothing portion field in Bangladesh, India, Pakistan, and Vietnam, where T&G stays significant in fares business (generally female) just as in updating for untalented laborers. It portrays that Bangladesh saw an extension of firms and business, with an adverse change in clothing firms' environment, however, a positive difference in materials. Vietnam and Pakistan indicated an adverse change in T&G work and female material business (Gouvea, 2012).

In company with Bruce et al (2004) examines the materials and attire industry's attributes and distinguishes lean, spry, and liability inside existing inventory network writing proffered as answers to accomplish a quick reaction and decrease lead times. Through contextual investigations of material and attire organizations, various ways to deal with production networks, the board is represented (Bruce et al., 2004).

According to Ergene et al (2018) depicted that unites an assortment of women's activist environmental points of view, a realist, and a new realist. In the long run, we collect a cartographic focal point we name ecologies of supportable concerns. Such a focal point would encourage recovering maintainable in association read talks and practices for living great and living with others in the anthropogenic. It portrays that we are utilizing and their rambling varieties in recovering 'support' through the women's activist written works. It will be much more noticeable that there will be options for the past economy and biodiversity of what can

be reported and achieved as knowledge in collaboration reflects on the slashing economy of individual liberty (Ergene et al., 2018).

Inconsistent with Mahmud et al (2018) clarified the predominance of the female specialist's wellbeing dangers in the clothing industry article in the Gazipur area, Bangladesh. It likewise centered on the sub-regions, Sreepur and Kaliakoir, of Gazipur locale. Documentation for the analysis is obtained among 100 female apparel workers on the platform. It likewise reviews the causes and measures to tackle the medical problems of a female piece of clothing laborers of the Gazipur area (Mahmud et al., 2018).

As per Kabir et al (2019) ready-made clothing (RMG) laborers in South and Southeast Asian locales tended to the welfare weaknesses. It also recommends that RMG laborers of South and Southeast Asian nations are inclined to a few wellbeing weaknesses that incorporate physical and mental issues. Further, many of these wellbeing weaknesses emerge from the idea of the RMG work environment, which includes unhygienic and dangerous workplaces, risky states of the production lines, and the absence of security gear. It also proposes that RMG laborers' wellbeing weaknesses are an arising territory of request that should be better perceived and recognized (Kabir et al., 2019).

The associate with Huq and Stevenson (2020) reacted too late calls for a more prominent investigation to support social maintain improvement. Which lingers behind that on ecological support and has been, to a great extent, zeroed in on the Western purchaser viewpoint and suggestions intended dispersion moral practices, particularly inaccessible providers altogether different and complicated institutional settings (Huq and Stevenson, 2020).

In compliance with Nasrullah and Rahim (2014b) examined how and how much the law can help create social obligation? It indicates that even a different administration strategy to families in legislation could significantly extend the sector's social obligation procedure guidelines. Multinational buying companies are profitable, and regulatory agencies are either inadequate or devolve (Nasrullah and Rahim, 2014b).

In collaboration with Sarkar et al. (2020) affirmed that green business activities had gotten a prime main thrust towards manageable advancement across the world. It also gives a diagram of green business procedures related to Bangladesh's RMG areas, which further help the upper hand areas. Moreover, it organized some informal conversations with industry experts in corporate obligation (CSR), economic improvement heads. Biology's well-disposed execution official gives generous help to zeroing on the exact way of establishment assessment and combination and green business system and ecological corruption (Sarkar et al., 2020).

### **Strategic Agenda on Textile Waste Management and Recycling**

Arya and Kumar (2020) observed a compelling way to manage e-waste in the most developed nations. Nevertheless, due to many difficulties and the absence of suitable techniques, developing countries are not the same. Failure to inventory information, improper disposal, and the lack of possible treatments are now the significant obstacles covering the global E-

waste supply chain; this report examines the relevant factors to the environmentally friendly and strongly recommended compliance of current rules (Arya and Kumar, 2020).

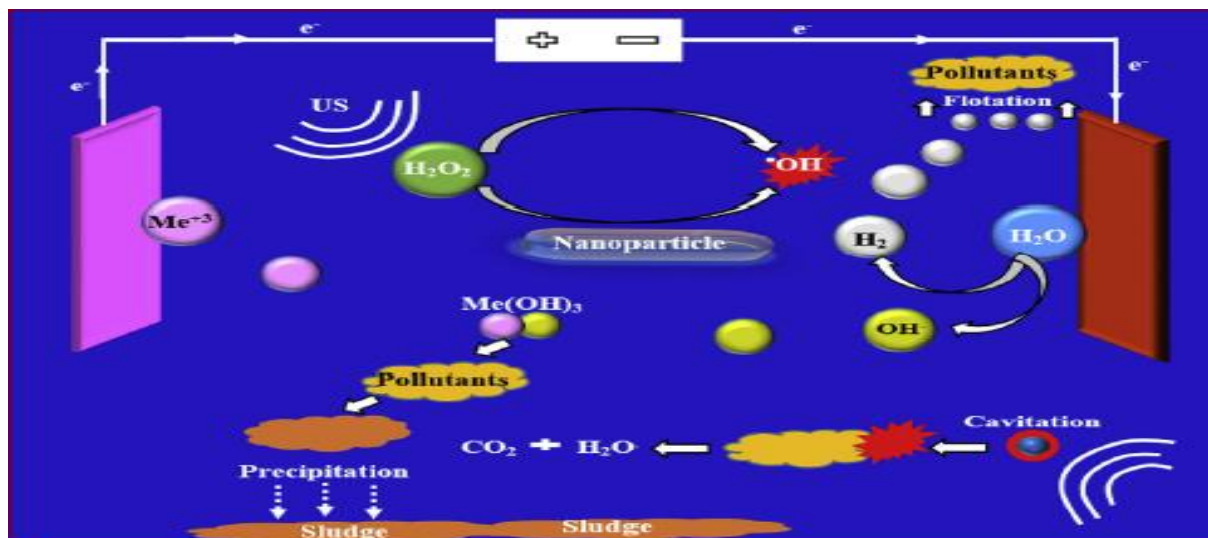


Figure 1: Schematic flow diagram on the process and corresponding mechanism of pollutants removal (Moradi et al., 2021).

According to Gupta (2020), textile industry is the most polluting sector among the maximum textile industry. The garment company has made several measures to minimize this significant issue to reduce its harmful ecological commitment (Figure 1). One of these initiatives is the disposal of fabrics, the reprocess and reproduction of waste materials fibers, and mechanical procedures used to recycle (Gupta, 2020). Several pollutants stimulants might pollute the soil and pose a hazard to public health. Among the highest pollutant crisis in the country is e-waste. This document shows that the e-waste policy's influence could necessitate a much more tailor-made method to specify various options and ways to address e-waste difficulties (Alam & Bahauddin, 2015). Thus, Kozłowski (2009) examined waste prevention and reduction ideologies. They expose that plans can unknowingly promote cost savings and recycling rate and replanting plan and seek to build adequate treatments to produce waste minimization (Kozłowski, 2009).

### Recycling of Garments Waste is The Best Way to Protect Environment

According to Babita and KhushbooJain (2015) analyzed that the textile industry is among the most polluting sectors because textiles also generate waste. They have taken several efforts to decrease their harmful exposure to the atmosphere to conserve and reproduce cloth waste fabrics (Babita and KhushbooJain, 2015).



**Table-1: Pad Batch wastewater characteristics at each cabin (Güyer et al., 2016)**

Process	COD mg/L	Cond. µs/cm	pH	Turbidity FAU	TSS mg/L	TDS mg/L	Color 525 nm
Cabin 1	86.40	728	9.34	-10.2	27	1120	0.433
Cabin 2	48.00	556	8.80	-9.94	23	800	0.397
Cabin 3	19.20	497	8.53	-8.78	22	680	0.318
Cabin 4	16	506	8.40	-2.59	16	660	0.340
Cabin 5	9.60	503	8.24	-8.61	12.30	640	0.104
Cabin 6	9.60	501	8.10	-8.48	10.50	240	0.016
Cabin 7	6.40	479	8.05	-7.91	8.45	400	0.018
Cabin 8	6.40	495	7.95	-7.45	7.35	367	0.012
Finishing	635	591	6.50	106	345	1280	0.620
Combined	64	540	8.70	-4.56	18	650	0.401

Source: Sule and Bardhan (2001)

In compliance with Sule and Bardhan (2001) investigated that environmental conservation could have been accomplished by using government waste generation equipment and reliable wastewater (Table 1). Management can repeatedly implement wastewater disposal and waste processing until waste disposal and technically feasible and cost-effective (Sule and Bardhan, 2001).

Sengupta and Behera, (2015) examined that textiles are among the most environmentally harmful sectors. It is essential to manufacture and use materials and recycle textiles. Evaluations of pollution stats, challenges and industrial consequences, disposal systems, economic and environmental considerations, businesses, and academic researchers search for different innovations (Sengupta and Behera, 2015).

Herrmann (2017) formulated that the amount of even more than 500 billion dollars a year is much more than that of both airline routes and maritime shipping together, resulting from garments underuse and overall greenhouse gases from manufacturing. Hazardous chemicals influence hygiene and flee into the world of both garment workers and fabric consumers. The modern textile industry can produce dramatically enhanced business, Environmental and social results, focusing on innovation toward this framework (Herrmann, 2017).

Panda et al. (2017). Checked to reach the goal of harmful household waste by embracing the concept of eliminating, reuse, reuse, and recycling, the new cleaner technology for fiber and fabric recovery. The closed sewing device rainwater created harvesting the massive plant, and online tracking system for the sustainable and safe setting. The successful recycling and disposal of dependable waste groundwater are also reduced and used for growing, farming, greenhouse, and plant usage (Panda et al., 2017).

### **Sustainable Waste Management And Strategies In The Garments Industry**

Gwilt and Rissanen (2012) guided by damage to the processing, use, and subsequent recycling of many of these clothes. Many fashions and garment manufacturers are interested in incorporating more ecological techniques in their practices. This book offers a convenient guide to how designers build less costly and robust modes (Gwilt and Rissanen, 2012).

Dissanayake and Sinha (2013) casted that waste generation may be pre-consuming or post-consuming waste. In recent years, environmental problems have brought more attention to post-consumer waste materials in the industrial sector and academia. It is an empirical study

based on numerous case study methods and describes every other financial support and its corresponding reasonable information (Table 2) (Dissanayake and Sinha, 2013).

**Table-2: Instrument and validity (Wai Yee et al., 2016)**

Variables	Items	Sources	$\alpha$ coefficient
Environmental economic factors (EE)	EE1: Sell unwanted clothing to reduce garbage disposal problem.	Shim (1995)	.80
	EE2: Sell old garments for environmental reasons.		.80
	EE3: Resell clothing to recycle the garments that are in good condition.		.81
	EE4: Sell clothes for the money.		.88
	EE5: Sell much of clothing for economic reasons.		.88
	EE6: Trade clothing to save money.		.88
Philanthropic awareness (PB)	PB1: It is important to me to donate my clothes to charity for the needy.	Shim (1995)	.89
	PB2: I give clothing away to help others.		.90
	PB3: Clothes donation brings enjoyment to people's lives.	File and Prince (1998)	.78
	PB4: Charity is an important way of preserving our community values.		.70
	PB5: Clothes donation is the responsibility of a good citizen.		.89
Attitude toward clothing disposal (ACD)	ACD1: Recycle clothes because it is convenient.	Shim (1995)	.80
	ACD2: Recycle clothes because know how to recycle.		.75
	ACD3: Aware of how clothing can be recycled.		.75
	ACD4: Recycling is rewarding.		.75
Disposal behavior (DB)	DB1: Donate clothes to charity to do my part in decreasing the environmental problem.	Tang, Chen, and Luo (2011)	.80
	DB2: Recycling efforts will bring good impact on the environment.	Shim (1995)	.81

Source: Dissanayake and Sinha, (2013)

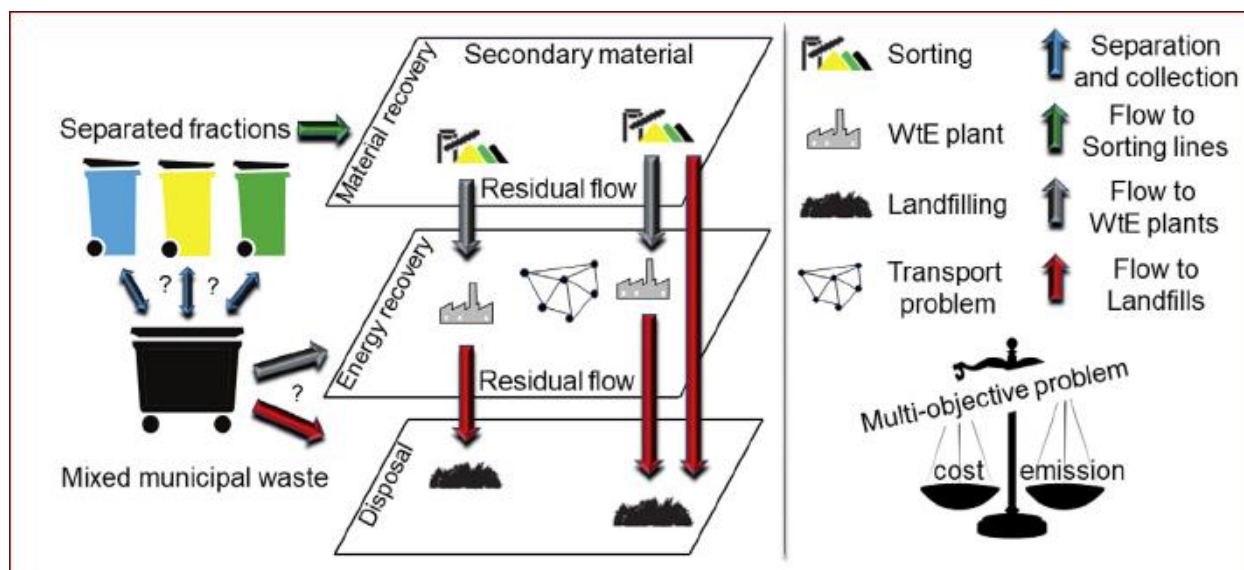
Rathinamoorthy (2018) proposed that by using this waste garment to procreate the clothing fabric, the business benefits. With more environmentally friendly worldwide production, reprocessed fiber, yarn, and manufacture are used. The output of individual income from waste and the trying to solve wastewater treatment and waste disposal are also doubly beneficial for manufacturing companies (Rathinamoorthy, 2018).

Pattanayak (2019) optimized that the environmental cost can potentially be reduced by using sustainable power, energy performance, waste disposal, efficient energy industrial equipment, and the enhanced maintenance of equipment (Pattanayak, 2019).

Hawley (2011) established that almost all clothes are ecological detrimental in product creation, usage, and proper removal. Many garment manufacturers are involved in using environmentally ecological techniques in designing work. This book gives helpful advice on how developers build a less costly and robust mode (Hawley, 2011).

### **Planning Implications of Industrial Waste Management in Bangladesh**

Rahm et al (2013) demonstrated that recent technological advancements involving fracking operations with directional wells have made it possible for crude oil to be mined from deep shale deposits. In this report, well-established on-site processing systems were proposed, and waste disposal laws and regulations were reviewed and revised (Figure 2) (Rahm et al., 2013).



**Figure-2: Concept of waste flow through the whole system (Pluskal et al., 2021)**

Hassan (2017) explained that Waste water disposal impacts urban ecosystems, irrigation, and rivers' system directly. It was also shown that, in specific for N, P, Fe, and Mn, the current condition of tap wastewater is not encouraging for aquaculture and drinks. However, processed wastewater can be used without even any further treatment for agricultural water and disposal to both the water (Hassan, 2017).

Adedeji et al (2013) designed that construction is a significant household waste producer in the world. The paper reveals that waste collection boards are responsible for waste management in the city and that more than 78 percent of building waste is unwillingly dumped or burnt on the fields. However, they do have an incredible wastewater treatment shortfall and recommend improving it (Adedeji et al., 2013).

Law (1997) proposed that water policy dialogue is projected as the demand for limited water supplies increases. This book discusses the achievements and shortcomings of applying water policy in effect. The study explains water policies and their operation in all sub-sectors – domestic, manufacturing, agriculture, and the climate. In both instances, steps were taken to benefit from the useful application of policies (Law, 1997).

Skouloudis et al (2017) developed that the environment generates environmental prejudice by analyzing perceptions and perspectives on environmental pollution and water quality throughout the specific setting. It also explored the ramifications of policy and management concerns of the conclusions, together with potential opportunities for studies that seek to improve the situation for local growth of sustainable practices (Skouloudis et al., 2017).

### **Potential Wastes From Textile Wet Processing Industries And Their Management**

Madhav et al (2018) showed that it also imperils plant and animal welfare not just because of the environmental impact of fiber pollutants imposes detrimental effects on soil and water quality. Various methods are described in this paper for textile effluent treatment. This paper discusses physical, chemical, biomedical, and innovative industrial waste biological treatment (Madhav et al., 2018).

Hussain et al (2019) studied that economic, social and environmental variables have driven many sectors to inwards at and visible waste management methods. Clean biotechnology is an advanced waste-to-precious decentralizing. This analysis would likely draw researchers' attention towards utilizing industrial wastes as potential alternate media for Bacterial cellulose production (Hussain et al., 2019).

Colazo et al. (2015) showed that the degradation of organic material before periods in biogas Environments induces loss of future biogas production. Environmental sense, the Life Cycle Review demonstrates reprocessing strategy is the best alternative to the waste disposal scenario in seven of nine effects classes. Climate change, fossil depletion, and wastewater are the areas of effects studied (Colazo et al., 2015).

Noman et al (2013) investigated that this study attempts to identify waste materials, evaluate the origins and forms of generated waste, and describe this sector's financial and work potential. Cutting rags are used to make different stuff like ropes and adhesive. They are smashed, used as cushions and matelots, thus improving handling waste, lowering waste, and minimizing virgin raw requirements. As no quality management mechanism and no follow-up reporting occurs, quality management and improvement must be carried out (Noman et al., 2013).

Idris et al. (2007) proposed that Textile industry generated sewage is known to be the most environmentally damaging of all the sectors. In an advanced pilot scheme for the treatment of contaminated water, proven sewerage bioconversion methods are employed to produce wastewater that satisfies the level of pollution. It also provides a process with a limited scale, low chemical consumption and limited output of chemicals, and a possible supply of resources to support optimal waste reduction (Idris et al., 2007).

In the above reviewing paper in discussion it can be said that sustain and uniformly position our RMG sector and build a safer atmosphere for all phases. New devices and advanced technology have been established in this sector with a broad focus on environmental protection having access will still be at the early stage; the study team admits it wants to suggest a new perspective into the potential course of research in the built environment and proper management (Figure 3).

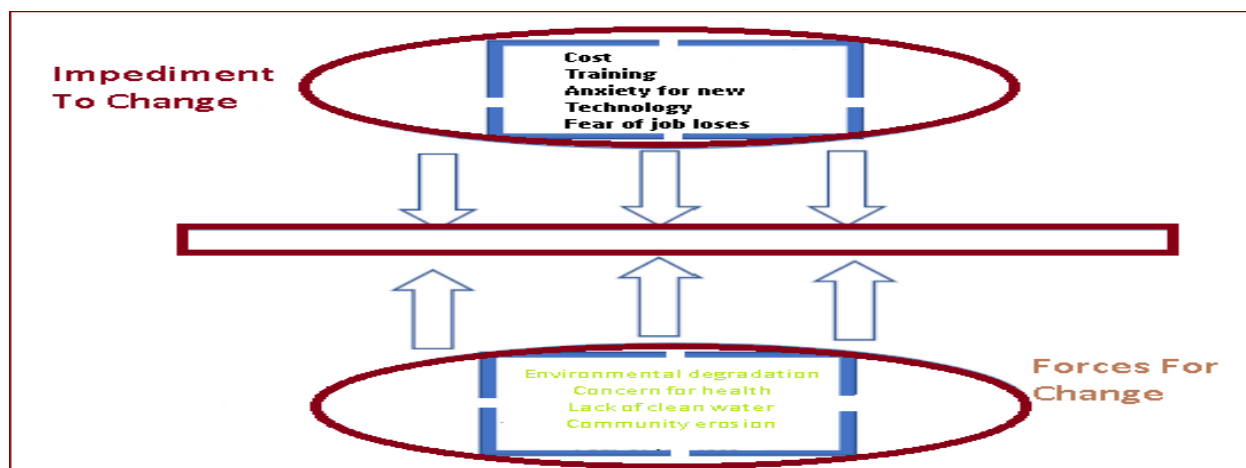


Figure 3: An adaptation of Lewin's Force Field Model (Change Management) (Lewis, 1951)

## Conclusion

In this review paper, it can be predicted that proposed a possible research strategy for the treatment of dangerous pollutants in garments sites and its management by a comprehensive analysis of a significant number of the relevant literature. The study's priorities and patterns, and latest technologies were extensively explored, followed by a detailed review. Firstly, it was found that the level of pollutant analysis is inadequate in the Garments market to enhance protection of the environment through a quantitative study. Secondly, the study position and limits of the relevant technologies are explored in detail based on a monitoring group's qualitative analysis. Eventually, this analysis highlighted a new intelligently integrated framework that might track, analyze and evaluate potential protecting the apparel sector's environment plans. The study has some limitations because of the limited empirical database utilized inside the research area and the somewhat subjective comparative analysis between related investigations and worldwide activities. However, this research can be seen as a tremendous foundational achievement in this field and a reference point for future knowledge of environmentally sustainable development and the planning of the garments industry's toxic wastes. Besides, hazardously particulates at clothing platforms can be achieved by utilizing ecological welfare and environmental issues can be resolved.

## References

- Adedeji, Y. M. D., Taiwo, A. A., Fadairo, G., & Olotuah, O. A. (2013). Promoting sustainable waste minimisation in the built environment: A case study of urban housing in Akure, Nigeria. *WIT Transactions on Ecology and the Environment*.  
<https://doi.org/10.2495/SDP130511>
- Ahmed, F. Z., Greenleaf, A., & Sacks, A. (2014). The Paradox of Export Growth in Areas of Weak Governance: The Case of the Ready Made Garment Sector in Bangladesh. *World Development*. <https://doi.org/10.1016/j.worlddev.2013.11.001>
- Akhter, S., Rutherford, S., & Chu, C. (2019). Exploring the system capacity to meet occupational health and safety needs: The case of the ready-made garment industry in Bangladesh. *BMC Health Services Research*, 19(1), 1–7.  
<https://doi.org/10.1186/s12913-019-4291-y>
- Alam, M., & Bahauddin, K. M. (2015). Electronic Waste in Bangladesh: Evaluating the Situation, Legislation and Policy and Way Forward With Strategy and Approach. *Present Environment and Sustainable Development*. <https://doi.org/10.1515/pesd-2015-0005>
- Arayici, Y. (2008). Towards building information modelling for existing structures. *Structural Survey*. <https://doi.org/10.1108/02630800810887108>
- Arya, S., & Kumar, S. (2020). E-waste in India at a glance: Current trends, regulations, challenges and management strategies. In *Journal of Cleaner Production*.  
<https://doi.org/10.1016/j.jclepro.2020.122707>
- Ashraf, H., & Prentice, R. (2019). Beyond factory safety : labor unions , militant protest , and the accelerated ambitions of Bangladesh ' s export garment industry conference at which industry leaders and government officials would set out a glittering future. *Dialectical Anthropology*, 43(1), 93–107.
- Berg, A., Hedrich, S., Kempf, H., & Tochtermann, T. (2011). Bangladesh's ready-made garments landscape: The challenge of growth. *Apparel, Fashion & Luxury Practice*.
- Bruce, M., Daly, L., & Towers, N. (2004). Lean or Agile: A Solution for Supply Chain Management in the Textiles and Clothing Industry? *International Journal of Operations & Production Management*, 24(2), 151–170.

- <https://doi.org/10.1108/01443570410514867>
- Cao, H., Chang, R., Kallal, J., Manalo, G., McCord, J., Shaw, J., & Starner, H. (2014). Adaptable apparel: A sustainable design solution for excess apparel consumption problem. *Journal of Fashion Marketing and Management*. <https://doi.org/10.1108/JFMM-08-2012-0046>
- Chowdhury, N. A., Ali, S. M., Paul, S. K., Mahtab, Z., & Kabir, G. (2020). A hierarchical model for critical success factors in apparel supply chain. *Business Process Management Journal*, 26(7), 1761–1788. <https://doi.org/10.1108/BPMJ-08-2019-0323>
- Colazo, A. B., Sánchez, A., Font, X., & Colón, J. (2015). Environmental impact of rejected materials generated in organic fraction of municipal solid waste anaerobic digestion plants: Comparison of wet and dry process layout. *Waste Management*. <https://doi.org/10.1016/j.wasman.2015.06.028>
- Delowar Hossain, S., & Ferdous, S. R. (2015). RMG's hot spot surrounded by challenges: a review landscape of Bangladesh ready-made garments (RMG). *Journal of Scientific Research and Development*.
- Dissanayake, G., & Sinha, P. (2013). Sustainable waste management strategies in the fashion industry sector. *International Journal of Environmental Sustainability*. <https://doi.org/10.18848/2325-1077/cgp/v08i01/55036>
- Dr. Babita Dubey, & Mrs. Khushboo Jain. (2015). Recycling Of Textile Waste Is The Best Way To Protect Environment. *IOSR Journal of Environmental Science*.
- Ergene, S., Calás, M. B., & Smircich, L. (2018). Ecologies of Sustainable Concerns: Organization Theorizing for the Anthropocene. *Gender, Work and Organization*, 25(3), 222–245. <https://doi.org/10.1111/gwao.12189>
- Farhana, K., Syduzzaman, M., & Munir, M. S. (2015). Present Status of Workers in Ready-Made Garments Industries in Bangladesh. *European Scientific Journal, ESJ*.
- Gouvea Abras, A. L. (2012). Success and Upgrading after the End of the MFA. In *Sewing Success?* [https://doi.org/10.1596/9780821387788\\_ch04](https://doi.org/10.1596/9780821387788_ch04)
- Goyal, J., Singh, R., Kaur, H., & Singh, K. (2018). Intra-industry efficiency analysis of Indian textile industry: a meta-frontier DEA approach. *International Journal of Law and Management*. <https://doi.org/10.1108/IJLMA-05-2017-0108>
- Gupta Khusbu Kumari. (2020). Waste Management Strategies in Textile & Garment Sector. *International Journal for Modern Trends in Science and Technology*. <https://doi.org/10.46501/ijmtst0609s09>
- Güyer, G. T., Nadeem, K., & Dizge, N. (2016). Recycling of pad-batch washing textile wastewater through advanced oxidation processes and its reusability assessment for Turkish textile industry. *Journal of Cleaner Production*, 139, 488–494. <https://doi.org/10.1016/j.jclepro.2016.08.009>
- Gwilt, A., & Rissanen, T. (2012). Shaping sustainable fashion: Changing the way we make and use clothes. In *Shaping Sustainable Fashion: Changing the Way We Make and Use Clothes*. <https://doi.org/10.4324/9780203126172>
- Handfield, R., Sun, H., & Rothenberg, L. (2020). Assessing supply chain risk for apparel production in low cost countries using newsfeed analysis. *Supply Chain Management*, 25(6), 803–821. <https://doi.org/10.1108/SCM-11-2019-0423>
- Haque, M. Z., & Azmat, F. (2015). Corporate social responsibility, economic globalization and developing countries: A case study of the ready made garments industry in Bangladesh. *Sustainability Accounting, Management and Policy Journal*, 6(2), 166–189. <https://doi.org/10.1108/SAMPJ-04-2014-0028>
- Hasan, K. M. F., Mia, M. S., Rahman, M. M., Ahmed Ullah, A. N. M., & Shariat Ullah, M.

- (2016). Role of Textile and Clothing Industries in the Growth and Development of Trade & Business Strategies of Bangladesh in the Global Economy. *International Journal of Textile Science*.
- Hassan, M. (2017). Sewage Waste Water Characteristics and Its Management in Urban Areas- A Case Study at Pagla Sewage Treatment Plant, Dhaka. *Urban and Regional Planning*. <https://doi.org/10.11648/j.urp.20170203.11>
- HAWLEY, J. (2011). Textile Recycling Options: Exploring What Could Be. In *Shaping Sustainable Fashion: Changing the Way We Make and Use Clothes*.
- Herrmann, D. S. (2017). A new textiles economy: Redesigning fashion's future. *Ellen MacArthur Foundation*.
- Huq, F. A., & Stevenson, M. (2020). Implementing Socially Sustainable Practices in Challenging Institutional Contexts: Building Theory from Seven Developing Country Supplier Cases. *Journal of Business Ethics*, 161(2), 415–442. <https://doi.org/10.1007/s10551-018-3951-x>
- Hussain, I., Mu, S., Mohiuddin, M., Danish, R. Q., & Sair, S. A. (2020). Effects of sustainable brand equity and marketing innovation on market performance in hospitality industry: Mediating effects of sustainable competitive advantage. *Sustainability (Switzerland)*, 12(7), 1–19. <https://doi.org/10.3390/su12072939>
- Hussain, Z., Sajjad, W., Khan, T., & Wahid, F. (2019). Production of bacterial cellulose from industrial wastes: a review. In *Cellulose*. <https://doi.org/10.1007/s10570-019-02307-1>
- Idris, A., Hashim, R., Rahman, R. A., Ahmad, W. A., Ibrahim, Z., Razak, P. R. A., Zin, H. M., & Bakar, I. (2007). Application of Bioremediation Process for Textile Wastewater Treatment Using Pilot Plant. *International Journal of Engineering and Technology*.
- Kabir, H., Maple, M., Islam, M. S., & Usher, K. (2019). The current health and wellbeing of the survivors of the rana plaza building collapse in Bangladesh: A qualitative study. *International Journal of Environmental Research and Public Health*, 16(13), 1–21. <https://doi.org/10.3390/ijerph16132342>
- Khan, H. Z., Bose, S., Mollik, A. T., & Harun, H. (2020). “Green washing” or “authentic effort”? An empirical investigation of the quality of sustainability reporting by banks. *Accounting, Auditing and Accountability Journal*. <https://doi.org/10.1108/AAAJ-01-2018-3330>
- Kozlowski Russell, J. (2009). From solid waste management to solid waste avoidance: A critical evaluation of zero waste strategic plans. In *ProQuest Dissertations and Theses*.
- Kurpad, M. R. (2014). Made in Bangladesh: Challenges to the ready-made garment industry. *Journal of International Trade Law and Policy*. <https://doi.org/10.1108/JITLP-06-2013-0019>
- Law, F. M. (1997). Water policy: Allocation and management in practice. *Journal of Hydrology*. [https://doi.org/10.1016/s0022-1694\(96\)03321-5](https://doi.org/10.1016/s0022-1694(96)03321-5)
- Lewin's Force Field Model (Change Management) | Business | tutor2u*. (n.d.).
- Ma, Y., & Ma, Y. L. (1998). The study in sustainable development of agriculture in Xinjiang. *Arid Land Geography*.
- Madhav, S., Ahamad, A., Singh, P., & Mishra, P. K. (2018). A review of textile industry: Wet processing, environmental impacts, and effluent treatment methods. *Environmental Quality Management*. <https://doi.org/10.1002/tqem.21538>
- Mahmud, M. S., Vinay Rajath, D., Mahmud, R., & Jahan, N. (2018). Health issues of female garment workers: Evidence from Bangladesh. *Journal of Population and Social Studies*, 26(3), 181–194. <https://doi.org/10.25133/JPSSv26n3.013>

- Moazzem, K. G., & Sehrin, F. (2016). Economic Upgrading in Bangladesh's Apparel Value Chain during the Post-MFA Period: An Exploratory Analysis. *South Asia Economic Journal*. <https://doi.org/10.1177/1391561415621824>
- Moradi, M., Vasseghian, Y., Arabzade, H., & Mousavi Khaneghah, A. (2021). Various wastewaters treatment by sono-electrocoagulation process: A comprehensive review of operational parameters and future outlook. *Chemosphere*, 263, 128314. <https://doi.org/10.1016/j.chemosphere.2020.128314>
- Morshed, M. M. (2007). A study on labour rights implementation in readymade garment ( RMG ) industry in Bangladesh : Bridging the gap between theory and practice. *University of Wollongong Thesis Collection University, Master Thesis*.
- Nasrullah, N. M., & Rahim, M. M. (2014a). CSR in Private Enterprises in Developing Countries. In *Ethics & Governance Series Editors: Samuel O. Idowu · René Schmidpeter*.
- Nasrullah, N. M., & Rahim, M. M. (2014b). *Current Trends in CSR Practices in Private Enterprises in: Comparative Experiences of Bangladesh and Vietnam*. 2005, 179–196. [https://doi.org/10.1007/978-3-319-02350-2\\_6](https://doi.org/10.1007/978-3-319-02350-2_6)
- Nazrul, I. M., & Rahman, H. A. (2021). Sustaining the Environment: A case study of the Garment Industry in Bangladesh. *International Journal of Academic Research in Business and Social Sciences*, 11(8), 448-.
- Noman, M., Batool, S. A., & Chaudhary, M. N. (2013). Economic and employment potential in textile waste management of Faisalabad. *Waste Management and Research*. <https://doi.org/10.1177/0734242X12474711>
- Oral, E. (2019). Sustainability Challenges of Fast Fashion: Environmental and Social Impacts of Cotton Growing and the Ready-Made Garment Industry in Turkey. *Yuridika*. <https://doi.org/10.20473/ydk.v34i3.14937>
- Panda, N., Mohapatra, S. K., Khuntia, R., & Pujari, G. (2017). Green and clean best practices in paper and board manufacturing at emami. *IPPTA: Quarterly Journal of Indian Pulp and Paper Technical Association*.
- Panth, B., & Maclean, R. (2020). Introductory Overview: Anticipating and Preparing for Emerging Skills and Jobs—Issues, Concerns, and Prospects. In *Education in the Asia-Pacific Region*. [https://doi.org/10.1007/978-981-15-7018-6\\_1](https://doi.org/10.1007/978-981-15-7018-6_1)
- Park-Poaps, H., Bari, M. S., & Sarker, Z. W. (2020). Bangladeshi clothing manufacturers' technology adoption in the global free trade environment. *Journal of Fashion Marketing and Management*. <https://doi.org/10.1108/JFMM-06-2020-0119>
- Pattanayak, A. K. (2019). Sustainability in fabric manufacturing. In *Sustainable Technologies for Fashion and Textiles*. <https://doi.org/10.1016/B978-0-08-102867-4.00003-7>
- Paul, S. K., Zhang, L., Liu, J., Liang, M., Wei, T., & Zhu, C. (2019). Study on automatic weaving of Jamdani saree. *Journal of Silk*.
- Pluskal, J., Šomplák, R., Nevrlý, V., Smejkalová, V., & Pavlas, M. (2021). Strategic decisions leading to sustainable waste management: Separation, sorting and recycling possibilities. *Journal of Cleaner Production*, 278. <https://doi.org/10.1016/j.jclepro.2020.123359>
- Rahm, B. G., Bates, J. T., Bertoia, L. R., Galford, A. E., Yoxtheimer, D. A., & Riha, S. J. (2013). Wastewater management and Marcellus Shale gas development: Trends, drivers, and planning implications. *Journal of Environmental Management*. <https://doi.org/10.1016/j.jenvman.2013.02.029>
- Rathinamoorthy, R. (2018). *Sustainable Apparel Production from Recycled Fabric Waste*. [https://doi.org/10.1007/978-981-10-8515-4\\_2](https://doi.org/10.1007/978-981-10-8515-4_2)



- Rustam, A., Wang, Y., & Zameer, H. (2020). Environmental awareness, firm sustainability exposure and green consumption behaviors. *Journal of Cleaner Production*, 268, 122016. <https://doi.org/10.1016/j.jclepro.2020.122016>
- Saheed, H. (2003). Prospects for the textile and apparel industry in Bangladesh. *Textile Outlook International*.
- Sarkar, A., Qian, L., & Peau, A. K. (2020). Overview of green business practices within the Bangladeshi RMG industry: competitiveness and sustainable development perspective. *Environmental Science and Pollution Research*. <https://doi.org/10.1007/s11356-020-08816-y>
- Selim, S. (2013). Ecological Modernisation and Environmental Compliance. In *Ecological Modernisation and Environmental Compliance*. <https://doi.org/10.4324/9780203085363>
- Sengupta, A., & Behera, J. (2015). Recycling of textiles: A dire need for protection of environs and sustainability. *Indian Journal of Environmental Protection*.
- Skouloudis, A., Jones, N., Roumeliotis, S., Issac, D., Greig, A., & Evangelinos, K. (2017). Industrial pollution, spatial stigma and economic decline: the case of Asopos river basin through the lens of local small business owners. *Journal of Environmental Planning and Management*. <https://doi.org/10.1080/09640568.2016.1243519>
- Sonobe, T. (2016). Emergence and Subsequent Development of Garment Clusters in Bangladesh and Tanzania. In *Studies in Economic History*. [https://doi.org/10.1007/978-981-10-0182-6\\_5](https://doi.org/10.1007/978-981-10-0182-6_5)
- Štefko, R., & Steffek, V. (2018). Key issues in Slow Fashion: Current challenges and future perspectives. *Sustainability (Switzerland)*. <https://doi.org/10.3390/su10072270>
- Sule, A. D., & Bardhan, M. K. (2001). Recycling of textile waste for environment protection - An overview of some practical cases in the textile industry. In *Indian Journal of Fibre and Textile Research*.
- Wai Yee, L., Hassan, S. H., & Ramayah, T. (2016). Sustainability and Philanthropic Awareness in Clothing Disposal Behavior Among Young Malaysian Consumers. *SAGE Open*, 6(1). <https://doi.org/10.1177/2158244015625327>