



**Climate Change Mitigation, Adaptation, and Finance: Rethinking
the Shameful Trade Flows of Used Textiles and the Need to Slow
Fast Fashion**

A Thesis Submitted for the Degree of Doctor of Philosophy of Law

By

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Declaration of Originality

This Thesis, submitted for the Degree of Doctor of Philosophy, is an original work of

my own and has not been submitted before for any other degree

List of Abbreviations

AGW	Anthropogenic Global Warming
BMW	Biodegradable Municipal Waste
CDM	Clean Development Mechanism
CE	Circular Economy
CFCs	Chlorofluorocarbons
CH₄	Methane
CO₂	Carbon dioxide
COP	Conference of the Parties
CSD	Commission for Sustainable Development
EPR	Extended Producer Responsibility
GHG	Greenhouse gas
HFCs	Hydrofluorocarbons
INDCs	Intended Nationally Determined Contributions
IPCC	Intergovernmental Panel on Climate Change
LDCs	Least Developed Countries
NGOs	Non-governmental Organisations
POPs	Persistent Organic Pollutants
PPR	Pre-market Producer Responsibility
SDGs	Sustainable Development Goals
SHC	Second-hand Clothing
UNEP	United Nations Environment Programme
WMO	World Meteorological Organization
WTO	World Trade Organization

Abstract

Climate change has emerged as a global issue that possesses the capacity to become the preeminent concern of the century. Companies are widely seen as being at the heart of both the problems and the solutions to climate change. This has led to a fundamental rethinking of existing methods of production, which promote the notion that products are meant to be used only a few times and discarded. Spanning across various stages such as agriculture, petrochemical production, manufacturing, logistics, and retail, the clothes we wear have a significant impact on the environment throughout their lifecycle. In other words, while waste production can contribute to a variety of environmental issues, including greenhouse gas emissions, the production of waste from the clothes we wear is no exception. In 2021, Chile, for example, emerged as the fourth largest importer of used textiles and the first in Latin America. Currently, imports have already exceeded 126,000 million tons per year, with China, the US, and Korea being the main contributors to these imports. Nearly 40% of these items are imported through the Iquique free-trade zone in the northern Atacama Desert, where most are discarded since they have no value in the local second-hand clothing market. At present, if any, the industry suffers from a weak regulatory framework that fails to effectively regulate its operations. As a result, brands in the sector often rely on hollow promises, resulting in a phenomenon known as ‘greenwashing,’ where prominent brands make misleading claims about their sustainable practices. Drawing on doctrinal and comparative legal analysis, as well as systematic literature review methodologies, this study establishes the urgent need for immediate legal action to slow fast fashion and end the current practices of dumping low-quality second-hand clothing in regions of the Global South that lack the infrastructure to effectively manage such hazardous materials. On the whole, the study concludes that textile waste, similar to plastic waste, is clearly hazardous and, unfortunately, rather obscurely regulated.

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Introduction

1.1 Background

In recent years, the question of where our clothes come from has transitioned from a mere curiosity to a pressing subject.¹ It was on April 24, 2013, when the Rana Plaza disaster occurred on the outskirts of Dhaka in Bangladesh; more than 1,130 individuals perished when the factory in which they worked collapsed.² This incident incited Fashion Revolution co-founders, Carry Somers and Orsola de Castro, into action. Their campaign was straightforward. They were urging the industry to take more responsibility and increase transparency in supply chains.³ Presently, worse than this is the potential for the industry to contribute to a serious global catastrophe that could wipe out the entire human race if ‘precautionary measures’ are not taken to regulate its operations.⁴

When striving for a more sustainable lifestyle, we frequently emphasise reducing our usage of single-use plastics such as straws, plastic bottles, and bags. However, plastic is buried in places we might have never thought about, such as the clothes we wear and the large quantities that are kept in our wardrobes.⁵ Nylon, Polyester, and Acrylic are widely used synthetic fabrics that contain plastic components and pose challenges in terms of recycling.⁶ The problem with them extends beyond their production phase and includes their use and disposal. Polyester (polyethylene terephthalate), for example, is a synthetic fabric derived from petroleum-based products sourced from non-renewable fossil fuels. Not only do these fabrics raise concerns

¹Tamsin Blanchard, ‘Fashion Revolution Week: seven ways to get involved’ <<https://www.theguardian.com/fashion/2018/apr/24/fashion-revolution-week-seven-ways-to-get-involved>> accessed 30 March 2024.

² Ibid.

³ Ibid.

⁴ Mark Brewer, ‘Slow Fashion in a Fast Fashion World: Promoting Sustainability and Responsibility’ (2019) 8 *Laws* 1, 2.

⁵ William J. Ripple et al., ‘Ruminants, climate change and climate policy’ (2014) 4(1) *Nature climate change* 2, 3-4.

⁶ Ibid.

regarding their quality, but fossil fuels are also recognised for their substantial contribution to greenhouse gas emissions.⁷ Approximately 342 million barrels of oil are used annually by the fashion industry to manufacture textiles from these plastic materials.⁸ Polyester, which accounts for 52% of the total fibre market and approximately 80% of synthetic fibres, poses a significant challenge to municipal solid waste management due to the difficulties inherent to its recycling process.⁹

In essence, while waste production can contribute to a variety of environmental issues, including greenhouse gas emissions, the production of waste from the clothes we wear is no exception.¹⁰ Thus, in order to reduce the environmental impact of clothing, there is a strong emphasis on promoting reuse.¹¹ Nevertheless, at present, the absence of adequate standards in relation to the collection, sorting, transport, sales, and disposal of used textiles greatly adds to the negative environmental impact stemming from the trade of second-hand clothing.

In other words, while the trade of second-hand clothing has the potential to extend the lifecycle of clothes by allowing people in developing countries to buy clothes at an affordable price, creating local job opportunities, and reducing CO2 emissions associated with the manufacturing of new garments, this study highlights the adverse effects of the second-hand clothing trade on destination markets, particularly when the clothes are of substandard quality and ultimately end up in landfills, where they are commonly incinerated, resulting in environmental pollution.¹²

⁷ Ibid.

⁸ Ibid.

⁹ Ibid.

¹⁰ Annamma Joy et al., 'Fast fashion, sustainability, and the ethical appeal of luxury brands' (2012) 16(3) Fashion theory 273, 279-283.

¹¹ Ibid.

¹² The United Nations Economic Commission for Latin America and the Caribbean (UNECLAC), 'The role of international trade in circular fashion: challenges and opportunities' (Cepal, 27 April 2023) <<https://foroalc2030.cepal.org/2023/en/programme/role-international-trade-circular-fashion-challenges-and-opportunities>> accessed 30 March 2024.

According to a recent study, one of the world's historic deserts, the Atacama Desert, recognised for being the world's driest desert, is currently one of the key regions facing an influx of abandoned clothing relinquished from neighbouring Global North countries, such as the United States.¹³ As with other locations, such as Ghana's Kpone dump site and Kenya's Dandora Landfill, these practices are thought to be a direct result of the unethical trade flows that exist, wherein developed countries indulge in excessive clothing consumption while maintaining aversion towards the resultant waste.

While climate change has become one of the most important concerns, if not the most important topic for humanity at the moment, little attention has been paid to how the clothing we wear contributes significantly to increases in Greenhouse gases, which are believed to be causing temperature disruptions and eventual climate changes, including extreme weather conditions such as flooding, extreme heat, wildfires, droughts, and so on.¹⁴ As previously stated, Polyester, Acrylic, and Nylon are widely used synthetic fabrics that contain plastic components and pose challenges in terms of recycling.¹⁵ The problem with them extends beyond their production phase and includes their use and disposal.¹⁶ As a result, it is essential to consider not only the current ban on single-use plastics such as straws, plastic bottles, and plastic bags, but also textile products made of synthetic polymers that are worn a few times and then discarded owing to fabric quality and subsequent durability concerns.¹⁷

¹³ Bárbara P. Ahumada, *Geopolitics of Fashion. Glocal Power Evidence and Design Activism for Leading Disrupting Textile Debris in Chile* (Diid Disegno Industriale Industrial Design, 2023) 4-8; See also Lorena A. Pérez et al., 'Exploring an alternative to the Chilean textile waste: A carbon footprint assessment of a textile recycling process' (2022) 830 *Science of The Total Environment* 154542, 154544-154548.

¹⁴ Rais Akhtar and Cosimo Palagiano, *Climate change and air pollution: the impact on human health in developed and Developing Countries* (Springer, 2018) 3-7.

¹⁵ Ripple (n. 5).

¹⁶ Ibid; See also Anne Egelston, *Regulating the Movement of Hazardous Waste* (Springer International Publishing, 2022) 85-92.

¹⁷ Department for Environment, Food & Rural Affairs and Rebecca Pow, 'New bans and restrictions on polluting single-use plastics come into force' <<https://www.gov.uk/government/news/new-bans-and-restrictions-on-polluting-single-use-plastics-come-into-force>> accessed 30 March 2024.

In their 2020 study entitled “The environmental price of fast fashion,” Niinimäki and others noted that, despite increasing global scrutiny of its environmentally polluting supply chain operations, the textiles industry continues to grow, thanks in part to the rise of fast fashion, a business model based on low-cost manufacturing, frequent consumption, and short-lived garment use.¹⁸ While numerous studies have been conducted to investigate how, similar to the petrochemical industry, the fashion industry currently poses a serious environmental threat to our planet due to its limited consideration for social and environmental issues, including potential impacts on ecosystems, the economy, and human well-being, this study is unique in that it breaks down the environmental impacts of clothing from production to consumption, including chemical pollution, wastewater pollution, CO₂ emissions, and textile waste pollution, which other studies have not delved into this level of detail.

In consideration of the aforementioned ecological ramifications, the present Thesis proposes adjustments to the existing industry model in order to expeditiously confront the persistent environmental issues that have been raised against the sector. These adjustments include reducing the speed of manufacturing, adopting sustainable practices across the supply chain, and encouraging consumers to change their habits by purchasing less clothing and thus extending garment life.¹⁹ These changes highlight the importance of a prompt shift towards a sustainable fashion industry, with a focus on reducing and addressing the negative environmental effects of fast fashion, as well as enhancing the long-term sustainability of fashion supply chains.²⁰

Despite the aforementioned connections, their study may be criticised for its extensive emphasis on what the industry is not doing right instead of what can be done to reduce the

¹⁸ Kirsi Niinimäki et al., ‘The environmental price of fast fashion’ (2020) 1(4) *Nature Reviews Earth & Environment* 189, 190-200.

¹⁹ *Ibid.*

²⁰ *Ibid.*

negative environmental impacts stemming from the industry, particularly in reducing the huge amount of waste generated by the industry through its current extensive clothing production, such as the adoption and implementation of Ecodesign initiatives, pre-market producer responsibility schemes, and Circular Economy policy frameworks.²¹ In addition, their study fails to provide a comprehensive methodological framework for deriving its conclusions, which would otherwise enable replication of the study. Instead, it only presents some of the current issues arriving from operations of the industry, encompassing various phases of the supply chain, such as procurement of raw materials, manufacturing, distribution, and logistics.

While Nassar and others' 2023 study emphasises the need for an in-depth analysis of some of the current ethical and reputational issues confronting the fashion industry, the study may be criticised for its small sample size, specifically for generalising the case study of Boohoo, a UK-based fast fashion brand, as the basis for condemning the current practices of global fashion brands.²² While Abdel-Jaber's 2021 study confirms these assertions, similar to Nassar and others' 2023 study, his study may be criticised for relying on the case study of Zara to scrutinise the present practices of global fashion brands.²³ Despite their industry dominance in

²¹ Eléonore Maitre-Ekern, 'Re-thinking producer responsibility for a sustainable circular economy from extended producer responsibility to pre-market producer responsibility' (2021) 286 *Journal of Cleaner Production* 125454, 125455. While there is not yet an internationally agreed definition of the term "circular economy," the United Nations Environmental Assembly describes it as a sustainable economic model where products and materials are designed to be reused, remanufactured, recycled, or recovered, and thus maintained in the economy for as long as possible, along with the resources of which they are made, and the generation of waste, especially hazardous waste, is avoided or minimised, including the emission of greenhouse gases. The concept of "pre-market producer responsibility (PPR)," according to Maitre-Ekern, is a policy framework that attempts to restrict market entry to products that meet minimum standards of durability, repairability, and reusability, thereby addressing the shortcomings of the traditional Extended producer responsibility scheme. In other words, rather than depending on product's end-of-life requirements, the PPR would provide the framework for imposing environment-oriented measures upon placing products on the market.

²² Mona Nassar, Tara Goddard, and Regine Freeman, 'Walk the Talk: The Boohoo Case Study' (2023) 43(2) *Journal of Macromarketing* 274, 275-282.

²³ Hala Abdel-Jaber, 'The Devil Wears Zara: Why the Lanham Act Must Be Amended in the Era of Fast Fashion' (2021) 15 *Ohio St Bus LJ* 234, 235-257.

terms of speed, pricing, and advertising, his study contends that fast fashion brands do not have a reputation for ethical business practices and innovative ideas.²⁴

While Herbst's 2022 study is one of the few to highlight the extent of the environmental impacts of the clothing and fashion industry on greenhouse gas emissions and other pollutants, it may be criticised for its narrow focus, specifically on the influence of China's existing environmental regulations and sustainability initiatives on the industry's current practices.²⁵ That is, while this Thesis takes a global perspective with an emphasis on African countries, the study of Herbst focuses on potential measures that the Chinese government may use to mitigate the severe environmental impacts associated with China's textile industry.²⁶ In addition, while this Thesis focuses on how trade regulations can help put an end to the ongoing practice of dumping textile waste in regions of the Global South that lack the necessary infrastructure to handle such materials, Herbst's 2022 study focuses on the importance of China's transition from coal dependence to renewable energy sources in order to foster a more sustainable future for its textile industry.²⁷

Similar to Herbst's analysis, while Bailey and others' 2022 study addresses practically, if not all, of the aforementioned gaps in the literature, it may be criticised for its narrow focus, namely the influence of fast fashion on water quality.²⁸ Despite this, Bailey's study stands out as one of the few studies that employs a systematic approach to reviewing literature pertinent to the subject matter at hand—specifically, the environmental impact of fast fashion, encompassing carbon and water footprints, as well as recycling strategies aimed at advancing sustainability within the clothing and textiles industry. In line with the primary research problem of this study,

²⁴ Ibid.

²⁵ Halley Herbst, 'The Price of Fashion: The Environmental Cost of the Textile Industry in China' (2022) 45 *Fordham Int'l LJ* 907, 908-958.

²⁶ Ibid.

²⁷ Ibid.

²⁸ Kerrice Bailey, Aman Basu, and Sapna Sharma, 'The environmental impacts of fast fashion on water quality: a systematic review' (2022) 14(7) *Water* 1073, 1074-1078.

while Priya's 2022 study reviewed the impact of second-hand clothing waste dumped in regions of the Global South, the study's narrow focus on the case study of Ghana limits its ability to provide a comprehensive assessment of this global issue.²⁹

While the empirical analysis conducted by Manieson and Ferrero-Regis in 2022 has faced criticism for potential data collection flaws (e.g. the researchers' inability to conduct personal interviews with the traders and be physically present at the sites), the study continues to make a substantial scholarly contribution to the field regarding the environmental repercussions of fast fashion and the waste management difficulties it presents.³⁰ Their study presents an interdisciplinary investigation that bridges the gap between sustainability and fashion theory through the lens of industrial ecology as it relates to product lifecycles and supply chains. Ultimately, their analysis reveals that the operational framework of fast fashion is indeed accountable for the escalation of textile waste, particularly through post-consumer clothing disposal, which contributes approximately 2.1 billion metric tonnes of greenhouse-gas emissions annually.³¹

According to Amanor's 2018 analysis, the present trade practices of dumping low-quality second-hand clothing in regions of the Global South are profoundly unsustainable.³² While the study's narrow focus on Ghana restricts its capacity to offer a comprehensive assessment of this global concern, it distinguishes itself as one of the few studies that sheds light on the prevalent trade practices of dumping lower quality second-hand clothing in regions of the Global South that lack the infrastructure to properly manage such materials. In contrast to the environmental damage caused by textile waste dumped in Global South regions, Oteng-

²⁹ Ayushee Priya, 'Impact of Second-Hand Clothing Waste in Ghana' (2022) 5 Int'l JL Mgmt & Human 1679, 1680-1685.

³⁰ Lydia A. Manieson and Tiziana Ferrero-Regis, 'Castoff from the West, pearls in Kantamanto?: A critique of second-hand clothes trade' (2022) 27(3) Journal of Industrial Ecology 1, 2-10.

³¹ Ibid.

³² Kenneth Amanor, *Developing a sustainable second-hand clothing trade in Ghana* (University of Southampton, 2018) 28-40.

Ababio's 2012 study not only focuses on the grave environmental impact of dumping e-waste in these regions, but also draws its conclusions based on empirical evidence.³³ A potential limitation of this study remains its limited generalisability as it focuses solely on a single country as a case study.

While Adamkiewicz and others' 2022 analysis provides valuable insights for fashion brands regarding the environmental risks associated with their greenwashing practices, it falls short in providing a comprehensive examination of the environmental consequences stemming from the current unsustainable production trends.³⁴ Instead, the study underscores the importance of sustainable consumption above production.³⁵ In a recent study conducted by Greenpeace in 2022, it was observed that, despite the promotion of circularity by global fashion brands, empirical evidence suggests that this assertion is only a myth.³⁶ The failure of the fast fashion linear business model is particularly evident in countries where a significant number of these cheap garments are disposed of after their brief lifespan.³⁷ These garments are often shipped to Global South regions, disposed of in landfill sites, incinerated on open fires, deposited along riverbeds, and washed into the sea, resulting in severe repercussions for both individuals and the environment.³⁸

The study contends that the Global North is using the exportation of second-hand clothing as a means to dispose of its textile waste, so compelling countries in the Global South to deal with the repercussions of fast fashion, although lacking the necessary infrastructure to do so. To

³³ Martin Oteng-Ababio, 'When Necessity Begets Ingenuity: E-Waste Scavenging as a Livelihood Strategy in Accra, Ghana' (2012) 13(1&2) *African Studies Quarterly* 1, 2-15.

³⁴ Julia Adamkiewicz et al., 'Greenwashing and sustainable fashion industry' (2022) 38 *Current Opinion in Green and Sustainable Chemistry* 100710, 100711-100716.

³⁵ *Ibid.*

³⁶ Greenpeace International, 'Poisoned Gifts' (Greenpeace, 22 April 2022) <<https://www.greenpeace.org/international/publication/53355/poisoned-gifts-report-fast-fashion-textile-waste-disguised-as-second-hand-clothes-exported-to-east-africa/>> accessed 30 March 2024.

³⁷ *Ibid.*

³⁸ *Ibid.*

effectively address this issue, the study contends that it is important for global fashion brands to undertake a comprehensive transformation of their antiquated linear business model, slow down the flow of materials massively, and switch to a slow, truly circular and fair production.³⁹ According to Greenpeace, it is not enough for these companies to just focus on cleaning up their supply chains; global fashion brands must increase their efforts to reduce the massive end-of-life impacts of their products.⁴⁰

Within global geography of fashion, not only environmental but also work-related liabilities are shifted to these low-income developing countries through the aforementioned trading/dumping practices. Effectively, the question of whether or if states should be allowed to restrict international trade for environmental protection arises as a serious matter of dispute. Beyond that, it is imperative to consider whether or if developed countries are prepared to compensate for the damages caused to these low-income developing countries as a result of the unethical trade flows that exist, wherein Western cultures overconsume cheap, low-quality clothing, yet they dislike the waste.⁴¹ In a recent case in Ghana:

“It takes Nii Armah and his crew of 30 fishermen hours to haul their weighty nets to shore on the bustling Korle-Gonno beach of Ghana’s capital, Accra. Finally, their catch emerges – a colossal barracuda and a less welcome bounty of bundles of discarded clothing. Where once nets teemed with fish, they are now tangled with tonnes of clothes thrown into the Atlantic from the nearby Kantamanto market, one of the biggest second-hand clothing markets in the world. Our nets are lost to the clothing from the markets, and the fish are slipping away [...] our

³⁹ Ibid.

⁴⁰ Ibid.

⁴¹ Plastic Soup Foundation, ‘Come on EU! The massive dumping of discarded clothing in Ghana and Chile must stop’ (Plastic Soup Foundation, 9 March 2022) <<https://www.plasticsoupfoundation.org/en/2022/03/the-massive-dumping-of-discarded-clothing-in-ghana-and-chile-must-stop/>> accessed 30 March 2024; The Observatory of Economic Complexity (OEC), ‘Used Clothing’ <<https://oec.world/en/profile/hs/used-clothing>> accessed 30 March 2024.

sustenance! The fishermen lament. The government needs to act fast; We are pleading with the authorities to address this matter urgently. The Sea is all we have,” they said.⁴²

According to the aforementioned case, ‘despite that the Ghanaian capital lacks the infrastructure to deal with such a deluge of waste, the second-hand clothing business is experiencing significant growth,’ cautioned the manager of the Accra Compost and Recycling Plant.⁴³ Although encouraging the reuse of textiles is thought to be one of the most effective ways of reducing the environmental impact of the clothing and textiles sector, donating or exporting low-quality second-hand clothing that cannot be reused due to their poor quality to regions of the Global South will only serve to double the environmental impact stemming from the clothing and textiles sector, as in addition to the problems they cause when burned or dumped in landfills, they also require transportation.⁴⁴ Despite this, it seems that the Global North has found a way to address its textile waste problem by dumping low-quality second-hand clothing to regions of the Global South, leaving them to deal with the consequences of fast fashion despite lacking the infrastructure to do so; all while claiming to promote the idea of Circular Economy through such shameful trade agreements and/or practices.⁴⁵

At present, the best quality items are selectively chosen and resold at a profit in countries of origin, notably the United Kingdom (UK), the United States (US), Netherlands, Germany, Italy, Switzerland, Sweden, and Belgium, while clothing with no market in these regions is exported, regardless of the fact that 20-50% of these clothes are deemed unsellable on arrival, not to mention the poor condition (quality) of the tiny portions that are conveniently

⁴² Mohammed Awal, ‘Ghana struggling with tsunami of second-hand clothes’ (Ghanaweb, 10 February 2024) <<https://www.ghanaweb.com/GhanaHomePage/business/Ghana-struggling-with-tsunami-of-secondhand-clothes-1916126>> accessed 30 March 2024.

⁴³ Ibid.

⁴⁴ Marthe H. Austgulen, ‘Environmentally Sustainable Textile Consumption – What Characterizes the Political Textile Consumers?’ (2016) 39 J Consumer Pol’y 441, 459.

⁴⁵ Viola Wohlgemuth, ‘How Fast Fashion is using the Global South as a dumping ground for textile waste’ (Greenpeace, 2022) <<https://www.greenpeace.org/international/story/53333/how-fast-fashion-is-using-global-south-as-dumping-ground-for-textile-waste/?>> accessed 30 March 2024.

purchased.⁴⁶ Hence, given the grave dangers posed by these “poisoned gifts,” as Greenpeace describes, including, but not limited to, the vast amount of carbon and methane emissions associated with not only landfill activities resulting from poor handling of these materials, but also the open incineration of unwanted textiles and the washing of synthetics into our ocean from dump sites, the question arises as to whether or not, in situations like this, the global community and in particular affected countries need to act on the basis of precaution, or on the foundation of common sense, to establish their own appropriate level of trade and environmental protection/restrictions?⁴⁷

While the aforementioned question remains unresolved, particularly in global international trade, in *Commission v. France*,⁴⁸ the Court of Justice of the European Union (CJEU) determined that a degree of probable causality was required to necessitate Member States to adopt precautionary measures when confronted with any type of danger, such as in the specific instance of waste water treatment.⁴⁹ Having its roots in German law as the *Vorsorgeprinzip* (which can be translated as the ‘foresight principle’), the precautionary principle was initially introduced in the 1970s as part of the development of air pollution laws.⁵⁰ Since then, it has been adopted by various levels of government and has expanded its applications beyond environmental protection to include numerous other areas, such as health and safety.⁵¹

Although the foresight principle is not explicitly mentioned in WTO agreements, its Appellate Body, which handles disputes between WTO Member States, has issued several decisions that could be interpreted as admitting recourse to the precautionary principle on multiple

⁴⁶ UNECLAC (n. 12).

⁴⁷ Greenpeace (n. 36).

⁴⁸ C-280/02 *Commission v French Republic* [2004] ECR I-8596.

⁴⁹ *Ibid* [34].

⁵⁰ Didier Bourguignon, *The precautionary principle – Definitions, applications and governance – In-depth analysis* (Directorate-General for Parliamentary Research Services, 2016) 4.

⁵¹ *Ibid*.

occasions.⁵² For example, in its landmark decision concerning European measures prohibiting the import of meat treated with growth hormones, the panels at first instance were much more inclined to reject all noticeable instances that could justify the invocation or adoption of the precautionary principle in this case; however, the WTO Appellate Body pointed out that the precautionary principle was indeed reflected in Articles 5.7 and 3.3 of the Agreement on the Application of Sanitary and Phytosanitary Measures.⁵³ In this regard, a Member has the right “to establish their own appropriate level of sanitary protection, which may be higher (i.e., more cautious) than that implied in existing international trading standards, guidelines and recommendations.”⁵⁴

Despite its relative advantages, the approach has received widespread criticism for being excessively arbitrary and unscientific.⁵⁵ It is argued, among other things, that if the world must constantly err on the side of safety, this may slow down environmental development.⁵⁶ In addition, some scholars believe that the approach is simply a reaction to fears about the potential limitations of human capabilities to offer solutions in times of risk and uncertainty.⁵⁷ This viewpoint primarily refers to the maximalist interpretation of the precautionary principle, which is based on the following premise: while scientists can accurately predict environmental and health threats and provide technical solutions to these hazards, the most cost-effective approach is to take action when hazards arise, rather than after the damage has occurred.⁵⁸

⁵² Ibid 11.

⁵³ Appellate Body report of 16 January 1998 on measures concerning meat and meat products: *European Communities – Beef Hormones* (WT/DS/26/AB/R), paras 124-125; *United States v. European Communities* [1996] WT/DS/26/AB/R; The Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) 1995, arts 5(7) & 3(3).

⁵⁴ Appellate Body report Ibid.

⁵⁵ Majambere Rodrigue, ‘The Precautionary Principle in Environmental Law’ (2023) 11(12) *Open Journal of Social Sciences* 548, 553-557; Gary E. Marchant and Kenneth L. Mossman, *Arbitrary and capricious: The precautionary principle in the European Union courts* (American Enterprise Institute, 2004) 16-18; Bourguignon (n. 50) 8-12.

⁵⁶ Rodrigue Ibid.

⁵⁷ Ibid.

⁵⁸ Ibid.

One of the most intellectually engaging reasons supporting these beliefs is that having total scientific certainty is unattainable, hence the precautionary principle might be applied to any activity due to the inherent ambiguity in their consequences.⁵⁹ As a result, a stringent application of the precautionary principle might only hinder human advancement by limiting access to beneficial products, including, but not limited to, food, clothing, medicines and vaccinations, as well as restricting the acquisition of information.⁶⁰ Lastly, the precautionary principle is thought to have the potential to jeopardise world trade, isolate the European Union (EU) internationally, and significantly complicate international regulatory cooperation.⁶¹

On the contrary, some academics contend that taking a cautious approach, for whatever cause, aids in the reduction of serious and irreversible environmental and public health dangers, including by drawing lessons from previous mistakes.⁶² They argue that, by encouraging people-centred growth, society may better solve the evolving, complex, and systemic challenges that it is now facing, such as those addressed in this Thesis.⁶³ This viewpoint mostly pertains to minimalist interpretations of the precautionary principle, which is founded in part on the following premise: scientists cannot precisely forecast environmental/health hazards; the environment is intrinsically fragile; and there are only a few hazardous activities.⁶⁴ Among other things, they argue that the precautionary principle may make it possible to establish regulatory mechanisms aimed at aligning business and societal interests in a context where companies often do not have to pay the full cost of adverse health/environmental effects (despite the polluter-pays principle).⁶⁵

⁵⁹ Rögnvaldur Hannesson, *Ecofundamentalism: A critique of extreme environmentalism* (Lexington books, 2014) 7-10; Bourguignon (n. 50) 12.

⁶⁰ Hannesson Ibid; James E. Hickey and Vern R. Walker, 'Refining the precautionary principle in international environmental law' (1994) 14 Va. Env'tl. LJ 423, 424-426.

⁶¹ Hickey Ibid.

⁶² Bourguignon (n. 50) 8-12; Hannesson (n. 59) 8-10.

⁶³ Bourguignon Ibid.

⁶⁴ Ibid.

⁶⁵ Ibid; Rodrigue (n. 55) 557-559.

Despite the aforementioned arguments, some scholars continue to hold the view that the precautionary approach may help provide a framework that helps in achieving a better balance between environmental and development objectives. This delicate balance can be achieved by ensuring that, where there are threats of serious or irreversible damage, such as the damage that might result from dumping textile waste into the oceans, the lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures aimed at the protection of the marine environment and resource.⁶⁶

However, given that not even the strictest interpretation of the precautionary principle does require or advocate for any specific measures (such as a ban) on the export of products to other countries, relying on the precautionary principle, instead of a common sense approach to, for example, slow fast fashion, might only delay the necessary action required at this time.⁶⁷ Consequently, this study argues that there is an immediate need for legal intervention to regulate the activities of the clothing and textiles industry. This is regardless of whether the international community should act prudently in light of the potential harm that could result from ongoing trading and dumping practices in the Global South, or out of common sense, given that such practices would impact not only these regions but the global community as a whole.

Thus, the Thesis emphasises, among other things, the need for robust trade rules to stop the influx of low-quality second-hand clothing into regions of the Global South, producer responsibility schemes to make producers financially responsible for managing their products' end-of-life phase, and not only that, but also require producers to limit the environmental impact of their products and increase their lifespan in accordance with the Circular Economy

⁶⁶ Bourguignon Ibid; Awal (n. 42); Rio Declaration on Environment and Development 1992, Principle 15.

⁶⁷ Bourguignon Ibid; Hannesson (n. 59) 8-10; Nicolas D. Sadeleer, The precautionary principle and climate change. *Elgar Encyclopedia of Environmental Law* (Edward Elgar Publishing, 2016) 24-30.

objectives prior to placing them on the market, and a well-structured Ecodesign framework, to promptly address quality concerns in the clothing and textiles sector, particularly the niche industry of fast fashion.

1.2 Aims and Objectives

After decades of emphasis on what governments might do to reduce harmful greenhouse gas emissions and prevent climate change, attention has switched to the responsible role that businesses can play in this fight. Nevertheless, while these efforts have mostly focused on the oil/fossil fuel industry, the primary aim of this study is to expose the textiles industry, particularly the niche industry of fast fashion, as posing similar, if not larger, environmental concerns than the oil and fossil fuel industry, thereby highlighting how immediate legal actions are required to address the current situation, improve clothing quality, and stop the dumping/trading of low-quality second-hand clothing in regions of the Global South that lack the infrastructure to properly manage such environmentally harmful materials, either out of caution or because such activities are proven to have a far-reaching impact on not only these regions but the global community as a whole.

Therefore, as an initial line of inquiry, the Thesis offers an evaluation of the existing United Nations' climate change regime, with a focus on the adoption of the various frameworks since the first-ever international environmental summit in 1972, the outcome of which includes the Stockholm Declaration on the Human Environment, in order to provide an in-depth awareness of what the law previously was, what the law is now, and any indications of potential future developments. The Thesis then delves deeper to explore the potential for businesses to actively contribute to environmental sustainability, focusing on how, for example, regulating the textiles industry, particularly the niche industry of fast fashion, can help to slow, if not

completely eliminate, existing trade practices of dumping low-quality second-hand clothing in regions of the Global South that lack the infrastructure to effectively manage such materials.

Thus, in contrast to current international initiatives, the Thesis explores how EU waste regulation, for example, has evolved to accommodate contemporary waste management problems, such as those raised by the clothing and textiles industry. Finally, the Thesis compares waste regulation in the EU, the UK, and the African Union (AU) to identify inconsistencies in waste regulation and to analyse how these disparities, along with existing trade flows/regulations, contribute to the indiscriminate dumping of low-quality second-hand clothing in Global South regions lacking the infrastructure to effectively manage such materials.

1.3 Research Questions

In order to reduce the environmental impact of the clothing and textile industry, the reuse of clothing is strongly encouraged.⁶⁸ However, inconsistencies in legislation between the Global North and the Global South affect the quality of second-hand clothing sent to regions of the Global South, making it impossible to achieve the desired aim. Put simply, while the Global North is to blame for the large volumes of textile waste exported to regions of the Global South, particularly East and West African states, such as Ghana, Kenya, and Tanzania, among others, the fundamental cause is simple: Western cultures overconsume cheap, low-quality clothing, yet they dislike the waste.⁶⁹

⁶⁸ Karin M. Ekström and Nicklas Salomonson, 'Reuse and recycling of clothing and textiles—A network approach' (2014) 34(3) *Journal of Macromarketing* 383, 384-388; Laura Farrant, Stig Irving Olsen, and Arne Wangel, 'Environmental benefits from reusing clothes' (2010) 15 *International Journal of Life Cycle Assessment* 726, 728-730.

⁶⁹ Plastic Soup (n. 41).

This phenomenon makes the textile industry, particularly niche industry of fast fashion considerably more polluting than it already is. Made by low-paid employees in China or Bangladesh, sold in the West, rarely worn, and quickly discarded, comparable to plastic waste, textile waste has numerous negative effects on the global environment.⁷⁰ Against this backdrop, the Thesis attempts to provide answers to the following three questions: (a) What is fast fashion, and why is it a socio-legal concern? (b) Do current trade patterns of exporting used textiles to regions of the Global South support the Circular Economy through reuse, or are simply transferring waste to countries lacking the necessary infrastructure to deal with it? (c) To what extent should states be permitted to restrict international trade for environmental protection?

1.4 Methodology

Although there are theories focusing on the natural processes that contribute to climate change, the term “anthropogenic global warming (AGW)” is commonly used to refer to the rise in average global temperatures mostly caused by human activities.⁷¹ According to AGW theoretical perspectives, global warming is caused by the build-up of greenhouse gases in the Earth’s atmosphere.⁷² These gases form a “blanket” around Earth that traps energy from the sun. The trapped energy makes the Earth’s atmosphere warm and disrupts the Earth’s climate.⁷³ The most common greenhouse gases released as a result of human activities include carbon

⁷⁰ Ibid.

⁷¹Zach Stein, ‘Anthropogenic Global Warming’ (Carboncollective, 24 February 2024) <<https://www.carboncollective.co/sustainable-investing/anthropogenic-global-warming-agw>> accessed 30 March 2024; James L. Powell, ‘Climate scientists virtually unanimous: anthropogenic global warming is true’ (2015) 35(5-6) *Bulletin of Science, Technology & Society* 121, 122-123.

⁷² Stein Ibid; Brian J. Berry, Jaysree Bihari, and Euel Elliott, ‘The limits of knowledge and the climate change debate’ (2016) 36 *Cato J* 589, 590-593.

⁷³ Stein Ibid.

dioxide (CO₂), water vapour, methane, nitrous oxide, chlorofluorocarbons (CFCs), and hydrofluorocarbons (HFCs).

While the greenhouse effect is a natural phenomenon that regulates the Earth's temperature, increases in greenhouse gases, such as water vapour, carbon dioxide, methane, and nitrous oxide, intensify the heat-trapping effect of these gases, leading to temperature disruptions and eventual climate changes. While human activities have had a profound impact on the environment, activities over the past two centuries, including the use of fossil fuels to power agricultural machinery and industrial processes, have resulted in an intensified greenhouse effect and increased warming of the planet. In the current epoch, nearly all human activities, if not all, directly contribute to climate change by inducing a rise in greenhouse gas emissions.

While the effects of global warming are wide-ranging, including, but not limited to, rising sea levels, salination of agricultural soils, extreme weather events, increased wildfire risk, plant and animal extinctions, ocean acidification, disruptions in food production, and human health repercussions, it is believed that several strategies can be implemented to mitigate the effects of warming, if adopted now.⁷⁴ Such strategies may include reducing carbon emissions by implementing policies that promote cleaner energy sources, such as renewable energy or nuclear power; and investing in research and development efforts that help to reduce carbon emissions from key sectors, such as transportation and manufacturing.⁷⁵

In addition, it is imperative that both producers and consumers reduce their carbon footprint by embracing sustainable practices that contribute to the mitigation of the adverse impacts of human activity on our planet. While there may be other ways to accomplish this, the Thesis emphasises the production and consumption of reusable or biodegradable products above

⁷⁴ Riley E. Dunlap, 'Climate change skepticism and denial: An introduction' (2013) 57(6) *American behavioural scientist* 691, 692-696.

⁷⁵ Stein (n. 71).

single-use alternatives. To make it easier to execute such policy plans, it is strongly encouraged to adopt and implement Extended Producer Responsibility (EPR) schemes. These schemes offer governments a policy approach for dealing with environmental pressures caused by products at the post-consumer stage. It has an important role to play in enhancing resource efficiency by utilising materials that would have otherwise been wasted (i.e., sent to landfills or burnt), while at the same time influencing designers to select materials that can be more easily reused and recycled.

There are alternative theories, such as the Biological and Chemical Processes theory, which may pose challenges for AGW theoretical perspectives because of their failure to fully account for some of the criticisms that are frequently ignored in climate models and can lead to an overestimation of predicted warming trends, including the cooling effect of CO₂ in the stratosphere.⁷⁶ However, considering the rate of change since the mid-20th century, it is undeniable that human activities have indeed resulted in the production of atmospheric gases that trap more of the Sun's energy in the Earth's system. Thus, the Thesis employs a doctrinal and comparative legal analysis, as well as a systematic literature review, to address the aforementioned research questions and provide stronger support for the above claims and arguments, all while projecting how the law can intervene to mitigate certain anthropogenic climate stressors, such as those posed by the clothing and textiles industry, through policy/regulatory reforms.

Although there are theories that offer different explanations for the current pace of warming, such as the Planetary Motion hypothesis, this study relies on the AGW theoretical viewpoints

⁷⁶ Ibid; Jonathan Cowie, *Climate change: biological and human aspects* (Cambridge University Press, 2012) 198-224; Ella L. Howes et al., 'An updated synthesis of the observed and projected impacts of climate change on the chemical, physical and biological processes in the oceans' (2015) 2 *Frontiers in Marine Science* 36, 37-40. As stated in a recent NASA report, there is clear evidence that the Earth is warming at an unprecedented rate, with human activity being the principal cause. Although the Earth's climate has undergone fluctuations throughout its history, the present warming is occurring at an unprecedented pace, unlike anything observed in the last 10,000 years <<https://science.nasa.gov/climate-change/evidence/>> accessed 30 March 2024.

to back up its assertions and arguments.⁷⁷ In order to evaluate the degree of scientific consensus and ascertain the reliability of the consensus position, it is evident from the historical trajectory of scientific inquiry that the peer-reviewed literature stands as the most reliable and authoritative source.⁷⁸ In contrast to alternative theories, a recent analysis reveals that the overwhelming majority of publishing scientists agree on AGW theoretical perspectives, with a consensus rate exceeding 99.99%.⁷⁹ According to this analysis, a very small percentage of authors, specifically 4 out of 69,406, who have authored peer-reviewed articles on global warming, expressed scepticism towards AGW theoretical perspectives.⁸⁰ This translates to a ratio of 0.0058% or 1 in 17,352.

In contrast to alternative theories, the existing peer-reviewed literature lacks substantial evidence contradicting AGW theoretical perspectives, making it the preferred choice for this analysis.⁸¹ Overall, the study aims to provide valuable insights into the impact of human activities on the Earth's climate, with a specific focus on clothing production and consumption, all while attributing how existing production models, specifically the fast fashion model, contribute to climate change through the production of low-quality clothing that is worn only a few times and then discarded. Ultimately, such an analysis will contribute to the existing body of knowledge on this significant subject matter.

To begin, the study engages in a doctrinal analysis of the existing legislative frameworks applicable to the protection of the environment, specifically the United Nations' climate change regime, to provide an in-depth understanding of what the law previously was, what the law is now, and any indications as to how the law might be evolving or developing. Among other

⁷⁷ Powell (n. 71); Stein (n. 71).

⁷⁸ Powell Ibid.

⁷⁹ Ibid.

⁸⁰ Ibid.

⁸¹ Dunlap (n. 74).

things, the study identifies the need for a stricter regulatory regime, most likely through the establishment of a regional court to prosecute waste trafficking into Africa, in response to the inadequacies surrounding the overlapping Basel and Bamako regimes for regulating the transboundary movements of hazardous wastes and other waste into the region. The study contends that such judicial interventions have the potential to halt waste trafficking to regions of the Global South, specifically African countries with less stringent trade and environmental regulations and are generally considered more vulnerable to the effects of climate change due to their lower capacity for adaptation.⁸²

Given that extensive legal reform is anticipated in the wake of recent temperature increases; by drawing on the framework of compliance, efficiency, and effectiveness, the study analyses the extent to which the United Nations' climate change regime has been able to produce more effective results to addressing the contemporary issues of climate change. Compliance shall, for the purposes of these discussions, refer to the extent to which states change their conduct in accordance with the obligations of an institution, the United Nations in this instance. Efficient policies shall refer to those policies where negative externalities and suboptimal outcomes are limited.

One consideration will be the level of fragmentation exhibited by a given regime, which may be determined by the extent to which cooperation is sought across multiple institutions and forums within a specific topic area. In other words, an efficient climate regime would be one where cooperation is sought through a single or small number of institutions as opposed to one that is fragmented into a large number of fora. Last but not least, effectiveness shall refer to whether or not a given policy or regime has worked as intended. Ultimately, these analyses will support the argument that despite setbacks, the United Nations' climate change regime,

⁸² Patrick Guillaumont and Catherine Simonet, *To What Extent Are African Countries Vulnerable to Climate Change? Lessons from a New Indicator of Physical Vulnerability to Climate Change* (Ferdinand, 2011) 1.

including key instruments, such as the Montreal Protocol, the United Nations Framework Convention on Climate Change, the Kyoto Protocol, and the Paris Agreement, remains crucial and should be supported.

According to Hutchinson, the doctrinal research methodology can include various types of legal analysis, such as examining the history of law (i.e., existing laws versus potential future developments).⁸³ The primary focus of investigation revolves around understanding the legal framework surrounding a specific matter.⁸⁴ Its primary objectives are the identification of legal concepts, conducting thorough analysis, and formulating logical justifications for their application.⁸⁵ Hence, it significantly enhances the continuity, consistency, and certainty of legal systems. The doctrinal research methodology is a systematic approach to understanding the rules that govern a specific legal category.⁸⁶ It involves analysing the relationship between these rules, identifying areas of complexity, and potentially making predictions about future developments.

Similar to other research methodologies, the doctrinal research method requires a comprehensive examination of existing literature, encompassing authoritative sources, such as established rules and principles, as well as peer-reviewed publications.⁸⁷ This analysis provides valuable insights for the researcher to develop a thorough understanding of the existing knowledge and gaps in the chosen topic.⁸⁸ According to Watkins, not all doctrinal research begins with a legal problem.⁸⁹ The doctrinal method can be employed to ascertain the law

⁸³ Terry Hutchinson, 'The doctrinal method: Incorporating interdisciplinary methods in reforming the law' (2015) 8 *Erasmus L. Rev* 130, 132-134.

⁸⁴ *Ibid.*

⁸⁵ Mike McConville, *Research methods for law* (2nd edn, Edinburgh University Press, 2017) 5-10.

⁸⁶ Dawn Watkins (ed), *Research Methods in Law* (2nd edn, Routledge, 2018) 98-104.

⁸⁷ William H. Putman and Jennifer R. Albright, *Legal research, analysis, and writing* (Delmar Learning, 2014) 12-16.

⁸⁸ *Ibid.*

⁸⁹ Watkins (n. 86).

pertaining to a particular subject or within a broader jurisdictional framework.⁹⁰ It is, in many respects, a hermeneutic approach in which researchers evaluate authoritative texts to uncover how the law has evolved to address contemporary issues, such as those explored in this Thesis.⁹¹ Hutchinson has argued that the doctrinal approach enables the researcher to provide an analysis of the law, highlighting its development through the process of judicial reasoning and legislative enactment.⁹²

Furthermore, by employing comparative analysis, this study aims to determine whether the existing trade practices of exporting used textiles to regions of the Global South contribute to the Circular Economy through reuse or are merely transferring waste to countries lacking the necessary infrastructure to deal with it. The primary goal of this analysis is to compare waste regulation in the Global North, specifically the EU and the UK, to that of the Global South, specifically the AU, to determine if there are any disparities in the regulatory framework, and to examine how these disparities, along with existing international trade practices, contribute to the indiscriminate dumping of fast fashion waste in Africa, despite global environmental implications. Although criticised for its susceptibility to oversimplification and potential misapplication of findings across diverse contexts, comparative analysis is renowned for its capacity to highlight differences and similarities across different legal settings.⁹³

Compared to other methodologies, comparative analysis is seen to have the potential to generate novel and stimulating ideas, as well as a more profound understanding of topics that hold significant relevance across different countries. Moreover, the approach is widely recognised for its ability to facilitate the identification of knowledge gaps and provide potential

⁹⁰ Ibid.

⁹¹ Ibid.

⁹² Hutchinson (n. 83).

⁹³ Hussain N. Agil, 'A comparative study on competition laws and practices between Saudi Arabia and the United States' (2021) 5(2) AAU Journal of Business & Law 1, 3-6.

avenues for further investigation that the researcher may not have previously been aware of.⁹⁴ In addition, the use of comparison is perceived to have the potential to enhance the focus of inquiry pertaining to the matter being investigated by proposing new perspectives.⁹⁵ According to Reynolds, in some cases, a legal comparison may be the most relevant exercise, such as attempting to compare waste management practices in three different regions, namely the EU, the UK, and the AU, to determine if there are any regulatory disparities and to examine how these disparities, combined with existing international trade practices, contribute to the indiscriminate dumping of waste in Africa.⁹⁶ Ultimately, identifying areas that require improvement to ensure overall consistency in waste regulation reinforces for the conduct of a comparative legal analysis.⁹⁷

Finally, the study conducts a systematic literature review to explain why the ongoing practices of dumping fast fashion waste in regions of the Global South, particularly African countries with less stringent trade and environmental regulations, are an important socio-legal topic, when environmental concerns have grown in response to growing concerns about climate change and/or global warming. According to Pati and Lorusso, the systematic review methodology is the most effective approach for selecting and synthesising the findings of relevant research and evaluation studies, thereby providing researchers with practical information based on the best available research on a specific question.⁹⁸ This method entails

⁹⁴ Kalu K. Anele, 'Comparative analysis of the impact of piracy on International Trade in Korea, Indonesia and Nigeria' (2023) 31(1) *Asia Pacific Law Review* 12, 14-18.

⁹⁵ Carl C. Lauterwein, *The limits of criminal law: A comparative analysis of approaches to legal theorizing* (Routledge, 2016) 36-40.

⁹⁶ Stephane Reynolds, 'Comparative Legal Analysis: From the Prevalent Methodology to a Necessary Prerequisite' (2016) 23 *Maastricht J Eur & Comp L* 366, 372.

⁹⁷ *Ibid.*

⁹⁸ Debajyoti Pati and Lesa N. Lorusso, 'How to Write a Systematic Review of the Literature' (2018) 11(1) *Health Environments Research & Design Journal* 15, 16-22.

following transparent procedures to locate, assess, and synthesise the findings of relevant research on a specific topic/question.⁹⁹

Unlike narrative or traditional literature reviews, systematic review procedures are carefully outlined in advance, ensuring that the practice is transparent and repeatable. One significant advantage is its capacity to reduce researcher bias. The process produces a set of synthesised findings from research studies on a given topic, which may then be used to guide policy and practice.¹⁰⁰ Its key features include a thorough and systematic search for material, ensuring that the procedures/processes used throughout the review are transparent and replicable, being aware of and explicit about the credibility and reliability of claims made and finally the ability to synthesise the information discovered in order to make research evidence available and accessible to policymakers.¹⁰¹

Overall, there are 3 major steps that will be used in the systematic review process. First, the study will systematically identify and analyse a minimum of 30 publications published between January 2000 and December 2022, from an analysis of search results in order to compile a comprehensive collection of articles pertinent to the issue under discussion. Drawing on text analysis, the systematic review process will involve four essential steps. Originally, the literature to be reviewed will be identified using a topic-specific Google Scholar search. The objective is to conduct a search that is large enough to be exhaustive but also completely focused on the topics at hand. Next, the titles and abstracts will be screened for relevance to the scope of the review using inclusion and exclusion criteria.

Put simply, articles will be excluded if they are unrelated to fast fashion, centre solely on solid waste treatment methods, or make no connection between fast fashion and second-hand

⁹⁹ Ibid.

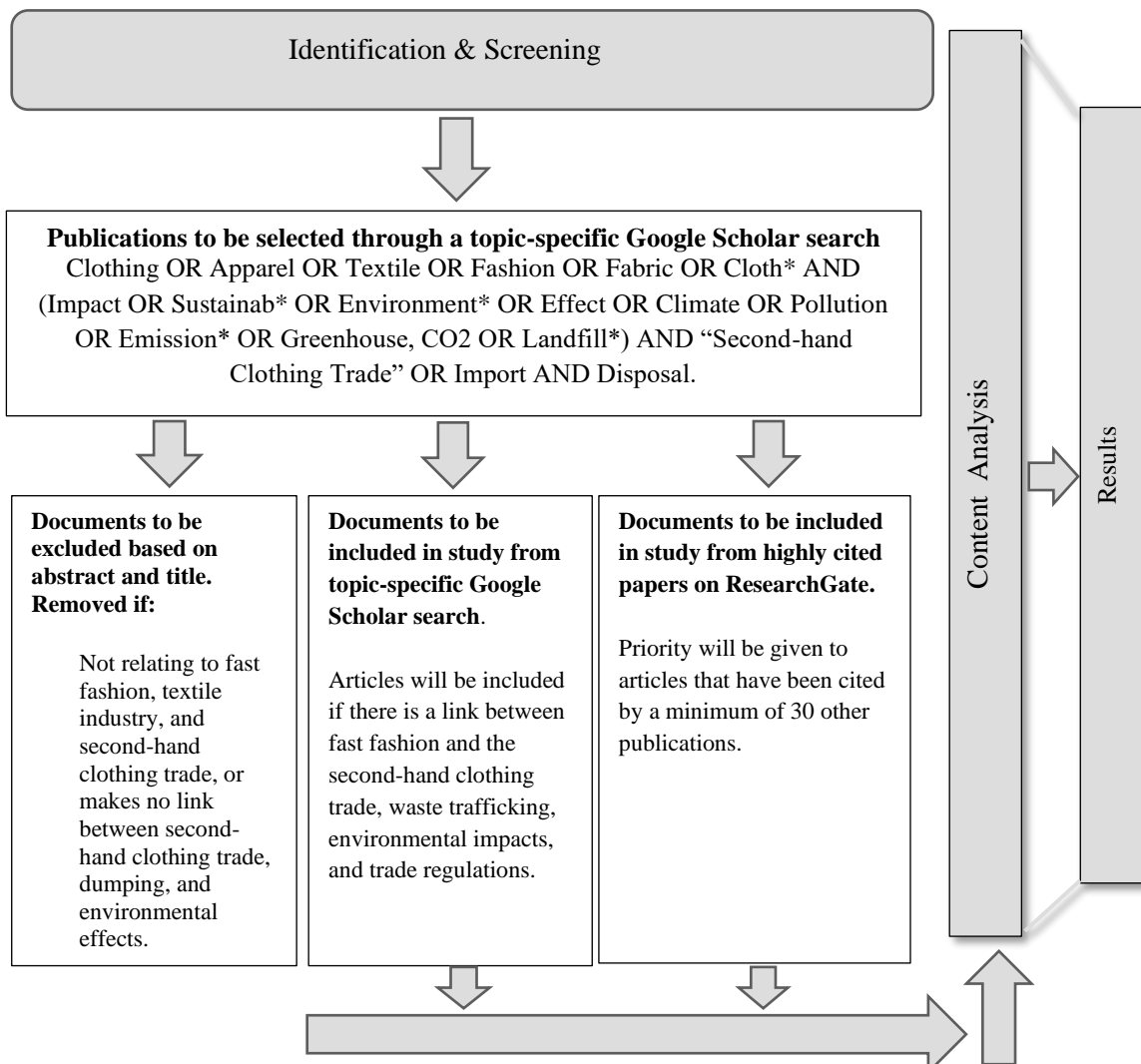
¹⁰⁰ Ibid.

¹⁰¹ Ibid.

clothing trade, import, and disposal. Out of the several papers that will be initially considered relevant, a total of between 30 to 50 articles will be selected for the analysis. Finally, the content of the selected studies will be analysed in search for major themes related to fast fashion, such as second-hand clothing trade, waste pollution, environmental impact, sustainable fashion, waste minimization, Greenhouse gas emissions, climate change, trade regulations, and Ecodesign initiatives. The following is the search query that will be used to retrieve the primary dataset:

Clothing OR Apparel OR Textile OR Fabric OR Cloth* AND (Impact OR Sustainab* OR Environment* OR Effect OR Climate OR Pollution OR Emission* OR Greenhouse, CO2 OR Landfill*) AND “Second-hand Clothing Trade” OR Import AND Disposal.

Fig. 1. Flow chart summarising the systematic review process that will be used in this study.



1.5 Contribution to Knowledge

While significant effort has been made to include plastic waste on the list of hazardous wastes, such as those listed in ANNEX I of the Basel Convention, the primary contribution of this study is to highlight textile waste as posing equal, if not greater, environmental harm as plastics, and the subsequent need for policy interventions, including trade regulations, to address the ongoing practices of dumping fast fashion waste in regions of the Global South, particularly African countries, which not only lack the infrastructure to properly manage such materials, but are also generally considered more vulnerable to the adverse impacts of climate change due to their lower capacity for adaptation.¹⁰² While much research has been conducted to understand the environmental impact of fast fashion, such as waste water pollution, little attention has been paid to its impact on global climate crisis, which ranges from the cultivation of fibres that will become textiles to the dyeing processes and final consumption, including textile waste recycling and the vast quantities incinerated or dumped in landfills.

As a result, this study provides a welcome opportunity to discuss the environmental price of fast fashion, establishing how the clothes we wear significantly contribute to global warming and the discussion of climate change as a whole, from the cultivation of raw fibres to the recycling of textile waste, including the vast quantities dumped in regions of the Global South, where these clothes end up in landfills and are burnt on open frames, emitting twice as much greenhouse gas as other well-known sources.¹⁰³ While greenhouse gas emissions are now associated with the vast majority, if not all, of human activities, the impact of our clothing, particularly at the end of its useful life, on rising temperatures has not been adequately brought to the public's attention; as a result, the industry continues to flood the market with what has

¹⁰² Guillaumont (n. 82) 1.

¹⁰³ Greenpeace (n. 36).

been labelled as cheaply-produced-disposable clothing.¹⁰⁴ As a result, the study seeks to investigate how the law can intervene to encourage the production of clothing that is durable, long-lasting, and easily repairable in order to reduce the environmental impact of not only new clothing production but also the carbon footprint associated with poor textile waste management, including the vast quantities that end up in landfills and are burnt.

1.6 Limitations of Study

While great effort has been made to compile a comprehensive collection of articles relevant to the issues under discussion for analysis, there are several limitations that might influence the outcomes of this study. These include a small sample size of 30 articles, the reliance on non-peer-reviewed publications sourced from platforms, such as ResearchGate, and methodological concerns about the use of a literature review rather than an empirical examination of the topic at hand, primarily by visiting some of these regions and interviewing residents or traders in the second-hand clothing business to obtain firsthand information on the subject. While these limitations remain, an in-depth literature review of the topic at hand is conducted, with view to ensure that arguments are supported by a variety of diverse scholarly sources, including, but not limited to, books, peer-reviewed articles, internet blogs, and news sources, in order to eliminate all forms of research bias.

1.7 Structure of the Thesis

Aside from the introduction and conclusion, the study will be divided into four substantive chapters, as follows. Chapter One will provide a doctrinal analysis of the current United Nations' climate change regime within a broader historical and theoretical context, with a focus

¹⁰⁴ Niinimäki (n. 18) 190-193.

on the adoption of the various frameworks since the first-ever international environmental summit in 1972, to provide an in-depth understanding of what the law previously was, what the law is now, and any indications as to how the law might be evolving or developing. Chapter Two will discuss the environmental impact of fast fashion on global environmental sustainability, with a focus on how the fashion industry, similar to the oil/fossil fuel industry, poses grave environmental threats to our planet now, and how, as in the case of plastic waste, International Environmental Law has failed to provide a timely response to the inhumane dumping of textile waste into regions of the Global South, with particular emphasis on that of Africa.

Given the potential impact of current EU waste management approaches compared to existing international efforts, Chapter Three will focus on identifying the applicable EU waste management law, in order to demonstrate how the law has evolved to accommodate contemporary waste management issues, such as those arising from the fast fashion industry, in contrast to existing international efforts.¹⁰⁵ Among other things, the chapter provides a critical analysis of the following documents: the EU Waste Framework Directive, the Landfill Directive, the Waste Incineration Directive, the Ecodesign for Sustainable Products and Textiles (Proposal), the EU Strategy for Sustainable and Circular Textiles, the EU Circular Economy Action Plan, the European Green Deal, and the European Climate Law.

To conclude, using comparative analysis, Chapter Four will examine whether the existing trade practices of exporting used textiles to regions of the Global South contribute to the Circular Economy through reuse or are merely transferring waste to countries lacking the necessary infrastructure to deal with it. The primary goal of this analysis is to compare waste regulation in the Global North, specifically the EU and the UK, to that of the Global South, specifically

¹⁰⁵ Brewer (n. 4) 1-3; Maitre-Ekern (n. 21) 125454-125455.

the AU, to determine if there are any disparities in regulation, and to examine how these disparities, along with existing international trade practices, contribute to the indiscriminate dumping of fast fashion waste in Africa, despite the continent's inadequate waste management infrastructure and the global repercussions of such actions.

CHAPTER 1

THE UNITED NATIONS' CLIMATE CHANGE REGIME: A LEGAL HISTORY

1.1 Introduction

While it has been feasible in recent years to hold not only states, but also individuals and multinational corporations accountable for their failure to take adequate measures to reduce emissions in climate-related cases, climate change was largely seen as a scientific phenomenon at the beginning of the 20th century.¹⁰⁶ Given that a generation, which forgets its past, has no future, this chapter examines the emergence of climate change as a central issue in environmental law in order to provide useful insights into what the law was previously, what it is currently, and indications of how the law may be evolving or developing in the future.¹⁰⁷ In order to do this, the chapter begins with a brief account of how climate change has progressed from a purely scientific phenomenon to a worldwide political issue, touching on some of the key frameworks that have been established along the way, as well as the historical events that contributed to these developments.¹⁰⁸

Given that numerous policy and regulatory initiatives are anticipated in the wake of recent temperature increases, aiming at higher levels of compliance, efficiency, and effectiveness, the chapter analyses the extent to which the United Nations' climate change regime has brought about the expected results in addressing the climate change problem.¹⁰⁹ Ultimately, the chapter

¹⁰⁶ David Hirst, 'The history of global climate change negotiations' (House of Commons Library, June 24, 2020) <<https://commonslibrary.parliament.uk/the-history-of-global-climate-change-negotiations/>> accessed 30 March 2024; Sylvie Gallage-Alwis and Stephanie Eaton, 'The Rise of Climate Change Litigation in Europe' (Law360, October 5, 2021) 1.

¹⁰⁷ Yazen Abdin, 'Earthonomics: Balancing between Earth and Business' (2015) 5 *Earth Jurisprudence & Envtl Just J* 47, 74.

¹⁰⁸ Hirst (n.106).

¹⁰⁹ For the purposes of this analysis, compliance shall refer to the extent to which states alter their behaviour consistently with the provisions of an institution, in this case the United Nations. Efficient policies are ones where

concludes, among other things, that, although the United Nations' climate change regime has experienced many setbacks, including, but not limited to, the inadequacies surrounding "soft law" instruments, the issue about admissibility of scientific evidence, and the overreliance on state responsibility rather than Corporate Social Responsibility, whereby companies could integrate social and environmental concerns in their business operations in order to promote worldwide environmental sustainability, the UN climate change regime remains essential and should be supported.¹¹⁰

1.2 The Historical Background of how Climate Change emerged as an Important Topic

At the beginning of the 20th century, climate change was largely an esoteric study into a theoretical scientific phenomenon.¹¹¹ Thus, in order to follow the complete scientific trail of what is now considered a legal and political concern, we must go back in time when Jean Baptiste Joseph Fourier (1768-1830) began his investigations on the behaviour of heat.¹¹² According to Fourier's analysis, in addition to the incoming solar energy, our planet must be maintained at a comfortable temperature by some additional condition.¹¹³ Compared to the non-luminous heat emitted by the Earth's surface in the opposite direction, he noted that the intensity of solar energy entering the Earth at any given time could easily pass through the planet's atmosphere to warm its surface.¹¹⁴ Thus, he concluded that the air (atmosphere) must

negative externalities and suboptimal outcomes are limited. One consideration will be the level of fragmentation exhibited by a given regime, which may be determined by the extent to which cooperation is sought across multiple institutions and forums within a specific topic area. Thus, an efficient climate regime would be one where cooperation is sought through a single or small number of institutions as opposed to one that is fragmented into a large number of forums. Effectiveness refers to whether or not the policy or regime worked as intended. See Amanda Rosen, 'The Wrong Solution at the Right Time: The Failure of the Kyoto Protocol on Climate Change' (2015) 43(1) *Politics & Policy* 30, 31.

¹¹⁰ Martina Iginì, '10 Stunning Fast Fashion Waste Statistics' <<https://earth.org/statistics-about-fast-fashion-waste/>> accessed 30 March 2024.

¹¹¹ Hirst (n. 106).

¹¹² Renee Martin-Nagle, 'Preserving Groundwater in a Changing Climate' (2016) 45 *Int'l L News* 14, 15-16; John Mason, 'The History of Climate Science' (*Skeptical Science*, June 5, 2020) <<https://skepticalscience.com/history-climate-science.html>> accessed 30 March 2024.

¹¹³ Mason *Ibid.*

¹¹⁴ *Ibid.*

have in some way acted as an insulating blanket, absorbing the heat radiation.¹¹⁵ Given the technology available at the time, this was the best way that Fourier could express his ideas.

Nevertheless, many years later, the thread was picked up again by the Irish natural historian and pioneer in Alpine climbing, John Tyndall (1820-1893). As recalled, at one point in the history of Northern Europe, a considerable portion of land was covered in ice sheets, but what was far from clear was how the climate could change in such a drastic manner.¹¹⁶ This called for many experiments to uncover any causes that might be linked to these changes. Among the various alternatives, Tyndall began to investigate variations in the composition of the atmosphere, and subsequently conducted a number of experiments at the Royal Institution of Great Britain.¹¹⁷ Eventually, he discovered that water vapour was a significant heat-trapping agent, and that, carbon dioxide, while being a trace gas, was excellent at trapping heat.¹¹⁸

Nevertheless, Tyndall was not the only pioneer in this field at the time.¹¹⁹ Many others, such as Eunice Foote (1819-1888), appeared to have even surpassed Tyndall for this title.¹²⁰ Foote was a New York-based scientist who had, at the time, been studying the effects of sunshine using glass tubes filled with air and a mixture of other gases, such as carbon dioxide. Her findings were first published in the *American Journal of Science and Arts* by the American Association for the Advancement of Science in 1856.¹²¹ One of her papers, ‘Circumstances Affecting the Heat of the Sun’s Rays,’ for example, contains a number of perspicacious arguments, such as:

¹¹⁵ Ibid.

¹¹⁶ Andrey Ganopolski and Victor Brovkin, ‘Simulation of climate, ice sheets and CO₂ evolution during the last four glacial cycles with an Earth system model of intermediate complexity’ (2017) 13(12) *Clim Past* 1695; Mason (n. 112).

¹¹⁷ Mason Ibid.

¹¹⁸ Ibid.

¹¹⁹ Annarita Mariotti, ‘Female climate science pioneer steps out of obscurity’ (2019) 571(7764) *Nature* 174, 175.

¹²⁰ Ibid.

¹²¹ Mason (n. 112).

“The highest effect of the sun’s rays I have found to be in carbonic acid gas. An atmosphere of that gas would give to our earth a high temperature; and if as some suppose, at one period of its history, the air had mixed with it a larger proportion than at present, an increased temperature from its own action, as well as from increased weight, must have necessarily resulted.”¹²²

From these statements, a number of scholars believe that Foote was the first person ever to document something about climate change, as opposed to John Tyndall, and, therefore, her discovery should merit the groundwork for understanding the Greenhouse Gas Effect.¹²³ Amidst contentious discussions about who deserves recognition for these important findings, there is a belief that Foote did not receive credit because her husband patented her work.¹²⁴ However, Foote herself mentioned in one of her writings, “[...] and if as some suppose [...],” which suggests that there were others already engaged in similar research, including individuals like Tyndall.¹²⁵ Nevertheless, considering the specific timeframes, it is unclear whether Tyndall was actually aware of Foote’s paper, even though the two works, to date, remain the first scientific work to highlight the link between global atmospheric temperature rise and CO₂ levels, and thus represents a fundamental milestone in our understanding of any discussion involving climate change.¹²⁶

In other words, despite the fact that Foote was the first to identify water vapour and carbon dioxide as heat-trapping gases, Tyndall was either unaware of Foote’s paper or was simply not attempting to directly replicate her work.¹²⁷ Furthermore, considering that Tyndall’s apparatus used an infra-red heat source, as opposed to direct sunlight in Foote’s work, it is likely that

¹²² Ibid.

¹²³ Nichola Daunton, ‘This woman discovered climate change 5 years before the man who gets credit for it’ (Euronews, January 01, 2022) <<https://www.euronews.com/green/2022/01/01/this-woman-discovered-climate-change-5-years-before-the-man-who-gets-credit-for-it>> accessed 30 March 2024.

¹²⁴ Rachel Brazil, ‘Eunice Foote: the mother of climate change’ (Chemistryworld, April 20, 2020) <<https://www.chemistryworld.com/culture/eunice-foote-the-mother-of-climate-change/4011315./>> accessed 30 March 2024.

¹²⁵ Ibid.

¹²⁶ Mason (n. 112).

¹²⁷ Ibid.

Tyndall was not even aware of Foote's paper.¹²⁸ Moreso, Tyndall did not introduce gases, such as CO₂, or water vapour at the beginning of his experiment, as one might have expected if he had been attempting to replicate Foote's work; therefore, the uniqueness of Tyndall's work cannot be overlooked in any way.¹²⁹ That is, unlike Foote, Tyndall's initial tests involved 'simple gases,' such as oxygen, nitrogen, and hydrogen.¹³⁰

Despite this, one thing is certain: two independent Scientists, far away from each other situated on different sides of the Atlantic Ocean, came to the same conclusion, namely that atmospheric carbon dioxide traps heat, and that changes in its concentration would cause changes in the global average temperature.¹³¹ Although these were significant additions to Fourier's "insulating blanket," both scholars, (i.e., Foote and Tyndall) failed to bring an end to the history of the ice ages.¹³² Another renowned scientist, Svante Arrhenius (1859-1927), later on investigated these concepts and reported that, indeed, increases in atmospheric carbon dioxide cause some amount of warming, although the exact threshold has yet to be determined.¹³³

Although it was already an established fact that, according to the Clausius-Clapeyron relation, warmer air can hold more water vapour, Arrhenius was the first to notice that more water vapour would cause the Earth's surface to warm significantly.¹³⁴ Thus, halving the amount of carbon dioxide in the atmosphere may reduce the temperature of Europe by 4-5°C.¹³⁵ Notwithstanding these calculations, Arrhenius turned to Arvid Hogbom (1857-1940), who at

¹²⁸ Ibid.

¹²⁹ Ibid.

¹³⁰ Ibid.

¹³¹ Ibid.

¹³² Samuel Savin, 'The history of the Earth's surface temperature during the past 100 million years' (1977) 5(1) Annual review of earth and planetary sciences 319, 340.

¹³³ Yetrie Ludang, 'A brief review on the role of community to lessen the rate of global warming' (2010) 6(1) Middle East Journal of Scientific Research 69, 70-72.

¹³⁴ Ashley Payne, 'Responses and impacts of atmospheric rivers to climate change' (2020) 1(3) Nature Reviews Earth & Environment 143, 144-145; Arghadeep Dasgupta and Sen Shyamoli, 'Terrestrial Water System & Hydrological Cycle alteration antecedent to adverse climate change in Indian Sub-Continent A Literature Review' (2021) 12(11) Asian Journal of Science and Technology 11939, 11940; Mason (n. 112).

¹³⁵ Mason Ibid.

the time had spent several years investigating natural carbon dioxide cycles, to see if he could be of any help in the process of understanding this relation.

Coincidentally, Høgbom had during those days began conducting research into factory carbon dioxide emissions. He had the belief that, for someone with knowledge regarding the annual coal consumption of each industry in tonnes, it was a straightforward task to compute the concentration of carbon dioxide in the atmosphere at any given moment.¹³⁶ Thus, following a series of experiments, Høgbom discovered that the man-made emission rates were similar to those occurring in nature.¹³⁷ Furthermore, the amount of fossil fuels burnt during the latter part of the 19th century represented a tiny fraction of the amount that is burnt nowadays. Therefore, what they asked themselves was what might happen if mankind keeps burning fossil fuels at such high levels?¹³⁸ Eventually, Arrhenius counted on earlier efforts to calculate what a doubling of atmospheric carbon dioxide would do to temperatures, and eventually found that an average of 5-6°C warming was bound to occur if atmospheric carbon dioxide would double at any point in time.¹³⁹

Nonetheless, this result attracted many objections during the early 20th century, and were centred around claims of oversimplification, the inability to account for variations in cloudiness, as well as contradictory findings from others, such as Knut Ångström (1857-1910).¹⁴⁰ In the early days of his career, Ångström instructed one of his assistants to measure the passage of infra-red radiation through a tube containing carbon dioxide.¹⁴¹ They used somewhat less gas than what would be found in a whole segment of the atmosphere.¹⁴² In other

¹³⁶ Ibid.

¹³⁷ Trevor Letcher, *The Impacts of Climate Change: A Comprehensive Study of Physical, Biophysical, Social, and Political Issues* (Candice Janco, 2021) 9.

¹³⁸ Mason (n. 112).

¹³⁹ Ibid.

¹⁴⁰ Ibid.

¹⁴¹ Ibid.

¹⁴² Ibid.

words, the testing started with slightly less gas than would be found in a complete part of the atmosphere from the top to the bottom.¹⁴³ Therefore, rather than the 30 cm tube employed, a 250 cm tube would have been more accurate; hence, when the amount of carbon dioxide in the atmosphere was reduced by a third, they noticed just minor changes, and, thus, concluded that the absorption bands of the light spectrum where carbon dioxide absorbs soon saturates, thereby preventing their absorption from increasing.¹⁴⁴

Although the accuracy of these data was heavily chastised, the trail was picked up again by E.O Hulburt (1890-1982) in 1931. Quite different from other works, Hulburt factored in the additional load of water vapour when calculating the effect of doubling carbon dioxide.¹⁴⁵ Following his calculations, Hulburt advocated a 4°C warming as opposed to the conclusions of Ångström. Even though that was a major setback for Ångström, scientists had, at the time, harnessed the power of computers to deconstruct each layer of the atmosphere in order to determine how these layers absorb infrared light. This took place in the mid-1950s, the so-called Post-Second World War era.¹⁴⁶

Among the first to establish prominence in those days was Gilbert Plass. In one of his experiments, Plass proposed that more carbon dioxide would have a warming effect on the Earth, and a doubling of that gas would result in a warming of about 3-4°C.¹⁴⁷ Also, he predicted a 1.1°C temperature rise every century based on the emission rates of the mid-1950s.¹⁴⁸ Again, he proposed that if, at the end of the 20th century, the average temperature had continued to rise, it would be “firmly established” that carbon dioxide promotes climate change.¹⁴⁹ Even so, just like all the others before him, Plass received the same lukewarm

¹⁴³ Ibid.

¹⁴⁴ Ibid.

¹⁴⁵ Ibid.

¹⁴⁶ Scholtz Leopold, ‘The Road to War’ (2012) 32(1) South African journal of military studies 1, 2-4.

¹⁴⁷ Mason (n. 112).

¹⁴⁸ Ibid.

¹⁴⁹ Ibid.

response from his opponents. For example, his work was criticised for not paying enough attention to water vapour, and the ability of the ocean to absorb the excess levels of carbon dioxide emissions.¹⁵⁰

1.3.1 The First International Environmental Summit

Close to the latter half of the 20th century, environmental issues entered the international and intergovernmental agenda for the first time.¹⁵¹ In 1972, the first international environmental summit took place in Stockholm, Sweden. This became the first global meeting to focus on the human environment and initiated a new era of global environmental cooperation, while laying the groundwork for the development of the concept of sustainable development.¹⁵² By the late 1960s, Sweden was a respected middle power, able to challenge the Soviet Union and the United States' existing state of affairs, in particular regarding political differences.¹⁵³ In 1967, Sweden proposed to convene the United Nations conference on the human environment, advocating that the time was right for a real, substantial global conversation about environmental issues. Moreover, Sweden emphasised that the conference could be a good avenue for international cooperation amidst the tense atmosphere of the Cold War.¹⁵⁴

Thus, despite Cold War politics, the Soviet Union and other Eastern bloc countries backed the Swedish proposal alongside the United States and other Western European countries. Despite this, the UK and France maintained that environmental action by the UN was unnecessary.¹⁵⁵ According to them, such a conference could eventually be used by developing countries to

¹⁵⁰ Ibid.

¹⁵¹ Hirst (n. 106).

¹⁵² Pamela Chasek, 'Stockholm and the Birth of Environmental Diplomacy' (International Institute for Sustainable Development, September 10, 2020) <<https://www.iisd.org/articles/stockholm-and-birth-environmental-diplomacy?utm>> accessed 30 March 2024.

¹⁵³ Ibid.

¹⁵⁴ Ibid.

¹⁵⁵ Ibid.

extract financial assistance from wealthier countries.¹⁵⁶ Notwithstanding that, several developing countries were equally concerned about northern countries' interests, and, therefore, considered the possibility that, while this may dominate the proposed meeting, "green issues" might as well limit their development.¹⁵⁷

The most important topic that kept coming up during the conference preparation period was the necessity to resolve the potential conflict between environmental conservation and economic development.¹⁵⁸ In a way, developing countries were particularly concerned about the fact that an international effort to protect the environment would come at the expense of their own development.¹⁵⁹ In view of this, a group of specialists met in Founex, Switzerland, soon before the UN conference to settle this issue and design a framework that could perhaps resolve the tension between economic progress and environmental conservation. Finally, the report acknowledged that economic development and environmental protection could and should coexist.¹⁶⁰

By December 1968, Sweden had received sufficient support to organise the proposed conference. In effect, the UN General Assembly adopted Resolution 2398(XXIII), which called for the first-ever Environmental Summit in 1972, following Sweden's offer to host the conference in Stockholm.¹⁶¹ Despite this, the conference would not make any decisions, but any recommendations that came out of it would have to be formally adopted by the General Assembly.¹⁶² Therefore, the focus was mainly to increase international awareness and identify

¹⁵⁶ Ibid.

¹⁵⁷ Ibid.

¹⁵⁸ Edith B. Weiss, 'The Evolution of International Environmental Law' (2011) 54 Japanese YB Int'l L 1, 2-4.

¹⁵⁹ Ibid.

¹⁶⁰ Ibid.

¹⁶¹ Lars-Göran Engfeldt, *From Stockholm to Johannesburg and beyond: The evolution of the international system for sustainable development governance and its implications* (Government Offices of Sweden, Ministry of Foreign Affairs, 2009) 1.

¹⁶² Linnér Björn-Ola and Selin Henrik, *The Road to Rio: Early Efforts on Environment and Development, Global Challenges: Furthering the Multilateral Process for Sustainable Development* (Greenleaf Publishing, 2005) 58.

environmental problems that require “international cooperation” to be resolved.¹⁶³ The Stockholm conference was attended by representatives from 113 Member States as well as members of the United Nations’ specialised agencies, but it was boycotted by the Soviet-bloc countries due to the exclusion of the German Democratic Republic, which did not have a UN seat at the time.¹⁶⁴

1.3.2 The Outcomes of the First Environmental Summit

In spite of the fact that ‘Climate Change’ was only a ‘footnote’ at the first-ever international environmental Summit (the United Nations Conference on the Human Environment), the Conference led to the establishment of the United Nations Environment Programme (UNEP), the Declaration of the United Nations Conference on the Human Environment (Stockholm Declaration), as well as the Commitments to coordinate global efforts to promote sustainability and safeguard the natural environment, *inter alia*, the Framework for Environmental Action and the Recommendations for Action at the International level (Action Plan for the Human Environment).¹⁶⁵ The Summit represents the first effort ever to forge a shared perspective on how to preserve and improve the human environment.¹⁶⁶

To begin with, rather than a detailed normative position, the Stockholm Declaration advocates for broad environmental policy goals and objectives to guide human activities with the common goal of preserving and improving the human environment.¹⁶⁷ The Declaration consists of a Preamble and a set of 26 Principles. The Preamble, same as any other legal document, is an

¹⁶³ Engfeldt (n. 161).

¹⁶⁴ Philippe Boudes, ‘United Nations Conference on the Human Environment’ (Encyclopedia Britannica) <<https://www.britannica.com/topic/United-Nations-Conference-on-the-Human-Environment>> accessed 30 March 2024.

¹⁶⁵ Günther Handl, ‘Declaration of the United Nations conference on the human environment (Stockholm Declaration) 1972 and the Rio Declaration on Environment and Development 1992’ (2012) 11 United Nations Audiovisual Library of International Law 6, 7-8.

¹⁶⁶ Ibid.

¹⁶⁷ Ibid.

important part of the document, and all 26 Principles were considered in light of that. The Stockholm Declaration elevated environmental concerns to the forefront of international concerns and signalled the beginning of a dialogue between developing and developed countries about the relationship between economic growth, pollution, and the well-being of people all over the world.¹⁶⁸

Nevertheless, despite the fact that the document laid the groundwork for subsequent developments in international environmental law, it has been frequently criticised for failing to provide specific guidelines for individual, national, and international action.¹⁶⁹ As previously stated, the primary goal of the Stockholm Declaration was to provide guidelines for governments and peoples around the world on how to preserve and improve the human environment.¹⁷⁰ Nonetheless, from the outset, some draftsmen sought to present a Declaration that was primarily inspirational, educational, and informative in nature, in order to arouse public concern about a few selected issues rather than achieving the required political action.¹⁷¹

Furthermore, with a few exceptions, such as Principle 21 that mentions that “States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction,” it is often argued that, while the Preamble contained every good quality of a committee draft, the ensuing Principles were not in any way ‘legalistic.’¹⁷² Other issues that

¹⁶⁸ Ibid.

¹⁶⁹ Terence Onang Egute, Albrecht Eike, and Kelvin Awanaya Egute, *From Stockholm to Paris: Four Decades of Sustainability in International Law* (Springer, 2019) 63; Louis B. Sohn, ‘The Stockholm Declaration on the Human Environment’ (1973) 14(3) Harv. Int’l LJ 423, 434.

¹⁷⁰ Handl (n. 165).

¹⁷¹ Sohn (n. 169).

¹⁷² Ibid; Declaration of the United Nations Conference on the Human Environment 1972 (Stockholm Declaration) 21.

should have been clarified prior to the drafting process concerned the Declaration's addressees. For instance, should it be addressed to governments, individuals, corporations or the 'peoples of the world' as indicated in the document?¹⁷³

That being said, one other important documentation from Stockholm was the Action Plan for the Human Environment, comprising the Framework for Environmental Action and the Recommendations for Action at the International level. The Action Plan constituted a continuing approach to international environmental cooperation.¹⁷⁴ It was intended to allow governments to identify areas of international environmental concern and to reach agreements on specific measures to address those concerns. Also, the Conference documentation included 109 recommendations, and, when combined with the Framework, the resulting Action Plan included three major components: a global environmental assessment programme (Earthwatch), environmental management activities, and support measures.¹⁷⁵

The Conference, not only produced a Declaration on the Human Environment or an Action Plan, but also established a management body, known as the United Nations Environment Programme. Following the Conference's recommendation, the UN General Assembly established UNEP as an institutional arrangement for international environmental cooperation.¹⁷⁶ The Assembly also established UNEP's Governing Council, which later became UNEA, or United Nations Environment Assembly, with responsibilities that included, among other things, (a) "promote international co-operation in the field of the environment and to recommend policies to this end; (b) provide general policy guidance for the direction and co-ordination of environmental programmes within the United Nations system (c) keep under

¹⁷³ Ibid.

¹⁷⁴ William Matthews, 'The United Nations Conference on the Human Environment: mandate for environmental scientists' (1973) 4(1-4) Intern. J. Environmental Studies 65, 66-68.

¹⁷⁵ Ibid.

¹⁷⁶ Franz X. Perrez, 'The Role of the United Nations Environment Assembly in Emerging Issues of International Environmental Law' 2020 12(14) Sustainability 1, 4.

review the world environmental situation in order to ensure that emerging environmental problems of wide international significance receive appropriate and adequate consideration by Governments”.¹⁷⁷

Altogether, the functions of UNEP and its governing body can be grouped under three functions.¹⁷⁸ First, a policy function to promote international cooperation, coordinate environmental activities, and provide policy guidance.¹⁷⁹ Second, a scientific function to monitor the global environment and identify emerging environmental problems of international significance.¹⁸⁰ Finally, a catalytic role in encouraging environmental cooperation, action, and policy implementation.¹⁸¹ These functions, when combined, form a cycle: science, policy, and catalysis, i.e., the promotion of actions that should be followed by an assessment of the environmental situation and determination of whether additional policies are required.¹⁸²

Finally, because all specialised United Nations’ agencies were situated in industrialised nations, the decision to locate UNEP in Kenya was exceptionally noteworthy. In other words, the location of UNEP in a developing state sent a message that environmental problems were global, and that states must recognise that issues, such as being discussed in this Thesis, affect all nations equally, and that developing countries with fragile ecosystems are thought to be more vulnerable to the negative impacts of extreme weather conditions.¹⁸³ Since its foundation in 1972, UNEP has been the global authority promoting the consistent execution of environmental policies, including, setting the environmental agenda, and promoting sustainable development within the United Nations system.¹⁸⁴ Thus, through the UN

¹⁷⁷ Ibid.

¹⁷⁸ Ibid 5.

¹⁷⁹ Ibid.

¹⁸⁰ Ibid.

¹⁸¹ Ibid.

¹⁸² Perrez (n. 176).

¹⁸³ Weiss (n. 158) 5; United Nations Framework Convention on Climate Change (UNFCCC) 1992, art 3(2).

¹⁸⁴ United Nations, ‘About UN Environment Programme’ <<https://www.unep.org/about-un-environment>> accessed 30 March 2024.

Environment Assembly, UNEP engages closely with all of its 193 Member States as well as several civil society groups, industry leaders, and other significant stakeholders to address global environmental concerns.¹⁸⁵

1.4.1 The Emergence of the Ozone Regime

The idea that certain chemicals produced by humans could harm the ozone layer was first proposed in 1974.¹⁸⁶ In the strictest sense, the ozone layer protects the earth and everything within from excessive ultraviolet radiation.¹⁸⁷ Previously, the scientific community stated that chlorofluorocarbons (CFCs), which were thought to be harmless, could migrate to the stratosphere and remain intact for decades, causing the ozone layer to degrade by releasing chlorine.¹⁸⁸ Thus, in 1977, the United Nations Environment Programme adopted an Action Plan to protect the ozone layer from further depletion.¹⁸⁹

Consequently, there has been intense monitoring and international research into how to reduce chlorofluorocarbon concentrations in the stratosphere in order to protect the ozone layer. In 1981, the UNEP Governing Council tasked UNEP to develop a global framework for the protection of the ozone layer.¹⁹⁰ Consequently, the 1985 Vienna Convention established a framework agreement in which the states agreed to collaborate in relevant research and scientific assessment of the ozone problem in order to aid in the adoption of “appropriate measures” to prevent activities that harm the ozone layer.¹⁹¹ Despite this, it is widely held that the Vienna Convention’s obligations were too broad, with no specific limits on reducing these

¹⁸⁵ Ibid.

¹⁸⁶ Edith B. Weiss, ‘The Vienna Convention for the protection of the ozone layer and the Montreal Protocol on substances that deplete the ozone layer’ (United Nations Audiovisual Library of International Law, 2009) 1.

¹⁸⁷ Ibid.

¹⁸⁸ Ibid.

¹⁸⁹ Ibid.

¹⁹⁰ Paul Tourangeau, ‘The Montreal Protocol on Substances that Deplete the Ozone Layer: Can It Keep Us All from Needing Hats, Sunglasses, and Suntan Lotion’ (1988) 11 *Hastings Int’l & Comp L Rev* 509, 525.

¹⁹¹ Weiss (n. 186).

so-called man-made substances that deplete the ozone layer.¹⁹² Not only that, but also the Convention did not compel countries to take control measures to protect the ozone layer.¹⁹³ Notwithstanding these setbacks, the Vienna Convention was the first of its kind to be signed by every country involved, going into effect in 1988 and achieving universal ratification in 2009.

1.4.2 The Montreal Protocol on Substances that Deplete the Ozone Layer

During the Vienna Convention negotiations, countries discussed a possible protocol that would provide specific targets for certain chemicals, but no agreement was reached.¹⁹⁴ However, a UNEP working group began negotiations shortly after this period to develop a new protocol to address such a need. As a result, the Montreal Protocol was reached only nine months after formal diplomatic talks began in December 1986.¹⁹⁵ The new Protocol was signed in September 1987 and became effective on January 1, 1989. However, it needs to be highlighted that a state must be a party to the Vienna Convention in order to join the Montreal Protocol.¹⁹⁶ In essence, the two frameworks set the precedent in UNEP for concluding a framework agreement that was later followed by one or more Protocols. Despite this, the approach has become more common in recent years, such as the United Nations Framework Convention on Climate Change and the Kyoto Protocol as well as the Convention on Biological Diversity and the Cartagena Protocol on Biosafety.¹⁹⁷

¹⁹² Ibid.

¹⁹³ Ibid.

¹⁹⁴ Ibid; Osamu Yoshida, The 1985 Vienna convention for the protection of the ozone layer and principles of modern international environmental law. *The international legal regime for the protection of the stratospheric ozone layer* (Brill Nijhoff, 2018) 60-64.

¹⁹⁵ Weiss Ibid.

¹⁹⁶ Ibid.

¹⁹⁷ Ibid.

The Protocol contains specific measures requiring each party to reduce the production and consumption of ozone depleting substances, collaborate in the development of different alternatives, and prohibit trade in these substances.¹⁹⁸ Not only that, but also it includes measures to modify the Protocol's provisions if the situation changes. The Protocol contains provisions concerning control measures, calculation of control levels, control of trade with non-Parties, the special situation of developing countries, data reporting, as well as non-compliance.¹⁹⁹ Although the open structure of these measures will only permit Parties to decide where to make these reductions, the Montreal Protocol recognises that “global cooperation” is the only real solution to problems that threaten the entire world.²⁰⁰

1.5 The Establishment of the Intergovernmental Panel on Climate Change (IPCC)

The Intergovernmental Panel on Climate Change (IPCC) is a United Nations' body founded in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme to address the future of human-caused climate change.²⁰¹ The Intergovernmental Panel on Climate Change conducts regular assessments of the scientific basis for climate change, its impact, future risks, as well as adaptation and mitigation options.²⁰² The Panel is made up of three Working Groups and a Task Force. Working Group I is in charge of evaluating the scientific basis for climate change, whereas Working Group II is primarily concerned with the effects of climate change, adaptation, and vulnerability.²⁰³ Working Group III examines alternatives for reducing greenhouse gas emissions and mitigating climate change.²⁰⁴ Finally,

¹⁹⁸ Tourangeau (n. 190) 521.

¹⁹⁹ United Nations, 'About Montreal Protocol' <<https://www.unep.org/ozonaction/who-we-are/about-montreal-protocol>> accessed 30 March 2024.

²⁰⁰ Tourangeau (n. 190) 540.

²⁰¹ The Intergovernmental Panel on Climate Change, 'About the IPCC' <<https://www.ipcc.ch/about/>> accessed 30 March 2024.

²⁰² Ibid.

²⁰³ Ibid.

²⁰⁴ Ibid.

the Task Force is responsible for developing and refining the methodology for calculating and reporting national greenhouse gas emissions and removals.²⁰⁵

In addition to the Task Force and Working Groups, the Panel may establish other Task Groups for a set period of time to consider specific questions or issues. The IPCC approaches its work in a very deliberate fashion. The Panel carefully selects lead and contributing authors for all reports, outlines a good draft for every report, and revises them until consensus is reached.²⁰⁶ Every five to six years, the IPCC conducts a thorough review of the scientific literature on climate change. It does not conduct original climate change research, but instead focuses on evaluating existing works on climate change.²⁰⁷ As a result, the Panel strives to be professional and unbiased at all times.

Although the IPCC has been widely praised for its incredible efforts its work, as in the case of almost all other organisations, has been heavily criticised. While many scholars argue that the IPCC is biased toward the conclusion that human activities are the primary cause of global warming and climate change, some scientists completely disagree with its interpretation of existing knowledge.²⁰⁸ Not only that, but also some argue that the IPCC's summary report for policymakers frequently lacks the same qualifications about what can be concluded from individual Task Force reports.²⁰⁹ Nonetheless, due to the high visibility that its process and modern-day scientific studies have received, such criticisms have attracted a lot of attention.²¹⁰

According to the IPCC, human-induced greenhouse gas emissions have been responsible for approximately 1.1°C of warming since 1850-1900, and that global temperatures are expected

²⁰⁵ Ibid.

²⁰⁶ Bruce Tonn, 'The Intergovernmental Panel on Climate Change: A global scale transformative initiative' (2007) 39 *Futures* 614, 615.

²⁰⁷ Ibid.

²⁰⁸ Ibid.

²⁰⁹ Ibid.

²¹⁰ The Intergovernmental Panel on Climate Change, 'Climate change widespread, rapid, and intensifying' <<https://www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/>> accessed 30 March 2024.

to reach or exceed 1.5°C of warming over the next 20 years on average.²¹¹ As a result, the IPCC demonstrates that reducing warming to 1.5°C or 2°C will be extremely difficult, unless greenhouse gas emissions are reduced immediately on a large scale. According to one of its reports, climate change is already affecting every region on Earth, and, although responsible for multiple changes observed all over the world, these changes will increase with additional warming. In light of these findings, the IPCC can be regarded as the most successful transformative initiative in the history of International Environmental Law.²¹²

1.6 The United Nations Conference on Environment and Development

The United Nations Conference on Environment and Development (UNCED), also known as the “Earth Summit,” was held from June 3 to 14, 1992, in Rio de Janeiro, Brazil.²¹³ The event commemorated the 20th anniversary of the United Nations Conference on the Human Environment. It brought together scientists, political leaders, diplomats, media representatives, and non-governmental organisations (NGOs) from 179 countries to address the negative impact of human activities on the environment.²¹⁴ Among the many issues discussed, the Conference emphasised the interdependence of social, economic, and environmental factors, and how success in one sector requires action in other sectors to be sustained over time.²¹⁵

The Conference’s main goal was thus to create a new blueprint for international action on environmental issues, to help guide international cooperation and the development of strong policies that protect our planet.²¹⁶ Among the various issues discussed at the Conference, the concept of sustainable development was recognised as something attainable for everyone

²¹¹ Ibid.

²¹² Ibid; Tonn (n. 206).

²¹³ United Nations, ‘A new blueprint for international action on the environment’ <<https://www.un.org/en/conferences/environment/rio1992>> accessed 30 March 2024.

²¹⁴ Ibid.

²¹⁵ Ibid.

²¹⁶ Ibid.

around the world, regardless of whether they were at the local, national, regional, or international level.²¹⁷ It was once again recognised that integrating and balancing socioeconomic and environmental problems frequently necessitates a new approach to factors, such as production and consumption, work and lifestyle, as well as the way we make decisions.²¹⁸ Not only that, but the Summit acknowledged that incorporating economic, social, and environmental concerns into our daily lives is absolutely necessary for the survival of human life on the planet.²¹⁹

Given the pool of scholarly arguments, Rio's evaluation remains exceedingly difficult, and, thus, while some consider it a resounding success, others believe that it was a crushing failure.²²⁰ Maurice Strong, the Conference's Secretary General, described the processes leading up to the Earth Summit as a "profoundly important human experience from which none of us will emerge unchanged," and thus stated that the Summit should be viewed as the foundation of a new global partnership.²²¹ Additionally, the Summit Bulletin described the Conference as "the development of an elaborate programming tool that has the potential to set the planet on a new path toward global sustainable development."²²² Notwithstanding these positives, others believe that the Summit was simply the world's largest cocktail party or some kind of 'gold-pen-photo-opportunity.'²²³

Despite the divergent opinions, the Earth Summit did produce a number of significant outcomes, such as the Rio Declaration and its 27 universal Principles, the United Nations Framework Convention on Climate Change, the Commission on Sustainable Development, the

²¹⁷ Ibid.

²¹⁸ Ibid.

²¹⁹ Ibid.

²²⁰ David Freestone, 'The Road from Rio: International Environmental Law after the Earth Summit' (1994) 6(2) *Journal of Environmental Law* 193.

²²¹ Ibid.

²²² Ibid.

²²³ Ibid.

Convention on Biological Diversity, and the Declaration on Forest Management Principles, and the Agenda 21, which is arguably the Summit's most significant achievement.²²⁴ In addition, the Conference produced a detailed action plan that calls for new strategies to invest in the future in order to attain the overall sustainable development goal by the end of the century.²²⁵ Its recommendations ranged from new methods of preserving natural resources to new ways of participating in a sustainable economy, as well as new techniques of training and teaching.

To begin with, Rio's Agenda 21 not only addresses the most urgent issues of our time but also equips the international community for forthcoming challenges.²²⁶ It reflects, at the highest level, a global consensus and political commitment to a balanced and integrated approach to environmental and development issues. While successful implementation is primarily the responsibility of governments, international strategies, policies, and processes are critical in achieving these goals. Similar to the Framework Convention on Climate Change, Rio's Agenda 21 stipulates that international cooperation must always support national efforts.²²⁷

Consequently, not only does the document covers environmentally sound management of hazardous wastes, including the prevention of illegal international trade in solid wastes, but it also addresses environmentally sound management of sewage-related wastes.²²⁸ Thus, despite the fact that solid wastes, as defined by Rio's Agenda 21, include all domestic refuse and non-hazardous wastes, such as commercial and institutional wastes, street sweepings, and construction debris, the document emphasises that if any of the above-mentioned wastes or other wastes not mentioned in this chapter exhibit hazardous characteristics, they should be

²²⁴ United Nations (n. 213); Freestone (n. 220) 201.

²²⁵ *Ibid.*

²²⁶ United Nations Conference on Environment & Development 1992 (Agenda 21) 1(3).

²²⁷ *Ibid.*

²²⁸ *Ibid.* 21.

treated as hazardous wastes.²²⁹ In addition to this, in order to provide a comprehensive and environmentally sound framework for managing wastes, such as those of interest in this Thesis (fashion waste), the document outlines four programme areas: waste minimisation, waste reuse and recycling, waste disposal and treatment, and waste service coverage.²³⁰

Again, the UN General Assembly set up the Commission for Sustainable Development (CSD) to help carry out the goals and resolutions of the Earth Summit.²³¹ The Commission was created to serve as a primary platform for reviewing the implementation of Agenda 21 at the local, national, regional, and international levels, as well as to strengthen international cooperation and promote partnerships for sustainable development.²³² Unlike in recent years, when development and environmental initiatives are considered in almost every area of decision-making, including, but not limited to, critical fields, such as foreign policy and waste management, the Commission was the first organisation within the United Nations system to institutionally link development and environmental initiatives.²³³

Thus, in addition to monitoring and reviewing the implementation of Agenda 21, the Commission was established to receive, analyse, and evaluate reports from all Member States, including financial institutions within the United Nations system, and to make recommendations to the General Assembly via the United Nations Economic and Social Council (ECOSOC).²³⁴ At its first substantive session in June 1993, the Commission divided Agenda 21 chapters into two groups: cross-sectoral chapters dealing with, among other things, decision-making procedures and financial resources, and thematic chapters dealing with,

²²⁹ Ibid 21(3).

²³⁰ Ibid 21(5).

²³¹ Joseph Tornberg, 'The United Nations Commission on Sustainable Development' (2001) 17 *NYL Sch J Hum Rts* 957, 958.

²³² Ibid; Ved Nanda, 'Sustainable development: international trade and the Doha agenda for development' (2005) 8 *Chap. L. Rev* 53, 60.

²³³ Van Buitenen, 'The United Nations Commission on Sustainable Development: Securing the Outcomes of UNCED' (1994) 7 *LJIL* 89, 90-93.

²³⁴ Ibid.

among other things, forests and hazardous waste management, to consider emerging policy issues and provide the necessary impetus.²³⁵

Similar to other institutions, the United Nations Commission on Sustainable Development has faced numerous criticisms. For example, it is thought that the Commission's reporting mechanism operates on a voluntary basis, and thus relies on the goodwill of individual governments.²³⁶ In addition to this, due to the Commission's lack of financial resources, its pre-session consultations are anticipated to stall over time.²³⁷ Furthermore, as in previous years, it is feared that the inter-agency coordination within the Administrative Committee will prove incapable of coordinating initiatives for sustainable development in the coming years.²³⁸

Despite this, Rio's accomplishments surpass what has been mentioned so far. Although not as strong as the "Earth Charter," the Rio Declaration is one of the most significant milestones in our understanding and discussion of the concept of "sustainable development," which is defined as development that meets current needs without jeopardising the ability of future generations to meet their own needs.²³⁹ Its title connects environmental and development concerns without emphasising the former over the latter, which has been one of the main goals of developing nations.²⁴⁰ The Rio Declaration establishes the rights and responsibilities of states in all matters concerning sustainable development. Its preamble makes explicit reference to the fact that the text is an attempt to balance the needs of developed and developing countries.²⁴¹

²³⁵ Ibid 93.

²³⁶ Ibid 101.

²³⁷ Ibid.

²³⁸ Ibid.

²³⁹ Rio Declaration (n. 66); Luc Hens, *The Rio declaration on environment and development: Regional sustainable development review* (Eolss Publishers, 2005) 2; Klaus Töpfer, *Perspectives on the Future—From a Northern Government: The Way Forward* (Routledge, 2019) 238.

²⁴⁰ Nanda (n. 232) 56.

²⁴¹ Hens (n. 239) 5.

The Secretary-General, Maurice Strong, proposed the title “Earth Charter” as part of his original Conference concept.²⁴² That is, Strong’s original goal was for the Conference to adopt Agenda 21 and a general statement of principles known as the “Earth Charter.”²⁴³ However, despite this strong advocacy for what he called the “Earth Charter,” he was unable to clearly explain what he had in mind for the document’s content, other than say that it was aimed to inspire and appeal to all people everywhere.²⁴⁴ Thus, the G-77 and China rejected the title “Earth Charter” on the grounds that it was unbalanced and implied an excessive emphasis on the environment over development.²⁴⁵

Although the United States did not reject Strong’s proposed title, it stated its preference for “Rio Declaration on Environment and Development.”²⁴⁶ More specifically, the US noted that the UN General Assembly had already adopted a World Charter for Nature in 1982, and thus the name “Charter” would raise unrealistic expectations about the document’s legal content, or would perhaps suggest that the document had replaced an existing framework, primarily the 1972 Stockholm Declaration.²⁴⁷ In a sense, however, the majority of developed nations preferred the title “Earth Charter,” which they felt better reflected their specific agenda for the Rio Conference.²⁴⁸ At the conclusion of negotiations, however, the title “Rio Declaration on Environment and Development” was agreed upon.²⁴⁹

Despite its simplicity, the Preamble is exhaustive. The final section of the Preamble, for instance, was added at the request of the United States to reflect the strongly held views of many non-governmental organisations (NGOs) that the Declaration should reflect both an

²⁴² Jeffrey Kovar, ‘A Short Guide to the Rio Declaration’ (1993) 4 *Colo J Int’l Envtl L & Pol’y* 119, 122.

²⁴³ *Ibid.*

²⁴⁴ *Ibid.*

²⁴⁵ *Ibid.*

²⁴⁶ *Ibid* 123.

²⁴⁷ *Ibid.*

²⁴⁸ *Ibid.*

²⁴⁹ *Ibid.*

ecosystem approach, i.e. the integral and interdependent nature of the Earth, and a foundation in basic human morality.²⁵⁰ Moreover, Rio's second Principle is easily identifiable as Principle 21 of the Stockholm Declaration, and it binds two of the most fundamental concepts in international environmental relations, namely a state's sovereign right to use natural resources in accordance with national policies and the duty not to cause harm outside of that state's borders, into a single Principle.²⁵¹

While Principle 7 advises states to work together in a spirit of global partnership to conserve, protect, and restore the health and integrity of the Earth's ecosystem, Principle 6 identifies developing countries' special needs and situation as being particularly vulnerable to global environmental issues, such as those addressed in this Thesis.²⁵² Furthermore, Principle 11 emphasises the possibility that there may be standards applied by some countries that may be inappropriate and of unwarranted economic and social cost to other countries, particularly developing countries.²⁵³ Therefore, while little is known about most of the steps taken to address these standards, Chapter 3 explores some of the ways in which some of these standards could be addressed to lessen its enormous financial and environmental impact.

Last but not least, while Principle 14 indicates that states should effectively cooperate to discourage or prevent the relocation and transfer to other states of activities or substances that cause severe environmental degradation or are found to be harmful to human health, Principle 15 states that "in order to protect the environment, states shall widely apply the precautionary approach according to their capabilities."²⁵⁴ As a result, where there are threats of serious or

²⁵⁰ Rio Declaration (n. 66); Kovar (n. 242) 124.

²⁵¹ Kovar (n. 242) 125; Stockholm Declaration (n. 172) Principle 21 states that, "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction."

²⁵² Rio Declaration (n. 66) Principles 6 & 7.

²⁵³ Ibid 11.

²⁵⁴ Ibid 14 & 15.

irreversible damage of any kind to the environment, a lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.²⁵⁵ This approach is known as the “precautionary approach,” and it is derived from the German word “*Vorsorgeprinzip*,” which literally means “fore-caring,” or to say that when an activity raises threats of harm to the environment or human health, a “precautionary measure” should be taken to address the problem even if some ‘cause and effect’ relationships are not fully established.²⁵⁶

Moreover, the adoption of the United Nations Framework Convention on Climate Change (UNFCCC) was another significant achievement of the Earth Summit. It constitutes the foundational climate agreement that has provided the platform for most subsequent international climate agreements.²⁵⁷ The UNFCCC, along with the Convention on Biological Diversity and the United Nations Convention to Combat Desertification, was opened for signatures during the Rio Summit in 1992. When these frameworks were combined, they ushered in an era of global environmental governance that has grown in scope and intensity to the point where climate change is now considered a problem on par with, if not ahead of, global issues, such as the pandemic.²⁵⁸ Its purpose was for the Convention and any related instruments adopted by the Parties to achieve, in accordance with the Convention’s relevant provisions, a stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.²⁵⁹

Despite the fact that the above goal has frequently been regarded as ambiguous, the United Nations Framework Convention on Climate Change has maintained its prominence in

²⁵⁵ Ibid.

²⁵⁶ Kovar (n. 242) 134; Joyce S. Dell, *The Precautionary Principle* (Creators Syndicate Inc, 2009) 1.

²⁵⁷ UNFCCC (n. 183); Katrina F. Kuh, ‘The Law of Climate Change Mitigation: An Overview’ (2018) 2 *Encyclopedia of the Anthropocene* 505, 506-507.

²⁵⁸ Jonathan Kuyper, Heike Schroeder, and Björn-Ola Linnér, ‘The Evolution of the UNFCCC’ (2018) 43(1) *Annual Review of Environment and Resources* 343, 345.

²⁵⁹ UNFCCC (n. 183), art 2.

international law through its decision-making body, the Conference of the Parties (COP), which was established under Article 7 to review the implementation of the Convention and any legal instruments that the Parties may adopt, as well as to make decisions necessary to promote the effective implementation of the Convention.²⁶⁰ Thus, unless otherwise decided, the Parties meet annually to examine their obligations and all institutional arrangements of the Convention, facilitate the exchange of information on measures adopted by the Parties to address climate change, and review annual reports on implementation of the Convention and ensure their publication.²⁶¹

Negotiations under the UNFCCC were supposed to evolve over time in response to factors, such as political shifts or the emergence of new scientific evidence.²⁶² In other words, the UNFCCC took an approach that allowed it to first establish the institutional framework and then settle on commitments to address emerging issues through subsequent protocols.²⁶³ This followed the success of the ozone regime, which began with the Vienna Convention for the Protection of the Ozone Layer in 1985 and was later followed by the Montreal Protocol in 1987.²⁶⁴ Even though the UNFCCC had no legally binding emission reduction commitments, the current state of the environment does not indicate that the UNFCCC has had no effect at all.²⁶⁵ The Convention acknowledges that all countries are susceptible to the effects of climate change and, as a result, calls for special measures to mitigate the effects, particularly in developing countries that lack the capacity to do so on their own.

1.7 The Adoption of the Kyoto Protocol to the UNFCCC

²⁶⁰ Kuyper (n. 258) 346; UNFCCC (n. 183), art 7(1 & 2).

²⁶¹ Kuyper Ibid 345.

²⁶² Ibid.

²⁶³ Ibid.

²⁶⁴ Ibid.

²⁶⁵ Anatole Boute, 'The Rio Declaration on Environment and Development: A Commentary' (2016) 75 Cambridge LJ 166, 167.

In adopting the Berlin Mandate at the first Conference of the Parties (COP 1), the international community acknowledged the need for greater commitments to address global climate change.²⁶⁶ Therefore, the Berlin Mandate Ad Hoc Group was established to initiate talks for the new instrument, which was to be adopted at the third session of the Conference of the Parties (COP 3).²⁶⁷ Nonetheless, the resulting framework, the Kyoto Protocol to the United Nations Framework Convention on Climate Change, while considered a “reasonable first step,” fell short of meeting the Berlin Mandate and the Framework Convention on Climate Change’s ambitions.²⁶⁸ As the name suggests, the Kyoto Protocol is an addendum to an existing treaty, the United Nations Framework Convention on Climate Change (UNFCCC). It quantifies what the Global Climate Treaty, the UN Framework Convention on Climate Change, only suggests.²⁶⁹ However, it is frequently argued that the two paradigms are incompatible.²⁷⁰

By the third session of the Conference of the Parties (COP 3), which began on December 1, 1997, there were still significant disagreements among states regarding the architecture of the proposed Protocol.²⁷¹ That is, while an instrument was created, much of it was left for future meetings to consider. While Annex B lists the emission reduction obligations for developed countries and other transitioning economies, under Annex I parties have the primary obligation under the Protocol to:

“[...] individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of this Article, with

²⁶⁶ Benjamin Richardson, ‘Kyoto Protocol to the United Nations Framework Convention on Climate Change’ (1998) 2 NZ J Env’tl L 249, 251.

²⁶⁷ Ibid.

²⁶⁸ Kyoto Protocol to the United Nations Framework Convention on Climate Change 1997; Rosen (n. 109) 31; Richardson (n. 266) 252.

²⁶⁹ Fred Singer, ‘A 2004 View of the Kyoto Protocol’ (2004) 15(3) Energy & Environment 505, 506-508.

²⁷⁰ Ibid.

²⁷¹ Richardson (n. 266) 252-253.

a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012.”²⁷²

Consequently, the Protocol was organised as follows: while Article 1 contains definitions, Articles 2, 3, 5, and 7 outline the obligations of Annex I Parties.²⁷³ In addition, Article 10 refers to all parties’ commitments under the Framework Convention on Climate Change (FCCC). Article 11 primarily repeats FCCC Articles 4(3) and 11, which deal with financial assistance to developing country parties.²⁷⁴ Also, Articles 9, 13, 14, 15 and 16 deal with the institutional roles of the decision-making body of the Convention, the Conference of the Parties, its Secretariat and all subsidiary bodies with respect to the Protocol.²⁷⁵ Moreover, while Articles 4, 6, 12 and 17 allow the use of various economic instruments to reduce greenhouse gas emissions, Articles 18 and 19 are concerned with compliance and dispute resolution procedures.²⁷⁶ Finally, Articles 20-28 outline standard treaty-based provisions such as amendment, voting, reservations, and withdrawal.

The Kyoto Protocol has been criticised for a variety of reasons, including its inability to provide a framework for achieving long-term global emission-reduction goals due to the lack of substantive obligations for developing country Parties, as well as the issue of differentiated commitments for developed countries.²⁷⁷ However, the Protocol is particularly significant in

²⁷² Kyoto Protocol (n. 268), art 3(1). Countries undergoing the process of transition to a market economy include, Australia, Austria, Belgium, Bulgaria, Canada, Croatia, the Czech Republic, Denmark, Estonia, the European Community, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Monaco, the Netherlands, New Zealand, Norway, Poland, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, the United Kingdom and the United States.

²⁷³ Richardson (n. 266) 252.

²⁷⁴ Ibid.

²⁷⁵ Ibid.

²⁷⁶ Ibid.

²⁷⁷ Ibid 253-54. With the Intergovernmental Panel on Climate Change (IPCC) now claiming that some climate change is unavoidable and irreversible (IPCC 2014), it is clear that the Kyoto Protocol has failed in its primary mission: reducing the amount of GHGs entering the atmosphere. That is, from both a policy and a scholarly perspective, the design of the Kyoto Protocol not only rendered it “the wrong solution at the right time,” but also rendered it inadequate in its scope, with high opportunity costs that derailed global efforts to achieve stable atmospheric concentrations of greenhouse gases (GHGs).

that it addresses all other greenhouse gases not covered by the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer. Nonetheless, while it introduces a number of mechanisms, such as the “clean development mechanism” (CDM) under Article 12, as well as considerable flexibility in the ways to achieve the emission reduction objectives under Article 3, it allows for the trading of unused permits to other States, a thing which will make it difficult for global emissions to be reduced to the levels being sought.²⁷⁸

Hence, the “emission trading” concept remains one of Kyoto’s major defects.²⁷⁹ It is not surprising that the total emissions of all members have increased since the Protocol’s inception.²⁸⁰ Technically, the Kyoto Protocol has failed despite significant improvements to the Convention’s mechanisms, such as its reporting mechanism, review processes, and procedures for handling instances of non-compliance.²⁸¹ While many environmental organisations have argued for a much better design, the final text of the Protocol falls far short of the expectations.²⁸² Although international treaties typically agree on a set of goals and the means to achieve those goals in order to be successful, the Protocol lacks both.²⁸³ Thus, the Protocol gives the impression to the majority of people that governments are taking meaningful steps to reduce global greenhouse gas (GHG) emissions, when actually they are not.²⁸⁴

1.8 The World Summit on Sustainable Development

The World Summit on Sustainable Development (WSSD) took place ten years after the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992.²⁸⁵

²⁷⁸ Singer (n. 269) 509; Kyoto Protocol (n. 268), art 3(1); art 6(1) & art 12(1).

²⁷⁹ Singer *Ibid.*

²⁸⁰ Gwyn Prins and Steve Rayner, ‘The Kyoto Protocol’ (2008) 64(1) *Bulletin of the Atomic Scientists* 45, 46.

²⁸¹ *Ibid.*

²⁸² Richardson (n. 266) 258.

²⁸³ Prins (n. 280).

²⁸⁴ *Ibid.*

²⁸⁵ Paul Wapner, ‘World Summit on Sustainable Development: toward a post-Jo’burg environmentalism’ (2003) 3(1) *Global Environmental Politics* 1, 2-4.

The main purpose was to execute what was decided ten years ago in Rio, namely the Rio Declaration, the Framework Convention on Climate Change, the forty-chapter Agenda 21, the Convention on Biological Diversity, as well as the non-binding Statement on Forest Principles.²⁸⁶ While these documents are far from exhaustive, they do constitute a collection of environmental accords that highlight some of the many attempts made to address global environmental issues as well as the need for growth, especially among developing countries.²⁸⁷

Throughout the summit planning process, it became clear that the international community had done little, if anything, to translate these documents into concrete actions.²⁸⁸ As a result, the Summit was expected to change this by re-energising the global community and establishing real steps toward putting Rio's pledges into action.²⁸⁹ The Summit, on the other hand, suffered not only from its enormity and cacophony of voices, but also from the tiredness that comes from attending multiple sessions of a single gathering. There were approximately 100 heads of state in attendance, as well as around 25,000 governmental, business, and activist organisations.²⁹⁰

However, despite the fact that many individuals could understand why the conference was being held, they were uncertain of its intended outcomes. Given that the purpose of the Summit was to implement what the world had thus far failed to do, it came as no surprise that it fell short of the expectations.²⁹¹ For many, the Summit appeared to be a relic from a bygone era, rather than an opportunity to establish a healthy, yet environmentally sustainable, existence for all people.²⁹² Despite these challenges, the World Summit on Sustainable Development went

²⁸⁶ Ibid 2.

²⁸⁷ Marion Wilson, 'The New Frontier in Sustainable Development: World Summit on Sustainable Development Type II Partnerships' (2005) 36 Victoria U Wellington L Rev 389, 390.

²⁸⁸ Wapner (n. 285) 2.

²⁸⁹ Ibid.

²⁹⁰ Ibid.

²⁹¹ Ibid 3.

²⁹² Ibid.

on to create some notable outcomes, including the Johannesburg Declaration on Sustainable Development and the Plan of Implementation. The Declaration on Sustainable Development outlines a number of commitments, including the promotion of women's empowerment and expanded democratic engagement in sustainable development programmes, as well as a number of other important issues.²⁹³

The Plan of Implementation, on the other hand, is a lengthy document that lists a variety of broad objectives, such as safeguarding the earth's natural resource base, eliminating poverty, and altering consumption and production patterns. It also lays forth specific pledges in key areas, such as water, health, agriculture, energy, and biological diversity.²⁹⁴ In spite of this, one of the major shortcomings of the Earth Summit was that states gave few indications of how they intended to achieve the specified objectives. Consequently, they were reduced to mere promises. As a framework for achieving these goals, the World Summit on Sustainable Development is considered to have been successful in that it led to the formation of nearly 300 partnerships among governments, industry, and non-governmental organisations (NGOs).²⁹⁵ These collaborations aim to turn the overarching principles of Rio's historic conference into concrete actions, not just promises. According to Kofi Annan, the former UN Secretary-General, these collaborations are so crucial that the ability of the international community to carry them out will be a significant indicator of the success of the World Summit on Sustainable Development (WSSD).²⁹⁶

Surprisingly, despite the widespread transmission of environmental values, impressive texts, and new organisations since the Rio Conference on Environment and Development,

²⁹³ Ibid.

²⁹⁴ Ibid.

²⁹⁵ Jacob Scherr and Juge Gregg, 'Johannesburg and Beyond: The 2002 World Summit on Sustainable Development and the Rise of Partnership' (2006) 18 *Geo Int'l Env'tl L Rev* 425, 430.

²⁹⁶ Wapner (n. 285) 3.

widespread environmental contamination has continued largely unabated.²⁹⁷ As a result, the overwhelming majority of academics believe that, while ‘environmentalism’ is doing well, the environment is not.²⁹⁸ Thus, critics typically argue that, although the institutional structures addressing environmental issues may appear impressive, they have failed to address the severity and complexity of environmental issues.²⁹⁹ Consequently, worldwide carbon emissions have increased significantly since the Earth summit in 1992.³⁰⁰ In spite of this, the World Summit on Sustainable Development was not a total failure, but it did result in a number of significant shifts as to how the world views and addresses environmental issues.³⁰¹

1.9 The Adoption of the Paris Agreement

The Paris Agreement, which was agreed during the 2015 United Nations Climate Change Conference in Le Bourget, Paris, is the world’s first-ever legally binding climate agreement.³⁰² The Agreement represents the climax of the third phase of the United Nations’ climate change regime.³⁰³ The first phase, which lasted from 1990 to 1995, was devoted to the negotiation, adoption, and implementation of the United Nations Framework Convention on Climate Change.³⁰⁴ The second phase lasted from 1995 to 2004, which is, from the start of the Kyoto Protocol negotiations through to its implementation.³⁰⁵ The current phase, which saw the passage of the Paris Agreement, was primarily focused on building a framework that limits the greenhouse gas (GHG) emissions of all countries, as opposed to the Kyoto Protocol.³⁰⁶

²⁹⁷ Ibid 7.

²⁹⁸ Ibid 6.

²⁹⁹ Ibid.

³⁰⁰ Ibid 7.

³⁰¹ Ibid 1.

³⁰² Peter Christoff, ‘The promissory note: COP 21 and the Paris Climate Agreement’ (2016) 25(5) Environmental Politics 765; European Commission, ‘Paris Agreement’ <https://ec.europa.eu/clima/eu-action/international-action-climate-change/climate-negotiations/paris-agreement_en> accessed 30 March 2024.

³⁰³ Daniel Bodansky, ‘The Paris Climate Change Agreement: A New Hope’ (2016) 110 Am J Int’l L 288, 291.

³⁰⁴ Ibid.

³⁰⁵ Ibid.

³⁰⁶ Ibid.

The negotiations that led to the adoption of the Paris Climate Agreement began in 2005, when all attention was focused on what would happen after 2012, when the Kyoto Protocol's first commitment period was set to end, but, while developing countries wanted to keep it going, developed countries became more hesitant.³⁰⁷ The two parties later decided to hold conversations in two tracks: one to examine amending the Kyoto Protocol, and the other to support the long-term cooperative action under the UNFCCC.³⁰⁸ Parties to the first track, i.e., amendments to the Kyoto Protocol, kicked off the first track in 2005 at their first meeting, while parties to the UNFCCC's "long-term cooperative action" kicked off the second track in the Bali Action Plan two years later.³⁰⁹ Notwithstanding this, the two tracks were supposed to end at the Copenhagen Conference in 2009.

Although leaders from all over the world, including all of the world's major economies, agreed to the Copenhagen Accord on the final night of the conference, critics believe the outcome was merely a political document rather than a legal one, and, in any case, it did not receive the acceptance from the conference as a whole.³¹⁰ Despite these difficulties, the Copenhagen Accord guided the way forward, even to the passage of the Paris Agreement, by reducing the strong divide between developed and developing country participants, as opposed to the Kyoto Protocol.³¹¹ Subsequently, the Cancun Agreements of 2010 incorporated key components of the Copenhagen Accord into the UNFCCC process, such as state obligations to limit dangerous greenhouse gas emissions.³¹²

However, both the Copenhagen and Cancun agreements only addressed environmental concerns until 2020, leaving the question of what to do after this period unanswered. As a

³⁰⁷ Christoff (n. 302) 766; Bodansky (n. 303).

³⁰⁸ Bodansky Ibid 292.

³⁰⁹ Ibid.

³¹⁰ Ibid.

³¹¹ Ibid.

³¹² Ibid.

result, this became the focus of the 2011 Durban Conference, as well as subsequent negotiations in Warsaw and Lima, culminating in the December 2015 Paris Climate Conference.³¹³ Practically, negotiations for the Paris Climate Conference began in 2011 with the adoption of the Durban Platform for Enhanced Action.³¹⁴ This Platform established the Ad Hoc Working Group whose output first articulated the hybrid structure of the Paris Agreement and called on states to submit their intended nationally determined contributions (INDCs) well in advance of the Paris conference.³¹⁵

The co-chairs of the Ad Hoc Working Group for the Durban Platform tabled a preliminary draft Agreement in October 2015 in Bonn, i.e., at the last meeting before Paris, which was deemed to lack sufficient differentiation between developed and developing-countries' obligations under the principle of "common but differentiated responsibilities and respective capabilities" (CBDR-RC).³¹⁶ Nevertheless, the text was criticised by developing countries, who found it insufficient and unsuitable for the intended purpose.³¹⁷ Consequently, developing country states submitted a series of requests to amend the initial text, setting the stage for two weeks of intense diplomacy in Paris.³¹⁸

The Paris Agreement seeks to improve the implementation of the UNFCCC by limiting global average temperature increases to "well below" 2°C above pre-industrial levels and pursuing efforts to limit temperature increases to 1.5°C.³¹⁹ It intends to carry out the UNFCCC's Article 4 commitments in conformity with the principles expressed under Article 3.³²⁰ Furthermore,

³¹³ Marie-Claire C. Segger, 'Advancing the Paris Agreement on Climate Change for Sustainable Development' (2016) 5 Cambridge J Int'l & Comp L 202, 205.

³¹⁴ Christoff (n. 302) 772.

³¹⁵ Bodansky (n. 303) 293.

³¹⁶ Christoff (n. 302) 773.

³¹⁷ Ibid.

³¹⁸ Ibid.

³¹⁹ Segger (n. 313) 207; Paris Agreement 2015, art 2(1)(a).

³²⁰ UNFCCC (n. 183), art 4; The principles set out in Article 3 (UNFCCC), include intergenerational and intra-generational equity, precaution, common but differentiated responsibility, non-discrimination, as well as the right to sustainable development.

Article 2 of the Paris Agreement stipulates that the agreement will be implemented in a way that is consistent with equality and the concept of “common but differentiated responsibilities and respective capabilities,” taking into account the different national circumstances, in particular for developing country states, which will be critically assessed at the end of this Thesis.³²¹

Unlike other frameworks, the legal obligations of developing countries under the Paris Agreement are flexible with a view to reflect their historical, economic, and social conditions fairly in comparison to developed countries.³²² To meet the goal of the Paris Agreement, Article 3 emphasises that all Parties will make ambitious efforts (as outlined in Articles 4, 7, 9, 10, 11, and 13) through their progress reports and nationally determined contributions (NDCs).³²³ The Paris Agreement aims to achieve climate mitigation, adaptation, and finance through a variety of cooperative frameworks and procedures, each of which establishes distinct legal rights and obligations for the Parties.³²⁴

As previously mentioned, the “bottom-up” strategy of the Paris Agreement is one of its most fundamental characteristics. Paragraph 2(b) of Decision 1/CP.19 urges all Parties to submit their nationally determined contributions (NDCs) to the UNFCCC Secretariat, primarily for the purpose of monitoring and assessing each nation’s efforts to reduce global greenhouse gas emissions.³²⁵ Rather than setting out specific mitigation or adaptation targets for each Party, the Paris Agreement commits Parties to nationally determine and transparently disclose their own objectives, in order to update the international community on the joint progress made thus far.³²⁶ In addition, under Article 4, the Parties intend to achieve a global peaking of greenhouse

³²¹ Segger (n. 313) 208.

³²² Ibid.

³²³ Ibid; Paris Agreement (n. 319), art 3.

³²⁴ Paris Agreement Ibid.

³²⁵ Segger (n. 313) 209; Decision 1/CP.19 Warsaw international mechanism for loss and damage associated with climate change impacts 2013, para 2(b).

³²⁶ Segger Ibid.

gas emissions without further delay, even if developing country Parties take longer.³²⁷ In other words, while developing countries should continue to improve mitigation efforts and work toward economy-wide emission reduction objectives, industrialised countries should take the lead by setting absolute emission reduction targets for the entire world.³²⁸

In addition, developed countries have an obligation, as stated in Article 9, to offer financial assistance to developing countries in order to help with their mitigation and adaptation plans.³²⁹ The Paris Agreement, being a pivotal instrument in the UN climate change regime, arguably possesses the majority, if not all, of the desirable characteristics of an effective sustainable development accord.³³⁰ In addition, the Paris Agreement and all of its Adoption Decisions, including UNGA Res 70/1 on global Sustainable Development Goals (SDGs), recognise that climate change is a global concern and that states must respect, promote, and take into account their human rights obligations, including the right to development, gender equality, children and other vulnerable groups, and indigenous peoples.³³¹ Additionally, all Parties are required to submit periodic notifications on a national inventory report of GHG emissions, either by source or by sink, compiled using IPCC-approved good practise methods.³³² Given the available scientific evidence, it is believed that achieving sustainable development will be extremely challenging if we fail to address the most severe potential outcomes of climate change now.³³³

Consequently, commitment to the Paris Agreement will be important to achieving this objective.³³⁴ Hence, the Paris Climate Conference has not only secured a legally binding

³²⁷ Ibid 209; Paris Agreement (n. 319), art 4.

³²⁸ Segger Ibid 210.

³²⁹ Ibid 219; Paris Agreement (n. 319), art 9(1).

³³⁰ Segger Ibid 209-210; Bodansky (n. 303); Christoff (n. 302) 766.

³³¹ The 2030 Agenda for Sustainable Development (United Nations Sustainable Development Goals, Goal 13).

³³² Paris Agreement (n. 319), art 13(7)(a).

³³³ Segger (n. 313) 235; Matt McGrath, 'Climate change: IPCC scientists say it's 'now or never' to limit warming' <<https://www.bbc.co.uk/news/science-environment-60984663>> accessed 30 March 2024.

³³⁴ Segger Ibid.

Agreement that is widely supported by the international community, but it has also provided an inclusive replacement for the Kyoto Protocol, which has been disregarded by many major economies, including the United States.³³⁵ While the Agreement is a significant improvement over the previous arrangements, many argue that it, same as all previous agreements, falls short of addressing the climate change issue.³³⁶ Albeit, the following sections explore some of the most notable achievements of the UN climate change regime, as well as any factors that may have hampered global efforts to address the climate change issue.

1.10 Compelled by the Courts to Act on Climate Change: The Post-Paris Effect

Although climate litigation is believed to have originated in the United States in the late 1980s, the adoption of the Paris Agreement has prompted more substantial efforts to reduce greenhouse gas emissions in the last few years.³³⁷ This encompasses, among other notable cases, *Urgenda Foundation v. State of the Netherlands*, *Milieudefensie et al v. Royal Dutch Shell plc*, *Neubauer et al. v Germany*, and *Sharma v. Minister for the Environment*.³³⁸ As of May 31, 2021, 1,841 climate litigation cases had been documented globally.³³⁹ Out of this, the United States alone recorded 1,387, with the remaining 454 filed in 39 other countries, including 13 international or regional courts and tribunals.³⁴⁰ Outside of the United States, Australia (115), the United Kingdom (73), and the EU (58) continue to have the greatest number of cases.³⁴¹ Compared to the 834 complaints filed between 1986 and 2014, the Paris

³³⁵ Christoff (n. 302) 781; Bodansky (n. 303) 316.

³³⁶ Bodansky Ibid.

³³⁷ Joana Setzer and Catherine Higham, 'Global trends in climate change litigation: 2021 snapshot' (2021) 8.

³³⁸ *Urgenda Foundation v. State of the Netherlands* [2015] HAZA C/09/00456689; *Milieudefensie et al. v. Royal Dutch Shell plc* [2021] C/09/571932 / HA ZA 19-379; *Neubauer et al. v Germany* [2021] BvR 2656/18/1, BvR 78/20/1, BvR 96/20/1, BvR 288/20; *Sharma and others v. Minister for the Environment* [2021] FCA 560.

³³⁹ Setzer (n. 337) 10.

³⁴⁰ Ibid.

³⁴¹ Ibid.

Agreement has resulted in the documentation of 1,006 cases worldwide.³⁴² Between the period of May 1, 2020, to May 31, 2021, 191 cases were filed.³⁴³

While the vast majority of cases documented so far are cases from the Global North, climate litigation in the Global South continued to expand in the period between May 2020 and May 2021.³⁴⁴ While 58 cases were reported in 18 Global South jurisdictions, with at least 11 filed in 2020 alone, up to 32 complaints were lodged in Latin America and the Caribbean, and 18 documented in Asia.³⁴⁵ Moreover, for the first time, cases were filed in Guyana and Taiwan, as well as the East African Court of Justice and the European Court of Human Rights.³⁴⁶ Many of these decisions, such as *Neubauer et al. v. Germany*, may have significant implications for the future of climate litigations.³⁴⁷ While the number of cases filed by NGOs and individuals has increased, climate litigation has been filed by a diverse range of individuals and organisations around the world, including a mix of both (4%).³⁴⁸

While the term “climate litigation” is used to refer to a diverse range of cases, climate change litigation cases may generally be categorised into two primary groups: strategic and non-strategic cases.³⁴⁹ The first category includes cases in which the claimants’ motivations for bringing the action extend beyond the individual litigant’s concerns and thus attempt to accomplish a broader social transformation.³⁵⁰ While categorising cases as ‘strategic’ or ‘non-strategic’ necessitates a subjective assessment, which is frequently based on erroneous or incomplete information about the parties’ objectives, it does not imply that one is superior or

³⁴² Ibid.

³⁴³ Ibid.

³⁴⁴ Ibid.

³⁴⁵ Ibid.

³⁴⁶ Ibid.

³⁴⁷ Setzer (n. 337) 11.

³⁴⁸ Ibid.

³⁴⁹ Whilst ‘non-strategic’ cases are cases brought to achieve a relief that is applicable to an isolated environmental situation, they can be as important as cases that seek the realisation of broader changes in society, i.e. ‘strategic’ litigation cases.

³⁵⁰ Setzer (n. 337) 12.

more relevant than the other.³⁵¹ Despite these challenges, a review of non-US cases filed up to 31 May 2021 shows that, while this does not suggest a drop in ‘non-strategic’ cases, the number of ‘strategic’ cases is fast increasing.³⁵² This shows that, in contrast to past years, climate change litigation is becoming an increasingly popular weapon for both climate change activism and governance.³⁵³

As a result, in line with the growing number of cases documented so far, the number of cases in which climate change is a “central issue” is increasing over time.³⁵⁴ One recent example is the case of *Greenpeace Netherlands v. State of the Netherlands*,³⁵⁵ in which Greenpeace challenged the Dutch Government’s bailout package for airline KLM, specifically on the grounds that the Government had breached its duty of care to prevent dangerous climate change by failing to attach the needed binding conditions to the bailout. Even though the complaint was dismissed by the Hague District Court on the grounds that the Paris Agreement and other international climate treaties do not require parties to reduce emissions from cross-border aviation, the plaintiffs relied on the European Convention on Human Rights and the Paris Agreement as establishing that duty of care.³⁵⁶

Similarly, in *O’Donnell v. Commonwealth*,³⁵⁷ the claimant sued the Australian Government, Treasury, and the CEO of the Office of Financial Management for failing to disclose climate risks in its sovereign bond sale. The plaintiff argued that the adequacy of the government’s response to climate change will have a significant impact on Australia’s economy and

³⁵¹ Ibid.

³⁵² Ibid 13.

³⁵³ Ibid.

³⁵⁴ For the purposes of this discussion, the centrality of climate change is determined by assessing the extent to which these cases raise specific issues of climate fact or law relating to climate science or mitigation and adaptation efforts. Thus, cases in which there is an explicit reference to climate change will be key aspect of this judgement.

³⁵⁵ *Greenpeace Netherlands v. State of the Netherlands* [2020] C/09/600364 / KG ZA 20-933.

³⁵⁶ Climate Change Laws of the World, ‘Greenpeace Netherlands v. State of the Netherlands’ <https://climate-laws.org/geographies/netherlands/litigation_cases/greenpeace-netherlands-v-state-of-the-netherlands> accessed 30 March 2024.

³⁵⁷ *O’Donnell v. Commonwealth* [2021] FCA 1223.

international reputation, because climate change poses a significant risk to investors in Australian government bonds, a risk that should be disclosed publicly, and thus the government has misled investors by failing to do so.³⁵⁸ In its decision issued on October 8, 2021, the Court ruled that the applicant’s claims for breach of the duty of care against Commonwealth officials were “inadmissible.” However, the Court denied the Government’s request to dissolve the class action so that the claim of misleading or deceptive conduct could proceed.³⁵⁹

Additionally, in spite of the fact that the Federal Court in *Minister for the Environment v. Sharma*,³⁶⁰ overturned a teenagers’ landmark climate ruling,³⁶¹ in which the plaintiffs argued that the Federal Minister has a duty of care to protect children from the harm caused by climate change when approving new fossil fuel projects, the Court noted that “the threat of climate change and global warming was, and is not in dispute between the parties in this litigation,”³⁶² citing the Paris Agreement and other international treaties in support of its position that climate change poses an undeniable threat to both present and future generations of the world. In other words, although the Federal Court overturned the primary judge’s decision to impose a duty of care on the Federal Minister, it categorically rejected the Minister’s argument that the primary judge made unfounded findings based on evidence of climate change.

Most notably, in *Urgenda Foundation v. State of the Netherlands*,³⁶³ the Dutch environmental group, namely the Urgenda Foundation, and 900 Dutch citizens sued the Dutch government for not doing enough to prevent climate change and for failing to take the required action to mitigate its catastrophic effects.³⁶⁴ Consequently, the Hague District Court ordered the Dutch

³⁵⁸ Ibid, para 79.

³⁵⁹ Ibid, para 155.

³⁶⁰ *Minister for the Environment v Sharma* [2022] FCAFC 35.

³⁶¹ *Sharma and others v. Minister for the Environment* [2021] FCA 560.

³⁶² *Minister for the Environment* (n. 360) para 1.

³⁶³ *Urgenda Foundation* (n. 338).

³⁶⁴ Otto spijkers, ‘Friends of the Earth Netherlands (Milieudefensie) v Royal Dutch Shell: Notes on Recent Developments’ (2021) 5 Chinese Journal of Environmental Law 237, 249.

State to limit greenhouse gas emissions to 25% below 1990 levels by the year 2020, noting that the government's existing pledge to reduce emissions by 17% was insufficient to meet the State's fair contribution toward the United Nations' goal of keeping global temperature increases to "well below" 2°C above pre-industrial levels, and pursuing efforts to limit increases to 1.5°C in accordance with the Paris Agreement.³⁶⁵

This is the first case of its kind (Urgenda-style or systemic mitigation proceedings) in which a court has directed a state to reduce greenhouse gas emissions for reasons other than statutory requirements.³⁶⁶ In response, the Dutch government appealed, arguing that Urgenda cannot legitimately apply Articles 2 and 8 of the European Convention on Human Rights (ECHR) on efforts to safeguard human life and the environment, as recalled by the Paris Agreement.³⁶⁷ Nonetheless, on October 9, 2018, the Court affirmed the District Court's decision and ruled that the Dutch government is acting unlawfully and in breach of its duty of care under Articles 2 and 8 of the European Convention on Human Rights, mainly by failing to reduce greenhouse gas emissions by at least 25% by the end of 2020.³⁶⁸ Consequently, the Dutch government filed a second appeal to the Netherlands' Supreme Court, but, same as in the other two instances, the Supreme Court on December 20, 2019, ruled in favour of Urgenda by citing (without directly applying), *inter alia*, Art. 21 of the Dutch Constitution, the "no harm" principle of

³⁶⁵ *Urgenda Foundation* (n. 338), para 3.9; Paris Agreement (n. 319), art 2(1)(a).

³⁶⁶ Climatecasechart, 'Urgenda Foundation v. State of the Netherlands' <<http://climatecasechart.com/climate-change-litigation/non-us-case/urgenda-foundation-v-kingdom-of-the-netherlands/>> accessed 30 March 2024; These cases are known as "systemic" because they focus on a state's overall mitigation efforts, as opposed to a specific project or initiative with ramifications for GHG emissions.

³⁶⁷ European Convention on Human Rights (ECHR) 1950, arts 2 & 8; The Paris Agreement recalls that Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights: the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity.

³⁶⁸ ECHR *Ibid*, arts 2 & 8; *Urgenda* (n. 338), para 73.

international law, the precautionary principle, as well as the sustainability principle embodied in the United Nations Framework Convention on Climate Change.³⁶⁹

The no-harm principle is a widely recognised principle of customary international law whereby states are obligated to reduce, prevent, and manage the risk of environmental harm to other nations.³⁷⁰ Albeit the legal precedent typically mentioned in conjunction with this principle involves a Canadian smelter whose sulphur dioxide emissions caused damages across the Canadian borders into the United States.³⁷¹ Consequently, the Arbitral Tribunal in *United States v. Canada*,³⁷² determined that Canada must compensate the United States for the environmental damage caused by the smelter, notably in the Columbia River basin.

Thus, it observed that the above decision, when viewed in its entirety, provides sufficient support for its conclusions, namely that, under the principles of international law and the law of the United States, no state has the right to use or permit the use of its territory in such a way as to cause injury by fumes in or to the territory of another or the properties or persons therein, particularly if the case is of serious consequence and the injury is established by clear and convincing evidence.³⁷³ This principle has been largely integrated into many international treaties, as well as policy statements, such as Principle 21 of the Stockholm Declaration, Principle 2 of the Rio Declaration on Environment and Development 1992, as well as Art. 3 of the Convention on Biological Diversity 1992.³⁷⁴

³⁶⁹ *Urgenda* Supreme Court (n. 338), para 9; Article 21 of the Constitution of the Kingdom of the Netherlands, 2002, states that “It shall be the concern of the authorities to keep the country habitable and to protect and improve the environment.”

³⁷⁰ Legal Response Initiative, ‘No-harm rule and climate change’ <<https://legalresponse.org/legaladvice/no-harm-rule-and-climate-change/>> accessed 30 March 2024.

³⁷¹ *United States v. Canada* [1938] 3 R.I.A.A. 1905.

³⁷² *Ibid.*

³⁷³ *Ibid.*

³⁷⁴ Principle 21 of the Stockholm Declaration 1972 states that, “States have, [...] the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.”

Similar to the no-harm principle, the Precautionary Principle is derived from the German word “*Vorsorgeprinzip*,” which literally means “fore-caring,” but, in legal terms, it denotes a willingness to act before full scientific proof or hard evidence is available, usually on the grounds that further delay would be too costly to society, nature, or future generations.³⁷⁵ The Principle is based on the idea that waiting for complete scientific knowledge before acting may be too late, and the damage may be irreversible.³⁷⁶ As a result, when an activity poses a risk of harm to human health or the environment, ‘precautionary measures’ must be adopted, even if some cause-and-effect relationships are not scientifically established.³⁷⁷ This principle has become one of the most essential principles of sustainable development.³⁷⁸ For instance, according to Principle 15 of the 1992 Rio Declaration on Environment and Development, where there are concerns of severe or permanent damage to the environment, a lack of complete scientific knowledge will not be used as a cause to delay measures to avert environmental degradation.³⁷⁹

Even though the principle has been heavily criticised by scholars, such as Geistfeld and MacLeod,³⁸⁰ the courts have taken enormous steps to recognise this Principle as a crucial component of the concept of sustainable development and have also made significant efforts to promote the Principle internationally.³⁸¹ For instance, in *Vellore Citizens Welfare Forum v. Union of India*,³⁸² the Supreme Court of India granted a preventive injunction by explaining the relationship between the environment and development, thus introducing the concept of

³⁷⁵ Dell (n. 256) 1-2.

³⁷⁶ Ibid.

³⁷⁷ Joshua MacLeod, ‘Unifying the Precautionary Principle’ (2004) 34 *Envtl L Rep News & Analysis* 10891, 10892.

³⁷⁸ Hemant More, ‘Precautionary Principle’ (The fact factor, June 18, 2019) <https://thefactfactor.com/facts/law/civil_law/environmental_laws/precautionaryprinciple/1498/#google_vignette> accessed 30 March 2024.

³⁷⁹ Rio Declaration 1992, Principle 15.

³⁸⁰ Mark Geistfeld, ‘Implementing the Precautionary Principle’ (2001) 31 *Envtl L Rep News & Analysis* 11326, 11333; MacLeod (n. 377).

³⁸¹ Aruna Venkat, ‘Precautionary principle as an effective judicial tool in the prevention and control of water pollution in India’ (2005) 2(1) *NALSAR Law Review* 161, 164.

³⁸² *Vellore Citizens Welfare Forum v. Union of India* [1996] 5 SCC 647.

“sustainable development” and its defining characteristic, the “Precautionary Principle,” into Indian environmental law. Most importantly, in *AP Pollution Control Board v. MV Nayudu*,³⁸³ the Supreme Court had the chance to explain the Precautionary Principle in more detail than it did in *Vellore Citizens Welfare Forum*.³⁸⁴ This demonstrates the significance of the precautionary principle as a legal weapon for environmental protection.

While states have the major responsibility under international law for safeguarding the environment, they are not solely to blame for the current environmental crisis.³⁸⁵ In *Milieudefensie et al. v. Royal Dutch Shell plc*,³⁸⁶ Friends of the Earth Netherlands and co-plaintiffs (hereinafter jointly referred to as Milieudefensie et al.) filed a lawsuit against Royal Dutch Shell plc, alleging that Shell’s contribution to climate change violates its duty of care under Dutch law and its human rights obligations as a corporation.³⁸⁷ Consequently, the plaintiffs requested a ruling from the Court, stating that Shell must reduce CO2 emissions by 45 percent by 2030, as compared to the 2010 levels, and recommit to reaching net zero by 2050 in accordance with the Paris Agreement.³⁸⁸

In other words, while the plaintiffs expanded their argument to include the activities of other companies, they were very specific about the activities of oil companies, arguing that they have a duty of care to take ‘immediate action’ in light of scientific evidence of the dangers of global warming and thus the Paris Agreement’s goal of limiting dangerous greenhouse gas emissions.³⁸⁹ Consequently, the Dutch District Court agreed with the petitioners that Shell was doing too little to reduce its greenhouse gas emissions and to prevent significant climate

³⁸³ *AP Pollution Control Board v. MV Nayudu* [1999] AIR SC 812.

³⁸⁴ *Vellore Citizens* (n. 382).

³⁸⁵ *Spijkers* (n. 364) 240.

³⁸⁶ *Shell* (n. 338).

³⁸⁷ *Ibid*, para 3.1.

³⁸⁸ *Ibid*.

³⁸⁹ *Ibid*.

damage to the Earth or its people.³⁹⁰ As a result, Shell was found to have breached the law and, as of that day, was required to substantially reduce its greenhouse gas emissions and bring them in line with the Paris Agreement's target.³⁹¹

Despite the difficulty in reaching this conclusion, the Court eventually found that protecting human rights is not a passive obligation; rather, it requires active participation from all organisations, regardless of size, ownership, or structure.³⁹² Shell argued that it would be unfair for it to comply with this stringent decision while other oil companies headquartered in other parts of the world are exempted.³⁹³ In other words, if it stopped producing fuel from oil, this would certainly reduce Shell's carbon emissions, but it would not help the world, as demand for fuel would not change, and that other companies would step in and emit just as much greenhouse gas.³⁹⁴ Hence, a court order requiring one energy firm to lower its emissions as well as those of its customers would not be the solution to reducing CO₂.³⁹⁵

Not being persuaded or convinced by this argument, the Court made it clear that, even though Shell may have been used as a scapegoat, all companies must take responsibility for reducing harmful greenhouse gas emissions.³⁹⁶ Furthermore, given that this decision applies to all companies, why not start in the Netherlands, or even better, with Shell? Nonetheless, as no single state can address climate change alone, the key question is whether other jurisdictions will embrace this strategy. If practicable, this would be a great opportunity to remind the world about the anticipated consequences of climate change in relation to current levels of greenhouse gas emissions.³⁹⁷ Nonetheless, this decision appears to create an environment of uncertainty

³⁹⁰ Ibid, para 5.3.

³⁹¹ Ibid.

³⁹² Ibid, paras 4.4.15-4.4.16.

³⁹³ Ibid, para 4.4.53.

³⁹⁴ Ibid.

³⁹⁵ Ibid.

³⁹⁶ Ibid, para 4.4.16.

³⁹⁷ Ibid.

and unpredictability for large corporations, especially oil companies, and, if not handled effectively, may discourage investment in the fossil fuel industry, although it is uncertain whether the world is prepared for this.

Similarly, in *Neubauer et al. v. Germany*,³⁹⁸ the Court clarified that despite the fact that the climate crisis is a global one and that no state can address the issue on its own, the necessity for states to take continuous action on climate change is mandatory.³⁹⁹ As a result, states are expected to engage in internationally focused actions to address the issue of climate change on a global scale, as well as support climate action within the international system under such important commitment. Hence, it is not commendable to call attention to the greenhouse gas emissions of other states in violation of Art. 2(1)(a) of the Paris Agreement, which aims to limit global average temperature increases to well below 2°C and preferably to 1.5°C above pre-industrial levels in order to mitigate the effects of climate change.⁴⁰⁰

As required by the Paris Agreement, the decision required the German government to adopt a legal framework that can rapidly reduce greenhouse gas emissions and thus limit global temperature increases to well below 2°C.⁴⁰¹ According to the complainants, the 55 percent reduction of CO₂ emissions specified in the Federal Climate Protection Act 2019 is insufficient to meet Germany's obligations under the Paris Agreement, especially considering that the Act should have included CO₂ reduction measures for the period after 2030 in order to remain within the remaining CO₂ budget.⁴⁰² In addition, the complainants questioned the Act's provisions for achieving carbon-reduction objectives through emission trading mechanisms, such as those outlined in the Kyoto Protocol.⁴⁰³

³⁹⁸ *Neubauer* (n. 338).

³⁹⁹ *Ibid*, recital 2(c).

⁴⁰⁰ *Ibid*, para 3.

⁴⁰¹ *Ibid*.

⁴⁰² *Ibid*.

⁴⁰³ *Ibid*, para 4.

In a unanimous decision handed down on April 29, 2021, the Constitutional Court ruled that a portion of the 2019 Federal Climate Protection Act was unconstitutional because it did not adequately protect people from future violations and limitations on their individual rights resulting from climate change.⁴⁰⁴ Thus, the Court ruled that the State is obligated to reconsider the intertemporal distribution effects of its climate laws and to distribute allowable emissions equitably across time and generations, relying on scientific predictions from organisations such as the Intergovernmental Panel on Climate Change (IPCC).⁴⁰⁵ In doing so, the Court ordered the German government to revise and tighten the present climate legislative provisions, particularly by making them more ambitious, and to bolster future methods of dealing with climate change, especially by defining how CO₂ emission reduction plans will adjust after 2030.⁴⁰⁶

That said, the uniqueness of this decision is linked to the Court's response to the claimants' argument that certain provisions of the 2019 Federal Climate Protection Act are incompatible with their fundamental rights protected by the German Basic Law and, as such, must be regarded as unconstitutional.⁴⁰⁷ Consequently, the Court relied not only on Article 2(1)(a) of the Paris Agreement,⁴⁰⁸ which requires the German government to reduce its CO₂ emissions, but also on the government's responsibility to protect the rights of its citizens, including the rights to life, property, physical integrity, and personal freedom, as well as the right to a future consistent with human dignity and its associated right to an ecological minimum standard of living.⁴⁰⁹

⁴⁰⁴ Ibid, para 266.

⁴⁰⁵ Ibid.

⁴⁰⁶ Ibid, para 254.

⁴⁰⁷ Ibid.

⁴⁰⁸ Paris Agreement (n. 319), art 2(1)(a).

⁴⁰⁹ Louis Kotzé, 'Neubauer et al. versus Germany: Planetary Climate Litigation for the Anthropocene?' (2021) 22 German Law Journal 1423, 1424.

1.11 Important Legal Questions Raised by Recent Decisions

While the public is becoming more aware of the effects of climate change and the facts of climate science, not even the courts have been able to determine, in a single instance, the exact scope of a state's climate change mitigation efforts or the techniques that states should use to reduce CO2 emissions: instead, the courts have only been able to determine whether a state has taken the minimum measures reasonably required to mitigate the risk of harm posed by climate change to the protected rights in question.⁴¹⁰ That is, despite the fact that the courts have exerted significant pressure on governments and corporations to cut carbon emissions, they still face a number of barriers, including, but not limited to, issues of justiciability, the question of whether or not a state's duty of care under human rights law applies to climate change mitigation, and difficulties in defining the appropriate framework for assessing breach of a state's legal duties.⁴¹¹

In its simplest form, justiciability refers to whether or not a claim is fit or appropriate for judicial adjudication.⁴¹² It is often a preliminary consideration; hence, if a claim is deemed non-justiciable, no court will proceed to examine the claim on the merits. Notwithstanding that, a claim may be considered justiciable in whole or in part, based on a variety of reasons.⁴¹³ In *Urgenda*, for instance, each of the Dutch courts emphasised that it was crucial that the remedy sought did not seek to dictate how the state should cut its greenhouse gas emissions via preferences for certain policy choices.⁴¹⁴ Not only that, but also in *Buttes Gas and Oil Co. v Hammer*,⁴¹⁵ the English House of Lords determined that a claim should be considered non-justiciable if there are no "judicial or manageable standards" by which the case can be judged.

⁴¹⁰ Lucy Maxwell, Sarah Mead, and Dennis Berkel, 'Standards for adjudicating the next generation of Urgenda-style climate cases' (2022) 13(1) *Journal of Human Rights and the Environment* 35, 43.

⁴¹¹ *Ibid.*

⁴¹² *Ibid.*

⁴¹³ *Ibid.*

⁴¹⁴ *Urgenda Supreme Court* (n. 338), para 8.2.7.

⁴¹⁵ *Buttes Gas and Oil Co. v Hammer* [1982] (No 3) AC 888, para 13.

Additionally, in *Baker v. Carr*,⁴¹⁶ the US Supreme Court held that a subject should be considered non-justiciable if the court is asked to make policy conclusions for which there are no judicially workable standards.

In many jurisdictions, the existence of “judicially manageable standards” for evaluating a claim is a relevant consideration in determining justiciability. Nonetheless, this element has proven problematic in recent climate litigation cases, especially in North America.⁴¹⁷ In *La Rose v. Canada*,⁴¹⁸ for instance, the Canadian First Instance Court dismissed the case for lack of a judicially manageable legal standard against which to assess the impugned conduct of the State: and thus, while the plaintiffs argued that it is within the court’s purview to decide on the justiciability of the claim, the Court established that the claim concerns issues so politically driven that the courts cannot address them.⁴¹⁹ Hence, the plaintiffs attempted to persuade the Court on the grounds that their cause of action concerns the “cumulative consequences of Canada’s greenhouse gas emissions,” rather than each and every statute or state action that contributes to climate change.⁴²⁰ However, the Court ruled that mandating the courts to take into account every action that results in greenhouse gas emissions interferes with Canada’s overall policy response to climate change, and that the Court has previously declined to consider similar policy decisions that were determined to be better handled by other levels of government.⁴²¹

Aside from justiciability, another dominant issue currently before the courts is the issue of whether a state’s duty of care under human rights law applies to climate change mitigation efforts.⁴²² Nevertheless, while this remains a major conflict, in a number of recent decisions

⁴¹⁶ *Baker v Carr* [1962] 396 US 186, para 199.

⁴¹⁷ Maxwell (n. 410) 44.

⁴¹⁸ *La Rose v Canada* [2020] FC 1008, para 39.

⁴¹⁹ *Ibid*, para 42.

⁴²⁰ *Ibid*, paras 43-44.

⁴²¹ *Ibid*.

⁴²² Maxwell (n. 410) 45.

national courts have held that a state's duty of care does extend to climate change mitigation efforts.⁴²³ These courts have found that the possibility of harm posed by climate change triggers a state's duty of care to take preventative or mitigating steps against such consequences. However, in order to reach this conclusion, most courts have relied on scientific data addressing the existing and predicted harm to human life, health, and the natural environment, notably from the reports of the IPCC. In *Neubauer*, for instance, the Constitutional Court noted that the IPCC's reports are reliable summaries of the current state of knowledge on climate change, and thus such evidence can be trusted.⁴²⁴

In addition, the Court noted that, pursuant to existing constitutional jurisprudence, the state's duty of protection of the fundamental rights of its citizens includes the obligation to protect an individual's life and health against the risks posed by climate change.⁴²⁵ Importantly, because climate change is a global problem that no single nation can solve, the courts have determined that a state's duty of care extends to its climate change mitigation efforts.⁴²⁶ Therefore, despite the fact that states frequently invoke the "drop in the ocean" defence, no national court has ever accepted such arguments.⁴²⁷ In *Urgenda*, for instance, the Dutch Supreme Court categorically rejected the State's claims that its emissions were negligible in absolute terms, concluding that the State must do "its part" to avert catastrophic climate consequences, despite the fact that climate change is a global issue that no single nation can stop by reducing its own emissions.⁴²⁸

Last but not least, another crucial question currently before the courts is how to establish if a state's mitigation measures are in accordance with its duty of care under human rights law.⁴²⁹

While the courts have mostly ignored this issue, in most cases, they have either upheld the

⁴²³ Ibid.

⁴²⁴ *Neubauer* (n. 338), para 27.

⁴²⁵ Ibid, para 148.

⁴²⁶ Maxwell (n. 410) 46.

⁴²⁷ Ibid.

⁴²⁸ *Urgenda Supreme Court* (n. 338), para 5.7.1.

⁴²⁹ Maxwell (n. 410) 47.

plaintiffs' claims on grounds that do not require an assessment of the reasonableness of a state's overall mitigation efforts or determined that a state has such a large margin of discretion in this context that the alleged violation under human rights law is unfounded.⁴³⁰ However, some courts have conducted such an assessment in a few instances.⁴³¹ In *Urgenda*, for example, while the Dutch Supreme Court established that decision-making on the reduction of greenhouse gas emissions is within the powers of governments and their respective Parliaments, it noted that the judiciary has also a role in determining whether the other branches of government have remained within the limits of the law by which they are bound.⁴³²

According to the Court, the "limits of the law" are the requisite minimum emission reductions for a state to "do its part" in preventing dangerous climate change.⁴³³ Hence, the Supreme Court upheld the lower courts' decision that a 25% emissions reduction by 2020 relative to 1990 levels was the "absolute minimum" required for the Netherlands to fulfil its human rights obligations.⁴³⁴ Similarly, in *Neubauer*, the German Constitutional Court agreed that, while it is not, in principle, for courts to specify quantifiable global warming limits and corresponding emissions amounts or reduction targets, it is the court's role to review whether the boundaries of the law concerning the protection of the natural foundations of life and animals are respected, and thus it 'is not drained of substance as an obligation to take climate action.'⁴³⁵

1.12.1 Principal Roadblocks to the Advancement of the UN Climate Change Regime

Despite decades of active and persistent international climate talks, progress has been stalled by a number of challenges, including, but not limited to, the shortcomings of "soft law" or non-

⁴³⁰ Ibid.

⁴³¹ This includes the German Constitutional Court in *Neubauer and Others v. Germany*, the Dutch Courts in *Urgenda* (District Court, 2015; Court of Appeal, 2018; and Supreme Court, 2019).

⁴³² *Urgenda Supreme Court* (n. 338), para 8.3.2.

⁴³³ Ibid, para 7.5.1.

⁴³⁴ Ibid.

⁴³⁵ *Neubauer* (n. 338), para 207.

binding Action plans, and too much government obligation. To begin, the term “soft law” can apply to a number of concepts, one of which is defined below: soft law as a non-binding agreement or legal document.⁴³⁶ An alternate definition of “soft law” distinguishes between “rules,” which entail unambiguous and reasonably specified obligations and are, thus, hard law, and “norms” or “principles,” which are more open-textured or generic in content and wording and are, thus, soft law.⁴³⁷ From this perspective, treaties can be hard, soft, or both based on a variety of characteristics other than whether the agreement is legally binding or not.⁴³⁸ According to these definitions, the substance, not the form, of a treaty provision determines whether it is hard or soft.⁴³⁹ The use of soft law in international law can take several forms, including declarations, resolutions, guidelines, and recommendations.⁴⁴⁰ While not all of these alternatives have the same legal consequences, they are all carefully negotiated and frequently cleverly drafted statements that are intended to have some normative value despite their non-binding form.⁴⁴¹

Although some academics debate this, there are four distinct reasons why states prefer soft law over hard law (legal obligations that are enforceable before a court and binding on the parties involved): coordination problem, delegation, loss avoidance, and considerations for international common law.⁴⁴² That is, instead of focusing on the doctrinal question of whether or not a rule is binding on states, these explanations focus on the clarity of the duties imposed by the two legal concepts, or the likelihood that the various aspects of an agreement will, in one way or another, constrain state behaviour.⁴⁴³ Hence, by this logic, soft law arrangements

⁴³⁶ Alan Boyle, ‘Some reflections on the relationship of treaties and soft law’ (1999) 48(4) *International & Comparative Law Quarterly* 901, 902.

⁴³⁷ *Ibid.*

⁴³⁸ *Ibid.*

⁴³⁹ Jan Klabbers, ‘The undesirability of soft law’ (1998) 67(4) *Nordic Journal of International Law* 381, 388.

⁴⁴⁰ Boyle (n. 436) 902.

⁴⁴¹ *Ibid.*

⁴⁴² Andrew Guzman and Meyer Timothy, ‘International soft law’ (2010) 2(1) *Journal of Legal Analysis* 171, 173.

⁴⁴³ *Ibid.*

are those that establish vague obligations under which a broad range of conduct may be viewed as compliance.⁴⁴⁴ As a result, many academics believe that soft law arrangements are typically employed by states to “take the heat off” political leaders by substituting symbolic but meaningless promises for real action.⁴⁴⁵

If that is the case, then the most intriguing aspect of soft law is why states continue to rely on it to solve problems, when, initially, they do not intend to be bound by it? That is, according to the first of these theories, one of the reasons that states embrace soft law is to address a simple coordination problem in which there is a high degree of certainty that the same rules will continue to be self-enforcing in the future, provided a specific set of rules (a focal point for cooperation) is chosen.⁴⁴⁶ In situations like this, compliance is judged by “successive approximations,” which means that any effort to achieve the focal point will result in compliance, as opposed to achieving the established focus.⁴⁴⁷ According to Vihma, rather than advancing cooperation, the choice of soft law is just a lax strategy that allows states to evade international obligations.⁴⁴⁸ Consequently, it is not surprising that the current UN climate change regime, following the adoption of the Framework Convention on Climate Change in 1992, has not made any significant progress, and that the Paris Agreement, despite being a legally binding international treaty on climate change, appears to be a “soft law” in disguise.⁴⁴⁹

According to Guzman, the main difference between hard law and soft law is that the former imposes higher costs on the violating state than the latter, giving hard law greater compliance

⁴⁴⁴ Ibid.

⁴⁴⁵ Antto Vihma, *Analysing soft law and hard law in climate change: Climate Change and the Law* (Springer, 2013) 150.

⁴⁴⁶ Guzman (n. 442) 175.

⁴⁴⁷ Ibid.

⁴⁴⁸ Vihma (n. 445).

⁴⁴⁹ Beate Sjøfjell, ‘The Very Basis of Our Existence: Labour and the Neglected Environmental Dimension of Sustainable Development’ (2009) 3 <<https://ssrn.com/abstract=1517393>> accessed 30 March 2024; Juraj Mesík, ‘Paris climate change agreement: a milestone or a fake?’ (2015) 24(4) *International issues & Slovak foreign policy affairs* 79, 80; The UN climate change regime comprises the set of international, national, and subnational institutions and actors concerned with climate change mitigation and adaptation.

pull than soft law.⁴⁵⁰ Regardless of this, a large number of scholars think that soft law has its own advantages and should be used when it is appropriate to do so, such as when the bureaucratic transaction costs of making soft law are lower than the costs of creating hard law.⁴⁵¹ This takes us to the topic of how the choice of soft law over hard law in the international climate change regime may maximise value for states, and hence to the second of these theories: the loss avoidance theory. According to this theory, states might prefer soft law to hard law because of the potential negative outcomes that could result from one state violating the legal obligation.⁴⁵²

Among other things, such negative outcomes might include retaliation, lost reputation, or reciprocal non-compliance.⁴⁵³ While reputational damage can make it harder for a state to enter into future agreements that will increase its worth, the net cost to a state when retaliation is applied is far higher.⁴⁵⁴ For instance, if one state decides to punish another for breaching an obligation, it could end up costing both states and even third parties who were not directly involved in the arrangement. Hence, despite its shortcomings, states have repeatedly chosen pledge-based soft law over binding international rules (“hard law”), as evidenced by the existing international climate change regime.⁴⁵⁵

Hence, the question is what ramifications might this preference have for regime efficacy, assuming that effective regimes are those in which programmes or international arrangements functioned as intended? Moreover, are the flexibilities associated with soft law arrangements worth the efforts required to engineer the big environmental changes that the world aspires? This section addresses these and many other comparable questions. Thus, taking the current

⁴⁵⁰ Guzman (n. 442) 177.

⁴⁵¹ Ibid.

⁴⁵² Ibid.

⁴⁵³ Ibid.

⁴⁵⁴ Ibid.

⁴⁵⁵ Ibid.

international climate change regime as an example, while there are only a few instances of hard law arrangements, such as the implementation of the Montreal Protocol, which, despite not being intended to combat climate change, became a landmark environmental Agreement that served as a model for future diplomacy on the issue, soft law arrangements have been used frequently by the international community to address specific phases of the problem.⁴⁵⁶ As a result, the discussion shifts to which of these options came closest, if not completely, to obtaining the desired outcome?

In contrast to the Vienna Convention for the Protection of the Ozone Layer, the Montreal Protocol has, according to a recent study, eliminated over 99 percent of ozone-depleting substances, including chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), methyl bromide, halons, carbon tetrachloride, hydrobromofluorocarbons, methyl chloroform, and chlorobromomethane.⁴⁵⁷ If this is the case, the question becomes what factors led to this extraordinary outcome? Although the answer might not be straightforward, the Montreal Protocol, unlike the Vienna Convention, not only mandated countries to put an end to producing ozone-depleting substances, but it also got almost every country in the world to ratify it.⁴⁵⁸ Thus, it could be reasoned that one of the primary reasons the ozone regime was effective was because states were mandated to stop producing these substances rather than being left to do so on their own, as the case of other frameworks.⁴⁵⁹

For example, if we look at the Paris Agreement, it will be challenging to sustain a global temperature rise of less than 1.5 °C since, despite being a legally enforceable framework, it retains the traditional flexibility of soft law.⁴⁶⁰ For instance, the Agreement does not stipulate

⁴⁵⁶ Vihma (n. 445); Lindsay Maizland, 'Global Climate Agreements: Successes and Failures' (The Council on Foreign Relations, November 17, 2021) <<https://www.cfr.org/backgrounder/paris-global-climate-change-agreements>> accessed 30 March 2024; The Montreal Protocol on Substances that Deplete the Ozone Layer 1987.

⁴⁵⁷ Maizland Ibid.

⁴⁵⁸ Ibid.

⁴⁵⁹ Ibid.

⁴⁶⁰ Christoff (n. 302) 766.

any specific timeline for achieving this temperature goal; rather, it stipulates that Parties should aim at achieving global peaking of greenhouse gas emissions through what is known as nationally determined contributions.⁴⁶¹ Thus, not only might pledge-based soft law preferences restrict regime effectiveness, but also the extent to which states alter their behaviour in accordance with international norms, as indicated by a recent study in which the authors argue that hard law has a stronger “compliance pull” than soft law.⁴⁶²

No wonder that, since the first United Nations Conference of the Parties, world leaders, including experts, have met 26 more times annually to agree on a variety of documents and approaches to be taken to combat global climate change, most notably in response to the failures of the Kyoto Protocol; nevertheless, a recent report reveals that fifteen of the sixteen warmest years since systematic record-keeping began in the late 1850s have occurred since the year 2001, with June 2022 being the warmest on records.⁴⁶³ In addition, the atmospheric CO₂ concentration has increased from roughly 360 ppm in 1995, when COP1 was convened, to its present level of over 400 ppm, which is the highest it has ever been in the history of the human species.⁴⁶⁴ Taking for example the year 2015, when the Paris Agreement was adopted, the average global temperature was 0.13°C higher than the previous record-warm year, 2014.⁴⁶⁵

Therefore, the question becomes whether the world’s inability to meet present greenhouse gas emission targets is due to the need for a “better” framework, or whether there are other factors at play? Apparently, given the number of frameworks that have been adopted so far, the world does not need a new or better framework, but, as with the ozone regime, it is high time for

⁴⁶¹ Stelios Andreadakis and Lisa Benjamin, ‘Corporate Governance and Climate Change: Smoothing Temporal Dissonance to a Phased Approach’ (2019) 40(4) *Business Law Review* 146, 147-150; Paris Agreement (n. 319), art 4(1).

⁴⁶² Vihma (n. 445); Guzman (n. 442) 177; Rosen (n. 109) 35.

⁴⁶³ Mesík (n. 449) 80; Zeke Hausfather, ‘State of the climate: 2022 on track for a summer of extreme heat’ (CarbonBrief, July 25, 2022) <<https://www.carbonbrief.org/state-of-the-climate-2022-on-track-for-a-summer-of-extreme-heat/>> accessed 30 March 2024.

⁴⁶⁴ *Ibid.*

⁴⁶⁵ *Ibid.*

pledge-based soft law obligations to be replaced with legally binding emission reduction targets.⁴⁶⁶ For instance, considering the current regime, the Paris Agreement, despite being a legally binding international treaty on climate change, is presumably a soft law in disguise.⁴⁶⁷ Not only so, but because of its flexibilities, there is question over whether the language of the Agreement adequately operationalises the path to the stated objective.⁴⁶⁸ Thus, among other things, this has been noted as one of the primary reasons why the existing international climate change regime has made little progress thus far, and why, as of this writing, global emission rates are still increasing.⁴⁶⁹

Consequently, a policy-relevant analysis of the characteristics of the two legal alternatives, namely hard law and soft law, as well as their limitations and opportunities, is necessary.⁴⁷⁰ In their seminal article, Abbott and others have identified three criteria for defining the “hardness” of international law: binding obligation, precise language, and a degree of delegation.⁴⁷¹ Accordingly, international agreements enter the domain of “soft law” once they are weakened along these dimensions.⁴⁷² For instance, taking into account the current international climate change regime, a case in point is that traditional and formal hard law treaties, such as the United Nations Framework Convention on Climate Change, the Paris Agreement, and the Kyoto Protocol, are thought to be so generally worded as to be devoid of legal content.⁴⁷³ As a result, this affects compliance, which is, the degree to which states adjust their behaviour in accordance with such rules.⁴⁷⁴

⁴⁶⁶ Christoff (n. 302).

⁴⁶⁷ Mesík (n. 449) 80.

⁴⁶⁸ Ibid.

⁴⁶⁹ Ibid.

⁴⁷⁰ Vihma (n. 445) 144.

⁴⁷¹ Ibid 148.

⁴⁷² Ibid.

⁴⁷³ Ibid.

⁴⁷⁴ Rosen (n. 109) 35.

Although hard law has a better track record of monitoring state behaviour than soft law does, due to soft law being less costly in terms of the sovereignty of states, the present regime has been saturated with a myriad of soft policies, resulting in its apparent failure.⁴⁷⁵ That is, while soft law has its advantages and should be used when it is appropriate to do so, arguably soft law represents a less credible commitment to the issue at hand compared to hard law.⁴⁷⁶ In other words, given the limitations of soft law identified above, choosing soft law instruments to deal with the climate crisis at this critical stage in the fight against climate change is simply ‘the wrong solution at the wrong time,’ when some important measures can still be put in place to reduce dangerous future climate consequences.⁴⁷⁷ According to a recent study, the choice of soft law, for instance, is regarded to increase the risk for all states involved in an agreement by making it more likely that individual states break from their commitments.⁴⁷⁸

For example, considering the current international climate change regime, it is thought that, by using a systematic framework focused on compliance, efficiency, and effectiveness, a greater proportion, if not all, of the frameworks adopted thus far have either set back solutions to the problem or failed to expose the world to an effective path for reducing global greenhouse gas emissions.⁴⁷⁹ Despite its legal enforceability, the Kyoto Protocol to the Framework Convention on Climate Change, which states ratified in 1997, was widely regarded as inadequate in addressing the urgent matter of global warming on account of its wording.⁴⁸⁰ Thus, it is evident

⁴⁷⁵ Ibid 150; Vihma (n. 445) 150; Mesík (n. 449) 80.

⁴⁷⁶ Guzman (n. 442) 177; Vihma (n. 445) 150.

⁴⁷⁷ Rosen (n. 109) 35.

⁴⁷⁸ Guzman (n. 442) 184.

⁴⁷⁹ Sjøfjell (n. 449) 3. Where compliance refers to the extent to which states alter their behaviour in accordance with these frameworks, and efficient policies are those that limit negative externalities and suboptimal outcomes. One factor to consider under efficiency is the level of fragmentation of the regime. This includes how many forums, organisations, and institutions are collaborating on the problem. Consequently, efficient regimes would be those in which cooperation is pursued through a single institution or a small number of institutions, as opposed to several forums. Effectiveness refers to whether or not the framework or policy worked as intended.

⁴⁸⁰ Rosen (n. 109) 31.

that states recognise that soft law instruments are ineffective in tackling the climate change issue, but have chosen to ignore this truth in favour of their own selfish political goals.

Of course, the shortcomings of hard law in international law cannot be overlooked, such as the bureaucratic transaction cost of creating hard law and the difficult processes involved in getting states to ratify; however, it is presumed that soft law should only be considered as a “reasonable first step,” not after fifty years of trying to address the global environmental problem.⁴⁸¹ For example, while the United States, China, India, and other major CO₂ emitters, who did not ratify the Kyoto Protocol, are frequently blamed for the treaty’s failure, a larger proportion of scholars believe that the problem was in the design of the treaty itself, and thus, despite being a legally binding international treaty, it is regarded as nothing more than a soft law.⁴⁸² Thus, it is not sufficient to emphasise that the Protocol failed to reduce global emissions; the real issue is that, due to its design, it set the world on a course that is ineffective in tackling climate change, thereby contributing to its failure.⁴⁸³

Similarly, despite the courts’ relentless efforts in recent years to compel not only governments, but also many large corporations, to do significantly more to reduce greenhouse gas emissions under the Paris Agreement, many experts predict that the most meaningful climate action will occur outside of the Paris Agreement.⁴⁸⁴ In other words, while it may be too early to determine the successes and failures of the Paris Agreement, the majority of experts believe that the Paris Agreement’s commitments are insufficiently ambitious and therefore will not lead the world to its goal of limiting global temperature rise to 1.5°C above pre-industrial levels.⁴⁸⁵ As a result,

⁴⁸¹ Ibid; Guzman (n. 442) 177.

⁴⁸² Boyle (n. 436) 902.

⁴⁸³ Rosen (n. 109) 32.

⁴⁸⁴ Maizland (n. 456).

⁴⁸⁵ Ibid.

present measures could result in about 2.7°C global temperature rise, a fact that was well-anticipated at the time of negotiations; yet, neglected due to self-serving national interests.⁴⁸⁶

In terms of Kyoto, while it is thought that the first task in evaluating the performance of any policy is to assess the extent to which states complied with both the letter and spirit of the institution, experts have pointed out that even full participation and compliance with the Protocol would not have prevented widespread climate change.⁴⁸⁷ Therefore, what else remains to be said? Obviously, this could be linked to the design of the framework.⁴⁸⁸ Hence, even absolute compliance with Kyoto would have still represented an under-management of the global warming threat.⁴⁸⁹ That is, even while some countries failed to take on additional responsibilities aside those outlined under Kyoto, others, such as Canada, Japan, the Netherlands, Austria, Italy, Spain, and Denmark never stayed on track to meet Kyoto's target.⁴⁹⁰ Hence, despite the fact that Kyoto established a relatively modest threshold for emission reductions, states nevertheless struggled to comply.⁴⁹¹

1.12.2 Questions of Admissibility and Jurisdictional Constraints

For a long time, courts have struggled with how to handle scientific evidence, particularly because, while evidence must be legally admissible in order for a court to consider it, there are no rules or generally accepted criteria for the admissibility of scientific evidence under international law, which is the applicable regime for inter-state litigation.⁴⁹² As a result, claimants are increasingly relying on human rights laws rather than scientific evidence related

⁴⁸⁶ Ibid.

⁴⁸⁷ Rosen (n. 109) 35.

⁴⁸⁸ Ibid.

⁴⁸⁹ Ibid.

⁴⁹⁰ Ibid 36.

⁴⁹¹ Ibid.

⁴⁹² Setzer (n. 337) 69; Tobias Pfrommer, 'Establishing causation in climate litigation: admissibility and reliability' (2019) 152(1) *Climatic Change* 67, 75.

to the effect of human activity on rising temperatures to hold governments accountable for not doing enough in response to climate change.⁴⁹³ Nonetheless, while some of these cases have been successful, the vast majority of these claims remain unresolved, pending, or dismissed either due to the absence of applicable legal rules or the power of the courts to decide a particular case in light of possible temporary or permanent defects of the claim.⁴⁹⁴

For instance, in *La Rose v. Canada*,⁴⁹⁵ a group of young children from across Canada filed a lawsuit against the Attorney General of Canada for actions and inactions related to climate change (the “Impugned Conduct”), which they claim violated their right to life, liberty, and security under (Section 7) of the Charter of Rights and Freedoms, and their rights as beneficiaries under the Public Trust Doctrine.⁴⁹⁶ Nevertheless, regardless of the circumstances, the Court dismissed the complaint on the grounds that not only were the Charter claims inadmissible, but they were also nonjusticiable, and that although the Court have the capacity to, on the merits, assess scientific data, the invocation of the Public Trust Doctrine, which did not exist under Canadian law, rendered the Court “incapable” of deciding Charter allegations of broad or diffuse government action or inaction.⁴⁹⁷

Even though the distinction between jurisdiction and admissibility has been a long-standing one in international law, while jurisdiction refers to the power of a court or judge to entertain an action, petition, or legal proceeding, admissibility refers to the power of a court to decide a case at a specific point in time in light of possible temporary or permanent defects of a claim.⁴⁹⁸ In other words, while jurisdiction typically concerns a claim as a whole, admissibility is

⁴⁹³ Maxwell (n. 410) 37.

⁴⁹⁴ Setzer (n. 337) 10.

⁴⁹⁵ *La Rose v. Canada* (n. 418).

⁴⁹⁶ *Ibid*, paras 20-23; The Canadian Charter of Rights and Freedoms 1982, s 7.

⁴⁹⁷ *Ibid*.

⁴⁹⁸ *Ibid*.

concerned with whether or not a claim is ready for a decision.⁴⁹⁹ In other words, over and above the problem of admissibility, jurisdictional issues have been a significant impediment to the advancement of the existing international climate change regime, notably in terms of the involvement of the courts in addressing the climate change problem.⁵⁰⁰

That is, despite the fact that climate change is a global issue that necessitates international cooperation in order to be addressed, jurisdictional concerns have obligated governments to prioritise their domains and the people who reside within them, rather than taking into account the global nature of the issue at hand and cooperating to find long-term solutions. In other words, merely focusing on actions, particularly judicial remedies, to curb emissions in one part of the world without the ability to interfere with activities outside of one's jurisdiction will amount to no effort in addressing the issue at hand, especially because, unlike other international problems, environmental challenges, such as climate change and/or global warming, affect all nations equally, and the effects of emissions in one nation will not just be felt in that nation, but internationally.⁵⁰¹ Nonetheless, for a long time, most efforts to prevent climate change have been limited to national borders due to jurisdictional constraints.⁵⁰²

As noted in *Shell*, for instance, there is still a great deal of scientific uncertainty regarding the exact consequences of climate change among some national courts.⁵⁰³ For example, while the Hague District Court in *Shell* acknowledged the substantial threat that global warming poses to current and future generations of the world, the Court placed particular importance on the

⁴⁹⁹ Michael Waibel, Investment Arbitration: Jurisdiction and Admissibility (2014) in M. Bungenberg (eds), *International Investment Law* (Nomos, 2015) 1261-1266.

⁵⁰⁰ Feria-Tinta Monica, 'Climate Change Litigation in the European Court of Human Rights: Causation, Imminence and Other Key Underlying Notions' <<https://www.europedeslibertes.eu/article/climate-change-litigation-in-the-european-court-of-human-rights-causation-imminence-and-other-key-underlying-notions/>> accessed 30 March 2024.

⁵⁰¹ Ibid; Boyle (n. 436); Souradh Valson, 'Everything you need to know about the Stockholm Declaration' (Pleaders, November 24, 2020) <<https://blog.ipleaders.in/everything-need-know-stockholm-declaration/>> accessed 30 March 2024; British Broadcasting Corporation, 'Fast fashion: The dumping ground for unwanted clothes' <<https://www.bbc.co.uk/news/av/world-africa-58840743>> accessed 30 March 2024 .

⁵⁰² Pfrommer (n. 492) 75.

⁵⁰³ *Shell* (n. 338), paras 4.2.3 & 4.4.6.

impact of climate change on the people of the Netherlands.⁵⁰⁴ This emphasis was necessary, as due to jurisdictional constraints, the claimants were only allowed to represent the interests of individuals residing in the Netherlands, both presently and in the future, but not those residing elsewhere in the world.⁵⁰⁵ Thus, our understanding of these issues is pivotal not just for explaining the challenges faced by the courts in adjudicating climate-related claims, but also for our understanding of how these issues have led to the failures of the UN's climate change regime.⁵⁰⁶

1.12.3 Too much Government Responsibility

While for centuries it was thought that states were the only subjects of international law, with the recent addition of intergovernmental groups such as the UN, the EU, the IMF, or the WTO, one of the main causes of regime failure has been the fact that, whilst companies and markets are considered the main actors in the regulatory ecology, accountability has always been a thing for governments rather than these actors whose actions and inactions bring about the success or failure of a given regime.⁵⁰⁷ As noted in *Shell*, despite being responsible for the astronomical levels of emissions reported recently, corporations have always viewed climate change policies as binding only on governments and not on themselves.⁵⁰⁸ As a result, they do only what is considered the bare minimum to combat climate change. Thus, the Dutch courts have served a timely reminder that everyone—including states, multinational corporations, small and medium-sized enterprises, and individuals—has a role in the fight against global warming.⁵⁰⁹

⁵⁰⁴ Ibid, 4.2.4.

⁵⁰⁵ Ibid.

⁵⁰⁶ Setzer (n. 337) 10; Monica (n. 500).

⁵⁰⁷ Jan Klabbbers, *The Subjects of International Law* (Cambridge University Press 2013) 67.

⁵⁰⁸ *Shell* (n. 338), para 2.1.8.

⁵⁰⁹ Ibid, para 2.1.2.

In other words, from the very foundations of the concept of a sustainable circular economy, companies (hereafter referred to as “producers”) are at the centre of extraction, production, and consumption; their activities have direct environmental impacts; however, by the very nature and spirit of international law, rather than these polluters whose activities directly impact the human environment, states have been held primarily accountable for their actions, which, in the end, places too much responsibility on governments and none on the polluters themselves.⁵¹⁰ As determined in *Shell*, it is not sufficient for states to monitor or follow the developments undertaken by corporations to reduce their emissions; by law, corporations have an individual obligation to protect the environment and, by extension, to respect human rights.⁵¹¹

Consequently, despite not finding Shell in violation of any specific international or domestic law, the Dutch District Court determined that Shell was operating unlawfully in light of its enormous carbon emissions, concluding in a way that is worth citing if only for that reason:

“Business enterprises should respect human rights. This means that they should avoid infringing on the human rights of others and should address adverse human rights impacts with which they are involved. Tackling the adverse human rights impacts means that measures must be taken to prevent, limit and, where necessary, address these impacts. It is a global standard of expected conduct for all businesses wherever they operate. As has been stated above, this responsibility of businesses exists independently of states’ abilities and/or willingness to fulfil their own human rights obligations and does not diminish those obligations. It is not an optional responsibility for companies. It applies everywhere, regardless of the local legal context, and is not passive. Respecting human rights is not a passive responsibility: it requires action on the part of businesses.”⁵¹²

⁵¹⁰ Spijkers (n. 364) 241; Vishno Devadas, ‘Algae biopolymer towards sustainable circular economy’ (2021) 325(2021) Bioresource technology 124702, 124703.

⁵¹¹ *Shell* (n. 338), paras 4.4.13–4.4.14; UK Companies Act 2006, s 172 (1)(d).

⁵¹² *Shell* Ibid, para 4.4.15.

In this context, corporations must assume responsibility for their actions, not the other way around, where, despite being actively involved in global environmental problems, corporations rarely assume responsibility for protecting the environment because, for centuries, states were believed to be the only subjects of international law, with little or no accountability on the part of companies.⁵¹³ Thus, the District Court in *Shell* endeavoured to clarify the difference between the Dutch Climate Act and the Dutch Climate Agreement in terms of state and corporate responsibilities.⁵¹⁴ In the words of the Court, the two instruments, the Act and the Agreement, are inextricably linked.⁵¹⁵ Nevertheless, while the Act binds the Government in all its interactions with the Dutch Parliament and Senate, the Climate Agreement consists of a series of non-legally binding commitments made by Dutch governmental bodies, including civil society organisations, and corporate entities – including the defendant organisation itself.⁵¹⁶

Thus, seeing that Shell had signed the Climate Agreement on 12 September 2019, this alone was enough, said the Court, to conclude that this Agreement, despite its formally legally non-binding character, could be used by it to give concrete meaning to the unwritten standard of care for Shell.⁵¹⁷ In other words, despite climate change is, of course, a global problem, companies sometimes try to avoid their obligations by stating that their individual adaptation and mitigation measures will have a “drop in the ocean” effect and will not make a difference.⁵¹⁸

However, the District Court in *Shell* was not satisfied by this line of reasoning and concluded that, like states, corporations must shoulder “their share” of this global responsibility to prevent dangerous climate change.⁵¹⁹ Consequently, everyone, not just governments, must be

⁵¹³ Klabbers (n. 507).

⁵¹⁴ *Shell* (n. 338), paras 2.5.16 & 4.5.1.

⁵¹⁵ *Ibid.*

⁵¹⁶ *Ibid.*; Spijkers (n. 364) 247.

⁵¹⁷ *Shell* (n. 338), paras 4.5.1 & 4.4.19.

⁵¹⁸ Spijkers (n. 364) 248.

⁵¹⁹ *Shell* (n. 338), para 4.3.5; See also paras 4.4.16, 4.4.37 & 4.4.54.

accountable for preserving the environment.⁵²⁰ Thus, the remaining chapters are built upon this foundation. This time, however, the focus is not on oil companies and their massive CO₂ emissions, but on the environmental impacts of the clothing and textiles industry, specifically the niche industry of fast fashion, a business model centred on the production of affordable yet fashionable garments that are cheaply produced and quickly abandoned in favour of new styles.⁵²¹

1.13 Conclusion

The chapter was aimed to systematically review the history of the United Nations' climate change regime, with a focus on the adoption of the various frameworks since the first international environmental summit in Stockholm, Sweden, in 1972, which resulted in the Stockholm Declaration on the Human Environment and the United Nations Environment Programme, which have given birth to all other frameworks, as well as the three major regimes, in order to provide in-depth understanding of what the law previously was, what the law is now, and indications as to how the law might be evolving or developing. In the end, the chapter discovers, among other things, that while regional initiatives are believed to effect positive change, the United Nations' climate change regime, despite experiencing many setbacks, such as the inadequacy of "soft law" instruments and an overreliance on state responsibility, remains an essential international forum for addressing the issue of climate change.

Historically, emphasis has been placed on government initiatives to prevent climate change, specifically the reduction of carbon emissions. Nevertheless, with the recent Shell ruling that mandated corporate environmental protection, it is now necessary to shift our attention towards the responsible role that corporations should have in addressing the global environmental

⁵²⁰ Ibid, 4.3.5.

⁵²¹ Brewer (n. 4) 2.

catastrophe.⁵²² Thus, Shell was found to have violated the law by failing to do enough to reduce its greenhouse gas emissions and prevent significant climate damage to the Earth or humanity as a whole.⁵²³ While this responsibility does not apply solely to Shell and oil companies as a whole, the chapter identifies the fashion industry as one of the largest global CO2 emitters, as evidenced not only by the amount of energy they use or burn during production, but also by the amount of textile waste that annually ends up in landfills as a result of poor or low-quality sourced materials.⁵²⁴

In essence, while the United Nations' climate change regime has made some progress, including the adoption of the Paris Agreement, which in some way empowered the courts to act on the issue, given that not even the courts have been able to determine, in a single instance, the exact scope of a state's climate change mitigation efforts or techniques to be used to reduce CO2 emissions, the time has come for the world to rely on the responsible role that corporations can play by switching from linear production methods to more sustainable/circular approaches, where the focus is no longer on managing the vast amounts of waste produced, but rather on preventing waste from being produced in the first place.

⁵²² *Shell* (n. 338), para 4.4.15.

⁵²³ *Ibid*, para 5.3.

⁵²⁴ *Igini* (n. 110).

CHAPTER 2

THE GLOBAL ENVIRONMENTAL IMPACTS OF FAST FASHION

2.1 Introduction

After decades of focusing on what nations could do to cut harmful greenhouse gas emissions and avoid climate change, the attention has shifted to the responsible role that businesses can play in this fight.⁵²⁵ Nonetheless, while these efforts have primarily focused on the oil/fossil fuel industry, this chapter identifies the fashion industry as posing equal, if not greater, environmental threats than the fossil fuel industry, as little attention has been paid to its horrendous environmental impacts, especially on the global climate crisis.⁵²⁶ According to a recent study, not only is the industry responsible for nearly 10% of global CO₂ emissions, but it is also infamous for the amount of resources it wastes, including the millions of clothes that end up in landfills every day.⁵²⁷

At present, however, the transition to Circular Economy (CE) necessitates abandoning linear production processes and the throwaway culture, in which waste is reduced by producing more sustainable fabrics and limiting the consumption of new products.⁵²⁸ Thus, the purpose of this chapter is to discuss the environmental impacts of fast fashion, with a focus on how the fashion industry, similar to the oil/fossil fuel industry, poses grave environmental threats to our planet now, and how, as in the case of plastic waste, International Environmental Law has failed to provide a timely response to the inhumane dumping of textile waste in regions of the Global

⁵²⁵ A portion of this chapter has been published; Charity Samantha Vo, 'Vulnerability and Resiliency: How Climate Disaster Activate Latent Social Assets' (2015) 58 Int'l Soc Work 421, 422.

⁵²⁶ Iginì (n. 110).

⁵²⁷ Ibid.

⁵²⁸ Maitre-Ekern (n. 21) 125454-125455.

South, particularly African countries, thought to be more vulnerable to the effect of climate change due to their lower capacity for adaptation.⁵²⁹

In other words, given the tragic history of waste management in Africa, African countries should have been the last place on anyone's mind when considering where to dispose of the huge quantities of fashion waste produced nowadays.⁵³⁰ Notwithstanding its implications, Africa is currently believed to be the final destination for the majority of fashion waste produced globally, with the unfortunate result that these textiles end up in landfills and produce twice as much greenhouse gas as other well-known sources, rendering meaningless the countless hours spent each year discussing how the world might tackle the ongoing environmental crises, particularly on mobilising funds under the Paris Agreement to assist these same vulnerable nations.⁵³¹

Thus, the chapter examines the environmental impacts of the global apparel industry, specifically highlighting the similarities between this industry and the petrochemical sector. It underlines the critical socio-legal challenge posed by fast fashion, which is currently gaining major attention due to the rising realisation of the crucial role that corporations may play in the battle against climate change. The chapter advocates for a shift from linear production methods to more sustainable and circular approaches, where the focus is no longer on managing the vast amounts of waste produced, but rather on preventing waste from being produced in the first place. Subsequently, the chapter delves into the emotional connections that people form with clothing, which might, in some manner, contribute to the current mass acquisition of new clothing despite consumers' desire to contribute to reducing the ecological impact of clothing.

⁵²⁹ Guillaumont (n. 82) 1; Ifesinachi Okafor-Yarwood and Ibukun Adewumi, 'Toxic waste dumping in the Global South as a form of environmental racism: evidence from the Gulf of Guinea' (2020) 79(3) *African Studies* 285, 286-304.

⁵³⁰ Okafor *Ibid.*

⁵³¹ Igini (n. 110); British Broadcasting Corporation (n. 501).

The chapter concludes with a discussion of how existing international and regional instruments, such as the Basel and Bamako Conventions, have failed to recognise textile waste as posing equal, if not greater, environmental harm than plastics, and how, despite these flaws, the Malabo Protocol attempts to address the shortcomings of the Basel and Bamako regimes for regulating hazardous waste trafficking into Africa.

2.2 What Is Fast Fashion, And Why Is It a Socio-legal Concern?

In recent years, the question of the origin of our clothing has transitioned from a mere curiosity to a pressing subject.⁵³² It was on April 24, 2013, when the Rana Plaza disaster occurred on the outskirts of Dhaka in Bangladesh; more than 1,130 individuals perished when the factory in which they worked collapsed.⁵³³ This incident incited Fashion Revolution co-founders, Carry Somers and Orsola de Castro, into action. Their campaign was straightforward. They were urging the industry to take more responsibility and increase transparency in supply chains.⁵³⁴ Presently, worse than this is the potential for the industry to contribute to a serious global catastrophe that could wipe out the entire human race, unless ‘precautionary measures’ are taken to regulate its operations.⁵³⁵ According to a recent study, not only does the industry contribute more to climate change than international aviation and shipping combined, but also buying just one white cotton shirt produces the same amount of emissions as driving 35 miles in a car.⁵³⁶ Thus, if these conclusions are accurate, we have no choice but to reconsider the

⁵³² Blanchard (n. 1).

⁵³³ Ibid.

⁵³⁴ Ibid.

⁵³⁵ Brewer (n. 4) 2.

⁵³⁶ Armanos Algamal, ‘New Shocking Facts about the Impact of Fast Fashion on our Climate’ <<https://www.oxfam.org.uk/oxfam-in-action/oxfam-blog/new-shocking-facts-about-the-impact-of-fast-fashion-on-our-climate/>> accessed 30 March 2024.

industry's environmental impact as regards the duty of care of corporations to protect the environment.

To begin, the term “fast fashion” refers to affordable yet fashionable garments that are cheaply produced and quickly abandoned in favour of new styles.⁵³⁷ According to a recent report, the fashion industry is the second-most polluting industry, just after the oil and fossil fuel industry.⁵³⁸ Internationally, while China is the world's top textile exporter and leads the fashion industry, the US and the EU consume more than half of the industry's output, while Africa, notably East and West African nations, are drowned under the weight of second-hand goods dumped by the Western world.⁵³⁹ That is, despite the fact that clothes are an essential part of our daily lives, many people fail to consider where they came from and how they ended up in their wardrobe.⁵⁴⁰ In other words, from the cultivation of fibres that will become textiles to the dying processes and final consumption, the clothes we wear impact our environment in each and every step.⁵⁴¹ Worse than this, nowadays, these effects are exacerbated by the rapid production of inexpensive clothing that mimics the ever-changing trends of high-fashion brands.

Made by low-paid workers in China and Bangladesh, sold in Western countries, and dumped in Africa, fast fashion is in many ways detrimental to the human environment.⁵⁴² That is, not only does the industry contribute 10% of global carbon emissions, but it also contributes 20% of industrial wastewater via textile treatment and dyeing.⁵⁴³ As earlier stated, the industry

⁵³⁷ Pavithra Rao, ‘Battling the damaging effects of fast fashion: A call for sustainability in the fashion world, as effects of climate change continue to bite’ < <https://www.un.org/africarenewal/magazine/december-2019-march-2020/battling-damaging-effects-%E2%80%98fast-fashion%E2%80%99>> accessed 30 March 2024.

⁵³⁸ Ibid.

⁵³⁹ Plastic Soup (n. 41); Priya (n. 29) 1680; Herbst (n. 25) 907-910; In this context, the term “Western world,” hereinafter referred to as the West, predominantly comprises the United States, Australia, and Europe.

⁵⁴⁰ Katrina L. Wilkinson, ‘A Legal Solution to a Fast Fashion Problem’ (2021) 11 *Ariz J Env't L & Pol'y* 186, 187-188.

⁵⁴¹ Ibid.

⁵⁴² Plastic Soup (n. 41).

⁵⁴³ Rao (n. 537).

consumes more energy than aviation and shipping combined.⁵⁴⁴ The industry is infamous not only for its carbon emissions, but also the quantity of resources it wastes, including the millions of garments that end up in landfills every day.⁵⁴⁵ As a result, the industry has been criticised for its limited attention to social and environmental problems, pushing the non-financial repercussions of fast fashion to the top of the global public agenda.⁵⁴⁶

At present, the rising environmental impact of the textile industry can be attributed not only to a significant increase in textile production, but also to an increase in textile consumption, as fashion brands produce nearly twice as many clothing as they did prior to the year 2000.⁵⁴⁷ This drastic change is a result of the emergence of business models based on providing consumers with new, low-priced products that mimic the ever-changing trends of high-fashion brands.⁵⁴⁸ The industry not only profits from impulse purchases, but it also creates a sense of urgency for spending.⁵⁴⁹ Hence, notwithstanding its heinous consequences, the industry has been extremely profitable, as evidenced by its continuous growth and outperformance of more conventional business models.⁵⁵⁰ Currently, the fashion business is one of the world's most commercially and culturally significant industries. The global apparel market was valued at \$1.5 trillion just two years ago.⁵⁵¹

That is, while modern fashion trends have encouraged manufacturers to mass-produce garments at reduced costs, these low-priced garments are typically made from inexpensive fabrics of such poor quality that they cannot be worn for very long and are therefore quickly discarded or are in such poor condition that they cannot be reused or repurposed as clothing

⁵⁴⁴ Ibid.

⁵⁴⁵ Igini (n. 110).

⁵⁴⁶ Niinimäki (n. 18) 189-190.

⁵⁴⁷ Ibid 189.

⁵⁴⁸ Ibid.

⁵⁴⁹ Ibid.

⁵⁵⁰ Ibid.

⁵⁵¹ Francesca Witzburg, 'Fashion Forward: Fashion Innovation in the Era of Disruption' (2021) 39 *Cardozo Arts & Ent LJ* 705, 706.

again.⁵⁵² That is, whereas traditional “legacy” high-fashion brands, such as Ralph Lauren, Calvin Klein, and Tommy Hilfiger, offer limited seasonal releases of clothing because manufacturing and distribution can take up to nearly two years, fast fashion giants, such as Zara, can produce an entire collection and distribute it to consumers in about four months.⁵⁵³ Thus, given the environmental cost of producing just a single garment, from the cultivation of fibres to their spinning into yarns and threads, to the weaving of textiles, to the dyeing of fabric, to the assembly and distribution of clothes, fast fashion as a business model cannot in any way be justified.⁵⁵⁴

As the average garment-use time has decreased by 36% since 2005, with evidence from countries, such as the UK and Norway, indicating disposal after little use, particularly for impulse purchases, the average American consumer now purchases one item of clothing every 5.5 days, and a 40% increase in clothing purchases has been observed in Europe since 1996.⁵⁵⁵ Consequently, more new clothes are now bought per person per year, measured as 14.5kg in Italy, 16.7kg in Germany, 26.7kg in the United Kingdom, and between 13kg to 16kg in Sweden, Denmark, Finland, and Norway.⁵⁵⁶ Even though these examples are based solely on data from the United States and the EU, studies indicate that the population growth in emerging markets has contributed to an increase in the Global South’s consumption of and preference for Western-style apparel.⁵⁵⁷

Producers and retailers of fast fashion did not prioritise pollution and waste management but focused instead on cost reductions and speed of delivery to the market.⁵⁵⁸ Now, with the public’s attention firmly focused on the climate crisis and environmental sustainability, the

⁵⁵² Wilkinson (n. 540).

⁵⁵³ Ibid 188.

⁵⁵⁴ Algamal (n. 536).

⁵⁵⁵ Ibid.

⁵⁵⁶ Ibid.

⁵⁵⁷ Ibid.

⁵⁵⁸ Ibid.

industry is compelled to seek more sustainable practises and consider its environmental impact more carefully. Nevertheless, the globalisation of the textile and fashion industry has resulted in an unequal distribution of these environmental consequences, with developing countries (which produce the majority of textiles and clothing) shouldering the burden for developed countries (which consume the majority of the products).⁵⁵⁹ That is, although produced in developing countries, after manufacturing, garments are delivered in huge quantities to central retail distribution centres, followed by smaller retailers where garments are sold, typically in the UK, EU, and USA.

Traditionally, these garments are transported by container ships; however, an increasing number are shipped by air freight to reduce delivery times, particularly for online sales.⁵⁶⁰ However, given that shifting just 1% of clothing shipping from ships to air cargo would increase carbon emissions by 35%, fast fashion has a far greater negative impact on the environment than we initially believed.⁵⁶¹ Due to the complexity of supply chains, for instance, an item of clothing may have been moved across the globe once, twice, or even more times during the different phases of production. Worst of all, when a garment approaches the end of its useful life, a large number of them are burned, dumped to developing countries and landfills, and very few are recycled.⁵⁶²

In many Western nations, such as the United Kingdom, it is estimated that clothing and textile waste is the fastest-growing waste stream.⁵⁶³ This is a direct result of Britain's textile and apparel consumption increasing by more than 30 percent between 2005 and 2020.⁵⁶⁴ Fast

⁵⁵⁹ Ibid 191.

⁵⁶⁰ Ibid.

⁵⁶¹ Hyunsook Kim, 'The motivational drivers of fast fashion avoidance' (2013) 17(2) *Journal of Fashion Marketing and Management* 243, 244.

⁵⁶² Ibid.

⁵⁶³ Kirsi Niinimäki, *From disposable to sustainable: the complex interplay between design and consumption of textiles and clothing* (Aalto University Press, 2011) 29.

⁵⁶⁴ Ibid.

fashion, characterised by its low quality as well as very short product life span, is gaining a larger share of the market these days compared to more conventional business models.⁵⁶⁵ However, the increased purchase of short-life-span products is solely to blame for the massive amounts of waste produced these days.⁵⁶⁶ For example, while over 70% of used apparel and textiles end up in landfills due to poor product quality, the 30% that are recycled frequently involve downcycling.⁵⁶⁷ In other words, the process of recycling makes low-quality goods much worse, lowering the value of outputs, particularly for textiles.

In the context of sustainable development, the increase in waste streams can thus be interpreted as failed person-product relationships.⁵⁶⁸ Products are discarded not only due to their poor quality (which results in a limited use time), but also because they become outdated due to new trends and fashion. Product durability and long-term use, in contrast to the current system, are prerequisites for sustainable consumption.⁵⁶⁹ In other words, market forces can serve as a powerful impetus for producers and retailers to shift their focus to responsibly made clothing.⁵⁷⁰ For example, as consumers grow more cognizant of the negative effects of fast fashion, their desire for more sustainable options increases.⁵⁷¹ According to Niinimäki, even though governmental laws and regulations that affect producer responsibility are the most influential means of altering the industrial system towards a path of sustainability, influencing the consumption patterns of individual consumers and households are not to be disregarded.⁵⁷²

⁵⁶⁵ Ibid.

⁵⁶⁶ Ibid 30.

⁵⁶⁷ Ibid.

⁵⁶⁸ Julian Allwood, 'An approach to scenario analysis of the sustainability of an industrial sector applied to clothing and textiles in the UK' (2008) 16(12) *Journal of Cleaner production* 1234, 1234-1235.

⁵⁶⁹ Ibid.

⁵⁷⁰ Wilkinson (n. 540) 193.

⁵⁷¹ Ibid.

⁵⁷² Niinimäki (n. 563) 30.

Nowadays, it is not about how much a consumer spends, but rather the types of products they consume, how they use them, how long they use them, and how they dispose of them.⁵⁷³ Although consumers have a limited influence on industrial processes, their choices can influence household consumption patterns and the environmental impact of products.⁵⁷⁴ According to Catherine West, Chair of the APPG and Labour MP for Hornsey and Wood Green, UK, while creating a sustainable and ethical future for the fashion industry is a significant but complex challenge for government, industry, and the public, it is clear that there is a strong desire for it on all sides.⁵⁷⁵

Consequently, “we must seize this moment by pushing the government to be a global leader, helping to build a more sustainable and ethical fashion industry.”⁵⁷⁶ At present, if any, the industry suffers from a weak regulatory framework that fails to effectively regulate its operations.⁵⁷⁷ As a result, brands in the sector often rely on hollow promises, resulting in a phenomenon known as ‘greenwashing,’ where prominent brands make misleading claims about their sustainable practices.⁵⁷⁸ A recent instance is the Boohoo case, where it was discovered that the company had falsely put ‘Made in UK’ labels on thousands of clothes that were actually manufactured in South Asia.⁵⁷⁹

Beyond exacerbating water scarcity through wastewater pollution, some chemicals used in textile manufacturing are toxic and, if not properly treated, may gradually degrade local groundwater and the entire ecosystem via absorption by root hairs.⁵⁸⁰ For example, in

⁵⁷³ Ibid.

⁵⁷⁴ Jonathan Chapman, *Emotionally durable design: objects, experiences and empathy* (Routledge, 2012) 16.

⁵⁷⁵ Rebecca Smithers, ‘MPs urge government to fix ‘throwaway’ fast-fashion trend’ (The Guardian, 15 September 2020) <<https://www.theguardian.com/fashion/2020/sep/15/mps-urge-government-fix-throwaway-fast-fashion-trend-sustainable>> accessed 30 March 2024.

⁵⁷⁶ Ibid.

⁵⁷⁷ Wohlgemuth (n. 45).

⁵⁷⁸ Adamkiewicz (n. 34) 100711-100714.

⁵⁷⁹ The Panorama Team, ‘Boohoo put ‘Made in UK’ labels on clothes made overseas’ (BBC News, 11 January 2024) <<https://www.bbc.co.uk/news/uk-67929755>> accessed 30 March 2024.

⁵⁸⁰ Niinimäki (n. 18) 192.

Cambodia, the fashion industry, which accounts for 88% of all industrial manufacturing (as of 2008), is responsible for 60% of water pollution and 34% of chemical pollution.⁵⁸¹ Similar to the chemical leak in Bhopal, India, these are serious environmental concerns that should not be overlooked. According to the Intergovernmental Panel on Climate Change (IPCC), textiles, along with aluminium, produce the most greenhouse gases per unit of material.⁵⁸² Although the scope and method of this estimate are still being debated, the textile industry, as noted previously, accounts for 10% of global greenhouse gas emissions.⁵⁸³ A number so significant that it cannot be overlooked amidst our present environmental challenges.

In their study, Quantis, a leading sustainability consultancy, relied on industry-specific impact data obtained from the World Apparel & Footwear Lifecycle Assessment Database to investigate a more resilient future for the clothing and fashion industry.⁵⁸⁴ Thus, in order to drive bold Climate Action from the textile industry, the group conducted a comprehensive study of the environmental impact across the value chains of both the apparel and footwear industries. The primary objective of the study was to give accurate information on the environmental performance of these industries and to inform and inspire them to adopt a science-based approach to reduce their environmental effect (for example, by aligning with the Science Based Targets initiative or other leading initiatives).⁵⁸⁵

In the end, it was projected that, using the year 2016 as a baseline, the fashion industry emitted approximately 4.0 gigatonnes (Gt) of CO₂, which was equivalent to 8.1% of the world's CO₂ emissions.⁵⁸⁶ About one-fifth (0.7Gt CO₂ equivalent, or 1.4% of global emissions) of these

⁵⁸¹ Ibid.

⁵⁸² Ibid.

⁵⁸³ Ibid.

⁵⁸⁴ Quantis, *Measuring Fashion: Insights from the Environmental Impact of the Global Apparel and Footwear Industries study* (Quantis, Full Report, 2018) <<https://quantis.com/report/measuring-fashion-report/>> accessed 30 March 2024.

⁵⁸⁵ Ibid 5.

⁵⁸⁶ Niinimäki (n. 18) 192.

CO2 emissions were attributable to footwear alone, with the remainder attributable to apparel (3.3Gt CO2 equivalent, or 6.7% of global emissions), although none of these estimates include emissions during the use phase of the life cycle, such as transport from retail environments and laundering.⁵⁸⁷ In contrast, according to the estimates provided by the Carbon Trust, which are thought to be more conservative, approximately 0.33Gt of CO2 equivalent was emitted in 2011 alone as a result of the production of clothing (excluding footwear), and an additional 0.530Gt of CO2 was emitted during the product's use phase.⁵⁸⁸ However, according to a study of Swedish textile consumption, the use phase of textiles may account for 14% of the total environmental impacts of clothing consumption.⁵⁸⁹

According to Niinimäki, however, the high carbon footprint of the apparel and fashion industry may be due to the industry's high energy consumption, which is often influenced by the energy source that is used.⁵⁹⁰ In China, for instance, textile production is dependent on coal-based energy, resulting in a 40% greater carbon footprint than textiles produced in Turkey or Europe.⁵⁹¹ That is, high energy requirements and CO2 emissions are not only associated with textile production, but also with textile consumption (mainly laundry) and distribution, especially when air freight is utilised.⁵⁹² Nowadays, in addition to fibre type, the method of textile production may also impact energy consumption and environmental effects. For instance, conventional cotton cultivation can generate 3.5 times more CO2 than organic cotton

⁵⁸⁷ Ibid.

⁵⁸⁸ Ibid.

⁵⁸⁹ Federation of Finnish Textile and Clothing Industry, 'National data: Fashion Statistics Finland' <<https://fashionunited.com/statistics/finland>> accessed 30 March 2024.

⁵⁹⁰ Niinimäki (n. 18) 192.

⁵⁹¹ Marion Tobler-Rohr, *Handbook of sustainable textile production* (Elsevier, 2011) 2.

⁵⁹² Roy Choudhury, 'Environmental impacts of the textile industry and its assessment through life cycle assessment. *Roadmap to sustainable textiles and clothing: environmental and social aspects of textiles and clothing supply chain* (Springer, 2014) 10-11.

production, which creates twice as much CO₂ in India as organic cotton cultivation in the United States.⁵⁹³

Thus, as natural fibres have a smaller carbon footprint than synthetic fibres, it is thought that one effective way to reduce CO₂ emissions related with fibre production would be to replace polyester with natural fibres.⁵⁹⁴ Even so, a significant number of academics believe that the reduced carbon footprint of natural fibres during production is later offset by the higher energy requirements of washing, drying, and ironing in comparison to synthetics during the usage phase.⁵⁹⁵ One investigation of the life-cycle emissions of a cotton T-shirt, for example, indicated that, based on 50 washes, 35% of CO₂ emissions were generated during textile production, whereas 52% were generated during the use phase.⁵⁹⁶ Thus, to lessen the fashion industry's effect on greenhouse gases, production volumes and non-renewable energy use must be lowered, polyester manufacture should be replaced with renewable plant-based textiles and sustainable shipping and garment usage must be considered.⁵⁹⁷

Globalisation and the development of a global economy have led to the globalisation of supply chains, shifting the production of fibres, the manufacturing of textiles, and the construction of garments to areas with cheaper labour.⁵⁹⁸ While increased consumption drives the production of inexpensive clothing, prices are kept down by outsourcing production to low and middle-income countries. Nowadays, the textile and apparel industries have moved the environmental and occupational burdens associated with mass production and disposal from high-income

⁵⁹³ Niinimäki (n. 18) 192.

⁵⁹⁴ Pil-Ju Park and Tahara Kiyotaka, 'Quantifying producer and consumer-based eco-efficiencies for the identification of key eco-design issues' (2008) 16(1) *Journal of Cleaner Production* 95, 97.

⁵⁹⁵ Sohail Yasin and Sun Danmei, 'Propelling textile waste to ascend the ladder of sustainability: EOL study on probing environmental parity in technical textiles' (2019) 233 *Journal of Cleaner Production* 1451, 1456.

⁵⁹⁶ Niinimäki (n. 18) 193.

⁵⁹⁷ *Ibid.*

⁵⁹⁸ Rachel Bick, 'The global environmental injustice of fast fashion' (2018) 17(92) *Environmental Health Fashion* 1, 1-2.

nations to under-resourced (e.g., low-income and low-wage worker) communities.⁵⁹⁹ Thus, extending the definition of environmental injustice to include the disproportionate impact felt by these communities as a result of the mass production and disposal of clothing is crucial to comprehending the amount of global injustice caused by the apparel and fashion industry.

Even while consumers have limited opportunities to make a difference in relation to environmental issues, the choices they make can still have some degree of influence, particularly in the clothing and fashion industries.⁶⁰⁰ According to Spangenberg, one of the areas in which individuals and households may have a significant impact on the environment is through their choice of clothing.⁶⁰¹ Culturally and economically, this industry continues to be one of the world's most significant industries.⁶⁰² The economic and cultural relevance of clothing stems from the fact that it is an area where consumption decisions are frequently articulated.⁶⁰³ Clothing is seen to be the intersection of art and style, need and utility, and desire and luxury.⁶⁰⁴ In other words, we not only need but also desire clothing.⁶⁰⁵ This explains why, despite the devastating effects mentioned above, there continues to be a great number of brands and retailers on the market.

2.3 The Psychology of Fashion: Understanding the Emotions People Attach to Clothing

Since present consumption is heavily reliant on experiences, and product design is centred on the emotional experience a product can provide for a user, it is important to examine the meaning of experience and pleasures provided by current vast consumption of clothing. As already stated, products are discarded not only due to their poor quality (which results in a

⁵⁹⁹ Ibid 2.

⁶⁰⁰ Niinimäki (n. 563) 30.

⁶⁰¹ Ibid.

⁶⁰² Witzburg (n. 551) 706.

⁶⁰³ Ibid.

⁶⁰⁴ Ibid.

⁶⁰⁵ Ibid.

limited usage time), but also because new trends and fashion make products look out of date.⁶⁰⁶ Although the post-modern era is marked by its constant change, multiple choices, and the freedom of individuals to construct themselves, present consumer culture defines consumption in post-modern society.⁶⁰⁷ According to McCracken, our modern society is a “liquid society” that is always changing.⁶⁰⁸ Thus, the persistent presence of fluidity and uncertainty affects a consumer’s constant self-critique.⁶⁰⁹ Consumer identity is thus considered “mobile” since it is subject to frequent modifications and re-evaluations as part of the individual’s continuing transformation process.⁶¹⁰

This fluidity of identity and ongoing critique in turn contribute to consumer insecurity since the customer is forced to analyse purchasing decisions in light of how well they will be received by society.⁶¹¹ According to Slater, a consumer has an ongoing need to renew his/her appearance according to a mobile self.⁶¹² In other words, while “self” is strongly tied to consumption behaviours, the relationship between consumption and satisfaction creates a certain amount of flexibility in a consumer’s identity construction.⁶¹³ Products convey status and social identity, yet these meanings are negotiable and flexible in the post-modern era. That is, according to Slater, the post-modern identity is actually a function of consumption.⁶¹⁴ Hence, the constant shift in a consumer’s identity construction affects not just the aesthetic concept of clothing, but also its social acceptance processes.⁶¹⁵ Roach and Eicher, for instance, argue that not only must consumers intentionally consider what is culturally and socially meaningful when deciding on

⁶⁰⁶ Niinimäki (n. 563) 30.

⁶⁰⁷ Grant D. McCracken, *Culture and Consumption. A New Approach to the Symbolic Character of Consumer Goods and Activities* (Indiana University Press, 1988) 74-78.

⁶⁰⁸ Ibid.

⁶⁰⁹ Ibid; See also Chapman (n. 574) 16.

⁶¹⁰ Niinimäki (n. 563) 34.

⁶¹¹ Ibid; See Design Jonathan Chapman, *Subject/object relationships and emotionally durable design* (Routledge, 2016) 87-88.

⁶¹² Don Slater, *Consumer Culture & Modernity* (4th edn, Polity Press, 2002) 112-116.

⁶¹³ Ibid; See Jon Kolko, ‘Design thinking comes of age’ (2015) *Harvard Business Review* 66, 67.

⁶¹⁴ Slater (n. 612).

⁶¹⁵ Ibid; See Jonathan Chapman, ‘Design for (emotional) durability’ (2009) 25(4) *Design Issues* 29, 30-32.

what to wear, but they must also retain an appealing self-type within the boundaries of what is culturally acceptable.⁶¹⁶ This helps to explain why our society has such a high demand for clothing despite its negative environmental impact.

According to Slater, the mobile self needs ongoing construction and is an ever-changing process.⁶¹⁷ The concept of freedom, for example, is central to post-modern consumer society, and individuality is a potent representation of freedom.⁶¹⁸ Thus, not only do purchases and possessions enable consumers to express their independence and originality, but they also enable customers to construct their social image and lifestyle.⁶¹⁹ Consequently, there is a compelling need for industries to grow in order to satisfy these unending consumer expectations.⁶²⁰ That is, according to McCracken, for instance, people acquire many items because they aspire to a particular lifestyle, and clothing, for example, provides a small portion of this lifestyle to the consumer.⁶²¹ Inasmuch as the acquisition of no single product can completely satisfy the consumer's preferred lifestyle, he/she remains dissatisfied and the search continues.⁶²² This presents an alternative explanation for the excessive consumption of clothing in modern civilisation.

According to Wang and Wallendorf, the desire to gain social status through possession is intrinsically linked to an individual's materialistic values.⁶²³ In other words, individuals desire products with specific qualities with which they may want to identify. While emotions are at the heart of human existence and play an important role in consumption, textiles and clothing

⁶¹⁶ Mary E. Roach and Joanne Eicher, *The visible self: Perspectives on Dress* (Prentice Hall, 1973) 18-20.

⁶¹⁷ Slater (n. 612) 118-120.

⁶¹⁸ Ibid; See Anders Haug, 'Psychologically durable design—Definitions and approaches' (2019) 22(2) *The Design Journal* 143, 145.

⁶¹⁹ Niinimäki (n. 563) 35-36.

⁶²⁰ Brewer (n. 4) 3.

⁶²¹ McCracken (n. 607) 74-78.

⁶²² Niinimäki (n. 563) 35.

⁶²³ Jeff Wang and Melanie Wallendorf, 'Materialism, status signaling, and product satisfaction' (2006) 34(4) *Journal of the Academy of Marketing Science* 494, 495-498; See also Niinimäki (n. 563) 35-36.

fall under the category of self-expressive products.⁶²⁴ This means that consumption-related emotions are particularly important following the acquisition of these products. Hence, individuals with strong materialistic values try to achieve satisfaction by consuming more of these items. For a Western consumer, the relationship between wants, needs, values, attitudes, and experiences are emotionally meaningful.⁶²⁵ Hence, emotional obsolescence can cause a product to be discarded prematurely.

According to Chen and Burns, the symbolic meaning of products is linked to psychological satisfaction via an emotional response; therefore, clothing, for example, can help a person identify with a particular set of individuals, be it demographic or cultural.⁶²⁶ Consequently, when a product no longer evokes a positive emotional response, such as when it goes out of fashion, the consumer experiences psychological obsolescence and a strong urge to replace the product with a new one.⁶²⁷ The new product enables the consumer to rediscover that excitement, if only for a brief period of time; in other words, people desire objects that are not readily available, and they cannot enjoy them.⁶²⁸ That is, desire emerges from the distance created between an individual and a product.⁶²⁹ According to Dewey, individuals engage with objects to create positive experiences.⁶³⁰ In other words, products interact with a person's needs, desires, goals, and abilities to create experiences.⁶³¹ Hence, the more a person consumes a product, the more likely they are to have similar favourable experiences.⁶³² This further explains why people cannot live without clothing in contemporary modern culture, where it is

⁶²⁴ Haug (n. 618) 145.

⁶²⁵ Niinimäki (n. 563) 35-37.

⁶²⁶ Hsiou-Lien Chen and Leslie D. Burns, 'Environmental analysis of textile products' (2006) 24(3) *Clothing and textiles research journal* 248, 252-256.

⁶²⁷ *Ibid.*

⁶²⁸ Niinimäki (n. 563) 36.

⁶²⁹ Chapman (n. 615) 30-32.

⁶³⁰ John Dewey, *Art as Experience* (3rd edn, TarcherPerigee, 2005) 34-38.

⁶³¹ Haug (n. 618) 144.

⁶³² Niinimäki (n. 563) 75.

all about producing great consumer experiences, even if it comes at the expense of our very existence, the human environment.

2.4 Consumers' Readiness to Pay More for Sustainable Textiles and Clothing

Despite the fact that consumers are generally interested in environmental issues and that gaining a better understanding of their desires and values could lead to new sustainable design opportunities in the clothing and fashion industries, designers and producers lack knowledge about consumers' interest in and attitudes toward eco-issues in the textiles and clothing fields.⁶³³ Although consumer decisions are sometimes irrational and poorly connected to their values, consumers use their purchasing power to fulfil deep underlying motives and unconscious desires.⁶³⁴ As a result, producers must challenge consumers to actualise their ethical values through their purchasing and consumption decisions.⁶³⁵ For example, the following is a quote from the questionnaire of one study investigating consumer attitudes toward environmental issues in the textile and clothing industry:

“We should return, in our consuming behaviour, back to the time, where we bought a little, but expensive and good. Now cheap products block the way to realizing this ideal and [...] producers have to carry the responsibility. In shops there should only be ecological and ethical clothes and other products. It is incomprehensible that now the responsibility has been pushed to consumers and while maximizing profits we have ended up in a situation where consumers have to separately demand ethicality and ‘ecological-ness.’ Enterprises should somehow be forced to follow ethical

⁶³³ Ibid 75-76; Emma Peters, ‘The mnemonic qualities of textiles: Sustaining lifelong attachment’ (2014) 6 *Craft Plus Design Enquiry* 75, 76.

⁶³⁴ Mary Ruppert-Stroescu, ‘Creativity and sustainable fashion apparel consumption: The fashion detox’ (2015) 33(3) *Clothing and Textiles Research Journal* 167, 168-170; Niinimäki (n. 563) 76.

⁶³⁵ Ibid; See Kaisa Vehmas, ‘Consumer attitudes and communication in circular fashion’ (2018) 22(3) *Journal of Fashion Marketing and Management* 286, 287-288.

and ecological principles with the help of legal institutions and laws, and these have to be tight enough.”⁶³⁶

That is, while the majority of consumers believe that their values are based on ethics, they feel that authorities have given too much responsibility to consumers.⁶³⁷ Thus, in order to shift consumption habits toward more sustainable ones, consumers desire manufacturer and government action, such as enhanced environmental education and green taxation.⁶³⁸ Despite this, consumers would prefer that producers bear full responsibility for environmental challenges.⁶³⁹ For instance, in the above study, when consumers were asked about their preferences for products’ environmental optimisation, a total of 73.4% of respondents felt that it would be beneficial if products were automatically optimised based on environmental concerns, eliminating the need for additional environmental labelling.⁶⁴⁰

The environmental aspect of design should not result in “eco-aesthetics” to distinguish eco-clothing, as only a tiny percentage of consumers seek to communicate their ethical and environmental values through changes in clothing design.⁶⁴¹ In other words, consumers do not want eco-clothing to differ in design or appearance.⁶⁴² Thus, since the majority of respondents (70%) prefer eco-clothing to look exactly like regular clothes, it may be more prudent to think of the ecological aspects of clothing during production, particularly in material selection, rather than in new design concepts.⁶⁴³ According to the study, not only are the majority of consumers willing to pay more for sustainable textiles and clothing (65.7%), but they are also ready to

⁶³⁶ Niinimäki (n. 563) 76-77.

⁶³⁷ Ibid; See also Ruppert-Stroescu (n. 634) 169.

⁶³⁸ Niinimäki (n. 563) 76.

⁶³⁹ Ibid 77.

⁶⁴⁰ Vehmas (n. 635) 287-288.

⁶⁴¹ Ibid.

⁶⁴² Ibid; Kirsi Niinimäki, *Sustainable consumer satisfaction in the context of clothing* (Routledge, 2017) 225-227.

⁶⁴³ Niinimäki (n. 563) 76.

change their maintenance and repair practices (94.6%) so that they can wear their clothing for longer and reduce their individual environmental impact.⁶⁴⁴

2.5 The Impact of Low-Quality Second-Hand Clothing Dumped in Developing Countries

Although shipping clothes to consumers in high-income economies is often considered the end of the fast fashion business, environmental injustices continue long after the clothes have been sold.⁶⁴⁵ As a modern business strategy, fast fashion encourages people to view clothing as disposable.⁶⁴⁶ The average American, for example, discards over 80 pounds of clothing every year, accounting for nearly 5% of landfill space.⁶⁴⁷ Those that are not taken directly to landfills frequently end up in the second-hand clothing market, where, due to their poor quality, they still end up in landfills and create a serious environmental situation that affects the entire planet due to the high greenhouse gas effects of landfills and the resulting temperature fluctuations linked with extreme weather events such as flooding and wildfires.⁶⁴⁸

In other words, while post-consumer textile waste constitutes a significant threat to the global environment, present massive production and over-reliance on fast fashion necessitates a global response so long as waste management remains one of the world's most pressing environmental concerns now.⁶⁴⁹ Historically, the Global North has dealt with textile waste mainly by exporting unwanted clothes to regions of the Global South, particularly countries in Africa.⁶⁵⁰ However, contemporary studies indicate that such practises have long since ended, as the dumping of fashion waste in these regions not only poses a major environmental threat to these communities, but to the global community as a whole due to the mismanagement of such waste,

⁶⁴⁴ Ibid.

⁶⁴⁵ Bick (n. 598) 2.

⁶⁴⁶ Ibid.

⁶⁴⁷ Ibid.

⁶⁴⁸ Priya (n. 29) 1680.

⁶⁴⁹ Ibid; See Niinimäki (n. 18) 195.

⁶⁵⁰ Priya Ibid.

which includes the burning of unwanted textiles and the pollution from landfills, which includes, but is not limited to, the emission of greenhouse gases and water pollution, primarily the washing of synthetics into our ocean.⁶⁵¹ The garment industry is one of several industries having a threefold impact, including air and water pollution, as well as large amounts of waste for landfill and incineration.⁶⁵² Thus, in order to create a more sustainable fashion industry, we must address all of these concerns and devise solutions ranging from increased water use efficiency to the adoption of more environmentally friendly production materials. In other words, governments must invest in projects that provide incentives for the production of more environmentally sustainable fibres and collaborate with businesses to promote the development of mechanical and chemical fibre recycling technologies, particularly those that can separate blended fibres, in order to save the world from the predicted devastation caused by the massive amount of fashion waste produced currently, especially those often dumped in developing countries due to the high cost of recycling in the Western world.⁶⁵³

“We need to build on existing industry initiatives and fundamentally rethink the way clothes are manufactured, right down to the fibres that are used,” said Aurelie Hulse, lead author of one of the most widely cited papers on the environmental effects of the garment industry, “Engineering Out Fashion Waste.”⁶⁵⁴ Garments should be designed so that they do not fall apart at the seams and can be recycled after being used for many years.⁶⁵⁵ While the marine environment is the ultimate destination for various anthropogenic pollutants, microfibers

⁶⁵¹ Ibid; Ashleigh Jimenez, ‘The Effects of Fast Fashion in West Africa’ <<https://borgenproject.org/fast-fashion-in-west-africa/>> accessed 30 March 2024.

⁶⁵² Institution of Mechanical Engineers, ‘Engineering out fashion waste’ <<https://www.imeche.org/policy-and-press/reports/detail/engineering-out-fashion-waste>> accessed 30 March 2024.

⁶⁵³ Ibid; See also Priya (n. 29).

⁶⁵⁴ Brett Mathews, ‘New report calls on fashion industry to end greenwashing’ (Apparelinsider, September 2018) <<https://apparelinsider.com/new-report-calls-on-fashion-industry-to-end-greenwashing/>> accessed 30 March 2024.

⁶⁵⁵ Ibid.

released from synthetic garments and other textile materials exacerbate the problem.⁶⁵⁶ According to a recent study on microplastic pollution, roughly 150 million microfibers enter the Atlantic Ocean everyday as a result of improper handling of textile waste, including those washed from landfills.⁶⁵⁷

According to the findings of a recent study regarding the massive dumping of discarded clothing in Ghana and Chile, Western countries are to be blamed for exporting vast quantities of fashion waste to low-income countries, particularly those in West Africa, and the reason is simple: Western communities overconsume cheap, low-quality clothing, and they dislike the waste.⁶⁵⁸ This practise makes the textile industry, and fast fashion in particular, considerably more polluting than it already is. Made by low-paid employees in China or Bangladesh, sold in the West, rarely worn, and quickly discarded, comparable to plastic waste, fashion waste has numerous negative effects on the global environment.⁶⁵⁹

Nowadays, clothes are purchased in large quantities online, tried on, returned, and then not resold. Often, these garments are composed of synthetic materials, such as polyester, and are difficult to recycle into new garments.⁶⁶⁰ Using the Netherlands as an example, nearly one billion articles of clothing are thrown annually.⁶⁶¹ Globally, an estimated 92 million tonnes of textile waste are produced annually, with the equivalent of a dump truck's load of clothing ending up in landfills every second because so little gets recycled.⁶⁶² Globally, only 12% of textile waste is recycled.⁶⁶³ At the same time, people are purchasing more clothes than ever

⁶⁵⁶ Sunanda Mishra, 'Marine microfiber pollution: a review on present status and future challenges' (2019) 140 *Marine Pollution Bulletin* 188, 192.

⁶⁵⁷ *Ibid.*

⁶⁵⁸ *Plastic Soup* (n. 41).

⁶⁵⁹ *Ibid.*

⁶⁶⁰ *Ibid.*

⁶⁶¹ *Ibid.*

⁶⁶² Rajkishore Nayak, *Sustainability in fashion and textiles: A survey from developing country* (Woodhead Publishing, 2020) 18-20.

⁶⁶³ *Ibid.*

before; the average consumer now purchases 60% more clothing than they did 15 years ago.⁶⁶⁴ In the United Kingdom, for example, more clothing is purchased every minute than in any other European country.⁶⁶⁵ Approximately 56 million tonnes of clothing are purchased annually on a global scale, with this number anticipated to increase to 93 million tonnes by 2030 and 160 million tonnes by 2050.⁶⁶⁶

Where all this material will go if only 12% of it gets recycled is an important question. That is, while it has become a sort of tradition for Western communities to dump their used pieces in developing countries in order to cut pollution from these materials, the Thesis contends that such practices constitute nothing more than a relocation of the problem, especially since environmental issues affect all nations equally irrespective of geographic origins.⁶⁶⁷ According to their studies, the Kantamanto market in Accra, Ghana, is currently the largest second-hand clothing market in West Africa.⁶⁶⁸ Each week, 20 million items of second-hand clothing arrive here; yet 40% are rejected from the market due to their poor quality.⁶⁶⁹ Unsold clothing is frequently abandoned in sewers and landfills before being washed into the ocean, where it is washed up on beaches by the waves and buried in the sand, in addition to the large quantities that are taken away to destroy marine life and food sources.⁶⁷⁰

Using Ghana as a case study, it is estimated that 10,000 articles of second-hand clothing arrive in Accra, Ghana's capital, every five minutes from the United Kingdom alone.⁶⁷¹ However, due to defects and poor quality, a substantial amount is typically consigned to landfills. While the Thesis addresses the environmental impact of these goods, traders in the second-hand

⁶⁶⁴ Ibid.

⁶⁶⁵ Ibid.

⁶⁶⁶ Ibid.

⁶⁶⁷ Priya (n. 29) 1680; Spijkers (n. 364) 249.

⁶⁶⁸ Plastic Soup (n. 41).

⁶⁶⁹ Ibid.

⁶⁷⁰ Ibid.

⁶⁷¹ Priya (n. 29) 1680.

clothing business in Accra's largest market, the Kantamanto market, lament the recent decline in their business as more and more of their stock is dumped as waste due to low quality.⁶⁷² In 2013, the government commissioned a massive landfill in Kpone with a daily capacity of 700 tonnes.⁶⁷³ The Accra Metropolitan Assembly (AMA) was tasked with collecting up to 70 tonnes of waste (unsold second-hand clothing) every day from the Kantamanto market alone.⁶⁷⁴

The process began in 2016, and four years later, Kpone was overflowing with textile waste.⁶⁷⁵ However, due to a lack of funds, the Accra Metropolitan Assembly was unable to continue with this project.⁶⁷⁶ Currently, in addition to the massive volumes dumped in landfills and burned in open flames, a significant proportion of these garments are regularly dumped in sewers and carried into rivers, eventually ending up in the ocean, posing a serious threat to the marine ecosystem and significantly contributing to rising sea levels.⁶⁷⁷ While the focus has always been on the health risks associated with these practises, such as the outbreak of diseases like cholera and malaria, this Thesis focuses on the environmental consequences of this problem, specifically how it contributes to the issue of climate change and/or global warming through the greenhouse gas effects of these landfill sites and the vast amount of CO₂ emitted through open burning.

In spite of the fact that the Ghanaian government has taken a number of initiatives to ensure the proper management and collection of this waste, the results have been disappointing due to the enormous financial burden associated with this initiative.⁶⁷⁸ According to a recent study, the government pays approximately 7,800 sanitation workers each month to collect these

⁶⁷² Ibid 1679.

⁶⁷³ Ibid 1680.

⁶⁷⁴ Ibid; See also Nayak (n. 662) 20.

⁶⁷⁵ Priya Ibid.

⁶⁷⁶ Ibid.

⁶⁷⁷ Lotika Gupta and Harminder Kaur Saini, 'Achieving sustainability through zero waste fashion-A review' (2020) 15(2) *Current World Environment* 154, 156.

⁶⁷⁸ Priya (n. 29) 1680.

wastes from the various markets, especially the Kantamanto market, and to collect the massive dump in Kpone in order to reduce the open burning of such waste as part of the nation's ambitious climate mitigation actions.⁶⁷⁹

Hence, a critical question is whether developed countries are prepared to support such projects or compensate for the damages caused by climate change, considering that they significantly contribute to most, if not all, of these problems that developing countries are facing.⁶⁸⁰ Using 2020 as an example, while Ghana was the leading importer of second-hand clothing, the United States (\$600M), China (\$404M), the United Kingdom (\$315M), Germany (\$304M), and South Korea (\$276M) were the leading exporters.⁶⁸¹ Currently, despite the lack of significant progress, countries, such as Ghana, are seeking international cooperation to prohibit the export of used clothes given its negative environmental effects.⁶⁸²

Dumping of low-quality second-hand clothing is a major problem not just in West Africa, but also in East African countries, such as Tanzania and Kenya.⁶⁸³ When consumers donate their used clothes to a charity, a take-back box at a brand's store, or a collection and recycling station, they often hope that the clothes will be resold or recycled into new garments.⁶⁸⁴ Nonetheless, due to damages and poor quality, only a tiny proportion (between 10 and 30 percent) are typically resold in the locations where they are first collected.⁶⁸⁵ Consequently, some are downcycled into lower grade materials such as rags, and more than half are exported for resale, albeit this time primarily to nations in East and West Africa.⁶⁸⁶ To learn more about what happens to these used and exported clothes, Greenpeace, an independent international

⁶⁷⁹ Ibid 1682.

⁶⁸⁰ The Observatory of Economic Complexity (n. 41).

⁶⁸¹ Ibid.

⁶⁸² Niinimäki (n. 18) 195.

⁶⁸³ Wohlgemuth (n. 45).

⁶⁸⁴ Ibid.

⁶⁸⁵ Ibid.

⁶⁸⁶ Ibid; See also Nayak (n. 662) 22.

campaigning network, dedicated to safeguarding the environment, travelled to Kenya and Tanzania, two of the world's top five net importers, to speak with traders in the second-hand clothing business to find out more about the fate of these clothes after they are exported.⁶⁸⁷

Thus, when chatting with sellers at the Gikomba market in Nairobi, the traders lamented that they are frequently disappointed when they open the bales since about half of the garments are worthless and have no market value: they are of lower quality, torn, or stained, and are mainly textile waste.⁶⁸⁸ That is, according to vendors, there is a great deal of tension when opening a bale of second-hand clothes these days: Is the content suitable for resale, or is most of it textile waste?⁶⁸⁹ In other words, while promoting reuse is thought to be one of the most effective ways of reducing the environmental impact of fast fashion, donating or exporting low-quality clothes that cannot be reused due to their poor quality to developing countries will only serve to double the environmental impact of these goods, as in addition to the problems they cause when burned or dumped in landfills, they must also be transported.⁶⁹⁰

According to Wohlgemuth, it turns out that the Global North has found a backdoor to do away with its textile waste problem by exporting used clothing to countries of the Global South, forcing them to deal with the repercussions of fast fashion despite lacking the infrastructure to do so.⁶⁹¹ Walking down from the Gikomba market to the Nairobi River, the researchers were shocked to find out that they were literally walking on textile waste, which was stacking up along the riverbanks, dropping into the water, and flowing downstream into the ocean.⁶⁹² According to their observations, the Gikomba market in Nairobi is covered in layers of textile waste.⁶⁹³ Thus, in an attempt to address the issue, the locals burn these textiles on open fires,

⁶⁸⁷ Wohlgemuth (n. 45).

⁶⁸⁸ Ibid.

⁶⁸⁹ Ibid.

⁶⁹⁰ Austgulen (n. 44) 459.

⁶⁹¹ Wohlgemuth (n. 45).

⁶⁹² Ibid.

⁶⁹³ Ibid.

primarily in the evenings, causing severe air pollution that affects not only the residents of these communities, but also the entire global community through the massive CO2 emissions.

Similar to the situation in Ghana, where 30 to 40% of second-hand textiles have no market value, 150 to 200 tonnes of waste (60 to 75 truckloads) are abandoned, burned, or transported daily to Dandora and other overflowing dump sites in Nairobi.⁶⁹⁴ According to Wohlgemuth, the fast fashion trend has reduced clothing to the status of disposable cups.⁶⁹⁵ Thus, slowing down fast fashion is the only option to reduce the flood of textile waste being dumped on the Global South.⁶⁹⁶ Global fashion brands must drastically alter their linear business models and begin creating fewer clothes that are higher quality, longer lasting, repairable, and reusable.⁶⁹⁷ In addition, there must be a shift away from the neo-colonial attitude of Global North countries that use Global South countries as dumping grounds for their unwanted waste, while doing little or nothing to support or develop the clean manufacturing of local textiles, employing the same high standards and best practises required in Europe.⁶⁹⁸

The aforementioned findings demonstrate unequivocally that it is insufficient for global fashion brands to concentrate just on cleaning up their supply chains. The clothing and fashion business must intensify its efforts to reduce the enormous end-of-life consequences of its products. However, according to Wohlgemuth, the global fashion industry will be unable to rectify its negative environmental impact in the absence of laws.⁶⁹⁹ That is, an evaluation of 29 leading brands, including H&M, Nike, Adidas, G-Star, and Primark, reveals that voluntary commitments are insufficient to slow down the rising volumes of textiles and alter the destructive trajectory of fast fashion, with the majority of impacts being felt in countries of the

⁶⁹⁴ Ibid.

⁶⁹⁵ Ibid.

⁶⁹⁶ Abdel-Jaber (n. 23) 257.

⁶⁹⁷ Wohlgemuth (n. 45).

⁶⁹⁸ This includes, but is not limited to, the implementation of Ecodesign standards mandated by the EU Strategy for Sustainable and Circular Textiles.

⁶⁹⁹ Wohlgemuth (n. 45).

Global South, where clothes are made and also dumped.⁷⁰⁰ Although it is expected that trade policies and regulations will be the most effective solutions for bringing about widespread change in the clothing and fashion industry, consumers, particularly those in high income countries, have a responsibility to support companies and practices that reduce the negative environmental impact of fast fashion.⁷⁰¹

Recently, the EU announced its new textile strategy, which includes a plan to prevent the export of textile waste and to promote the production of clothes that are long-lasting, durable, and repairable.⁷⁰² While this may be a step in the right direction, it is believed that in order to effectively control the ever-increasingly negative effects of fast fashion on the environment, especially in countries of the Global South where clothes are produced and then dumped, the clothing and fashion industry must be internationally regulated through a global treaty and not at the EU level, as is the case currently.⁷⁰³

2.6 The Global Waste Management Outlook: A Legal Solution to a Fast Fashion Problem

Waste is the most tangible form of pollution.⁷⁰⁴ However, because it is made and quickly discarded, its consequences are often invisible to us.⁷⁰⁵ According to Allan, hazardous waste consists primarily of e-waste, manufacturing by-products, domestic refuse, and commercial waste.⁷⁰⁶ It should be noted that not all refuse is hazardous.⁷⁰⁷ However, while clothing is not harmful in and of itself, the burning of abandoned clothing in landfills can be more ecotoxic

⁷⁰⁰ Ibid; Navarro Ferronato and Vincenzo Torretta, 'Waste mismanagement in developing countries: A review of global issues' (2019) 16(6) *International journal of environmental research and public health* 1060, 1062.

⁷⁰¹ Bick (n. 598) 3.

⁷⁰² Wohlgemuth (n. 45); Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, EU Strategy For Sustainable And Circular Textiles, Brussels, Com/2022/141 Final.

⁷⁰³ EU Strategy For Sustainable And Circular Textiles Ibid.

⁷⁰⁴ Jennifer Allan, *How to Regulate Our Waste-Full World—Still Only One Earth: Lessons from 50 years of UN sustainable development policy* (International Institute for Sustainable Development, 2021) 1.

⁷⁰⁵ Ibid.

⁷⁰⁶ Ibid.

⁷⁰⁷ Ibid.

than the mismanagement of some typical hazardous wastes.⁷⁰⁸ The Rio's Agenda 21 specifies that not only must waste be classified as hazardous, if it falls under one of the abovementioned categories, but if any of the abovementioned or other forms not listed above, such as textile waste, exhibit hazardous properties, such waste must be considered hazardous and managed accordingly.⁷⁰⁹ The United Nations Economic Commission for Europe (UNECE) in its Report has found that not only does garment production accounts for 10% of global carbon emissions, while washing some types of clothing also releases substantial amounts of microplastics into the ocean and land.⁷¹⁰

In 1972, when environmental issues first appeared on the international agenda, waste management was one of the key concerns.⁷¹¹ The Stockholm Conference on the Human Environment was the first of its kind to address waste and its trafficking as a topic requiring international cooperation.⁷¹² Although the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes at Sea ("London Convention") was a direct result of the UN Conference, diplomats and activists in Stockholm could not have foreseen some of the changes that have occurred since, such as the manner in which we produce and consume now.⁷¹³ Despite the fact that traditional hazardous wastes, such as e-waste, batteries, and other explosives, remain a significant issue in today's society, the emergence of modern consumer products, specifically cheaply produced, low-quality clothing, present additional challenges, the effect of which has reignited dormant discussions about how to properly regulate the global trade in second-hand goods.⁷¹⁴

⁷⁰⁸ Ibid 2.

⁷⁰⁹ Agenda 21 (n. 226) 21(3).

⁷¹⁰ United Nations Economic Commission for Europe (UNECE), *Fashion and the SDGs: what role for the UN?* (UNECE, 2018) 1.

⁷¹¹ Allan (n. 704) 2.

⁷¹² Ibid.

⁷¹³ Ibid.

⁷¹⁴ Ricardo Wyngaard, 'NPOs and the Second-Hand Goods Act' (2012) 10 *Int'l J Civ Soc'y L* 19, 20.

Despite the fact that not all countries can safely manage the vast quantities of second-hand goods dumped on their shores these days or regulate the behaviour of companies regarding such practises, they are frequently the destination for low-quality second-hand goods, the majority of which threaten not only human health but also the environment.⁷¹⁵ According to Allan, the dumping of waste at sea or in developing countries relocates wastes beyond the regulatory capacity of a single nation.⁷¹⁶ In the 1980s, stricter regulatory frameworks in developed nations pushed up the cost of lawful waste disposal for manufacturing companies.⁷¹⁷ Consequently, there was growing evidence of what is labelled as “waste colonialism” or “toxic colonialism.”⁷¹⁸ Perhaps the most heinous and attention-getting case occurred in the small Nigerian fishing community of Koko, where officials unearthed a scam by two Italian companies to store 18,000 barrels of leaking waste for \$100 per month.⁷¹⁹ Surprisingly, nearly one-third (28%) of the barrels were discovered to contain polychlorinated biphenyl, a combustible compound that might produce dioxin, a highly deadly toxin. In neighbouring areas, numerous ailments, including paralysis, nausea, and premature births, became rampant.⁷²⁰

Notwithstanding the difficulty in quantifying exact volumes, the dumping of hazardous waste in Africa is a serious issue for a number of reasons. Individuals exposed to toxic waste may suffer from respiratory problems, immune system damage, brain damage, birth defects, and various types of cancer.⁷²¹ In addition, the improper management of these wastes, such as the

⁷¹⁵ Manieson (n. 30) 1-2.

⁷¹⁶ Allan (n. 704) 2.

⁷¹⁷ Ibid.

⁷¹⁸ Max Liboiron, ‘Waste colonialism’ (Discard Studies, 2018) <<https://discardstudies.com/2018/11/01/waste-colonialism/>> accessed 30 March 2024.

⁷¹⁹ UNEP, ‘Bamako Convention: Preventing Africa from becoming a dumping ground for toxic wastes’ <<https://www.unep.org/news-and-stories/press-release/bamako-convention-preventing-africa-becoming-dumping-ground-toxic?utm>> accessed 30 March 2024.

⁷²⁰ Ibid.

⁷²¹ Liboiron (n. 718); Matiangai Sirleaf, ‘Not Your Dumping Ground: Criminalization of Trafficking in Hazardous Waste in Africa’ (2017) 35 Wis. Int’l LJ 326, 332.

open incineration of textiles, releases a substantial amount of CO₂ and other potent greenhouse gases, including methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride, and nitrogen trifluoride, into the atmosphere.⁷²² That is, not only can toxic waste endanger human life or cause serious geological and environmental disasters if not properly disposed of, but given that the vast majority of Africans live in rural communities that rely on groundwater and streams for domestic and agricultural needs, toxic chemicals, particularly those buried in landfills from textile waste, can easily pollute water and food in such communities. Hence, regardless of the form, waste dumping on one continent can significantly impact in other parts of the world as well.

Why, in light of these detrimental consequences, does toxic colonialism persist? Profit is arguably the primary motivation.⁷²³ In addition, toxic colonialism is aided by certain structural changes of and in the global system, including state restructuring and the growth of interdependence.⁷²⁴ Globalisation is characterised by increased capital mobility and competition among states to attract foreign direct investment.⁷²⁵ For example, the amount of money paid in exchange for clearance to import waste into African countries is often higher than the given country's gross national product (GNP) or cumulative foreign debt. As a result, developing countries are frequently discouraged from passing stringent environmental legislation requiring multinational corporations to fulfil regional and domestic environmental and human rights obligations.⁷²⁶

What exactly are we voicing? Although lacking the necessary infrastructure, African nations have historically been at the centre of waste trafficking issues.⁷²⁷ From the leaking barrels of

⁷²² Ibid.

⁷²³ Ibid.

⁷²⁴ Ibid.

⁷²⁵ Hugh J. Marbury, 'Hazardous waste exportation: The global manifestation of environmental racism' (1995) 28 Vand. J. Transnat'l L 251, 253.

⁷²⁶ Sirleaf (n. 721).

⁷²⁷ Rob White, 'Toxic cities: Globalizing the problem of waste' (2008) 35 (3) Social Justice 107, 110.

toxic waste in Koko, Nigeria in 1988 and the Probo Koala scandal in Cote d'Ivoire in 2006, to the current piles of fashion waste dumped in the continent, Africa remains disproportionately impacted by global waste management issues, the effects of which are currently being felt through global warming and extreme weather events such as floods, droughts, and heatwaves.⁷²⁸ Consequently, African leaders have often relied on existing international treaties regarding the shipment and disposal of hazardous waste, such as those established in the Basel Convention, in order to deal with this unwholesome situation and prevent incidents, such as 'Koko' and 'Probo Koala', from occurring again. While this has proven beneficial, such initiatives have been hampered by the Convention's definition of "hazardous waste."⁷²⁹ That is, in addition to the list of wastes in Annex I, the Basel Convention allows an exporting state to assess whether a particular material is hazardous or not based on domestic legislation.⁷³⁰ This flexibility allows certain industrialised states to dump low-quality second-hand goods in regions of the Global South, despite lacking the infrastructure to deal with such materials.⁷³¹

That is, as set out in Agenda 21, a substance must be classified as hazardous not only if it falls into one of the main waste streams that must be controlled, but also if a substance exhibits hazardous properties, such as in the case of textiles, such a product must be considered hazardous and managed accordingly.⁷³² As a result, while textile waste has not traditionally been considered hazardous, given their current poor management, such as dumping into the ocean and open incineration of abandoned clothing in landfills, it is long past time for world leaders to accord textile waste the same attention as plastic waste, because current poor handling of textile waste, including dumping in regions of the Global South, may be more

⁷²⁸ Ibid.

⁷²⁹ Ibid.

⁷³⁰ Basel Convention, art 1(b); ANNEX I of the Basel Convention contains a list of the main waste streams that must be controlled.

⁷³¹ White (n. 727) 110.

⁷³² Agenda 21 (n. 226) 21(3); ANNEX III of the Basel Convention contains a list of these hazardous properties, which include wastes that are explosive, flammable, poisonous, infectious, corrosive, toxic, ecotoxic, etc.

disastrous than mismanagement of some typical hazardous wastes, which the world has found a way to control.⁷³³ Signed in 1989, the Basel Convention prohibits the shipment and disposal of hazardous waste from developed to developing countries.⁷³⁴ While great effort has been made to add plastics to the list of hazardous wastes, such as those listed in Annex I, it is time for world leaders to recognise textiles as posing equal, if not greater, environmental harm than plastics and begin treating it as such.⁷³⁵

According to Eloise Touni, Chemicals and Waste Programme Officer for UNEP, the textile sector, like the petrochemical industry, is a major user of toxic “forever chemicals” that destroy local and global ecosystems.⁷³⁶ Hazardous chemicals used in textile manufacturing pose serious risks to human health and ecosystems (biodiversity loss), while the impact of our clothing on climate change is something that few people ever notice.⁷³⁷ In other words, clothing production not only emits billions of tonnes of CO₂ into the atmosphere, but it also pollutes waterways, destroys ecosystems, and sends a truckload of waste to be landfilled or burnt every second.⁷³⁸ According to Fashion on Climate, the fashion industry is responsible for around 4% of world emissions, or approximately 2.1 billion tonnes of greenhouse gas emissions per year.⁷³⁹ This astounding figure is equivalent to the annual greenhouse gas emissions of France,

⁷³³ UN Environment Programme (UNEP), ‘Governments agree landmark decisions to protect people and planet from hazardous chemicals and waste, including plastic waste’ <<https://www.unep.org/news-and-stories/press-release/governments-agree-landmark-decisions-protect-people-and-planet>> accessed 30 March 2024.

⁷³⁴ Basel Convention, art 4(13).

⁷³⁵ UNEP (n. 733).

⁷³⁶ UN Environment Programme (UNEP), ‘Textile-producing nations unite to reduce chemical waste’ <<https://www.unep.org/news-and-stories/press-release/textile-producing-nations-unite-reduce-chemical-waste>> accessed 30 March 2024.

⁷³⁷ Pankaj Chowdhary, ‘Role of industries in water scarcity and its adverse effects on environment and human health’ (2020) 1 Air, Water and Energy Resources: Environmental Concerns and Sustainable Development 235, 236-237.

⁷³⁸ UNEP (n. 733).

⁷³⁹ Fashion On Climate, ‘How the Fashion Industry Can Urgently Act to Reduce Its Greenhouse Gas Emissions’ <<https://www.mckinsey.com/~media/mckinsey/industries/retail/our%20insights/fashion%20on%20climate/fashion-on-climate-full-report>> accessed 30 March 2024.

Germany, and the United Kingdom combined. These estimates are based on 2018 data, but the industry is anticipated to expand rapidly in the coming years.

This indicates that if our efforts to limit fashion's impact do not dramatically increase soon, emissions are expected to climb to 2.7 billion tonnes annually by 2030.⁷⁴⁰ At each stage of the fashion supply chain and product life cycle, clothing has a large carbon footprint.⁷⁴¹ Typically, dyeing and finishing, yarn preparation, and fibre production are the phases with the highest carbon footprint; however, these processes are greatly devalued by fashion companies, who often only account for emissions from their own activities, such as shipping and retail, but not post-consumer waste consequences.⁷⁴² The environmental impact of fashion extends beyond carbon emissions to include water, chemicals, deforestation, textile waste, and microplastics pollution.⁷⁴³ When consumers throw away clothes, they waste money and resources as well as the materials can take up to two centuries to decompose in a landfill.⁷⁴⁴ In addition, during the decomposition process, textiles generate methane gas and discharge dangerous chemicals into the soil and groundwater. Consequently, these characteristics place textile waste on par with or even above that of plastics in terms of ecotoxicity.

Currently, a consensus has been achieved about the issue of plastic waste, with over 180 countries agreeing on May 11, 2019, in Geneva, to implement a variety of measures aimed at safeguarding the environment and human well-being from the detrimental impacts of plastics.⁷⁴⁵ These measures included amending the Basel Convention to include plastics as one of the waste categories requiring special attention in a legally binding framework, increasing transparency and control of global plastic waste trade, and making waste treatment safer for

⁷⁴⁰ Ibid.

⁷⁴¹ Ibid.

⁷⁴² Ibid.

⁷⁴³ Ibid.

⁷⁴⁴ Ibid; See also Gupta (n. 677) 156.

⁷⁴⁵ UNEP (n. 733).

human health and the environment.⁷⁴⁶ In addition, a new Partnership on Plastic Waste was established to mobilise academic, government, business, and civil society resources, interests, and expertise to assist in the implementation of the new measures, and to provide practical support, including tools, best practices, technical assistance, and financial support, for this ground-breaking agreement.⁷⁴⁷ On the other hand, nothing is known about what the international community is doing to save developing nations, especially African nations, from the devastation caused by the huge dumping of fashion waste on their coasts. Possibly, the issue is not as significant as plastics, the consequences of which are immediately felt by industrialised nations which, due to stringent environmental regulations, cannot deal plastic waste in the same manner as textile waste.

In recent years, evidence of what has long been labelled as “toxic colonialism” or “waste colonialism” has increased.⁷⁴⁸ The term is widely used to describe how dumping and pollution are aspects of one group’s dominance over the territory of other States.⁷⁴⁹ In its most common usage, it refers to the transboundary movement of a range of hazardous wastes, such as electronic waste, industrial waste, persistent organic pollutants (POPs), decommissioned ships, radioactive waste, municipal solid waste, among other toxic wastes.⁷⁵⁰ The term “waste colonialism” was first used in February 1989, when African nations expressed concerns about the disposal of hazardous wastes by high GDP countries into low GDP countries.⁷⁵¹ Since then, the concept has become increasingly popular to explain patterns of power in waste creation and

⁷⁴⁶ Ibid.

⁷⁴⁷ Ibid.

⁷⁴⁸ Liboiron (n. 718).

⁷⁴⁹ Ibid.

⁷⁵⁰ Ibid.

⁷⁵¹ Ibid.

pollution. Nowadays, it is disappointing to learn how some industrialised nations treat their developing country counterparts as “pollution havens.”⁷⁵²

That is, rather than collaborating to assist these vulnerable nations in addressing the problem of illegal waste trafficking and the impact of such activities on the global environment, industrialised nations have frequently taken advantage of shameful trade policies that give them a competitive advantage in dumping waste in developing countries rather than bearing the enormous costs associated with treating such waste. Since the 1970s, environmental and international trade issues have been a source of contention: the effect of international trade on the environment, as well as the effect of the environment on international trade, remain hotly debated topics.⁷⁵³ Although they gained traction in the 1990s, these discussions began way back in the 1970s, when international organisations, such as the United Nations and the World Trade Organization (WTO), lobbied for trade liberalisation, despite criticism that trade liberalisation policies may not only cost jobs as cheaper goods flood a country’s domestic market, but that imported goods may be of inferior quality and less safe than competing domestic products that have undergone more rigorous safety and environmental checks.⁷⁵⁴

Presently, amid a plethora of competing theories for the interplay between trade and the environment, Copeland and Taylor first proposed what has become known as the “pollution haven hypothesis” (PHH).⁷⁵⁵ According to Copeland and Taylor, trade liberalisation would drive industries that operate in an unsustainable manner to relocate from industrialised countries with stringent environmental regulations to developing nations with more relaxed environmental laws.⁷⁵⁶ In other words, under a system of free and liberalised trade, the

⁷⁵² Fozia L. Gill, ‘The Critical Review of the Pollution Haven Hypothesis’ (2018) 8(1) *International Journal of Energy Economics and Policy* 167, 168.

⁷⁵³ *Ibid.*

⁷⁵⁴ *Ibid* 167.

⁷⁵⁵ *Ibid.*

⁷⁵⁶ *Ibid.*

developing world would become a haven for the polluting industries of the developed world.⁷⁵⁷ While this theory predicts a high probability of environmental disaster in these countries, which have relatively lax environmental regulations, this Thesis argues that whatever affects these countries will have a far-reaching effect on the global community, necessitating the immediate eradication of all such repugnant practices.⁷⁵⁸

At present, international legal frameworks regarding the transboundary movement and/or trafficking of waste have heavily favoured the movement of traditional hazardous waste materials.⁷⁵⁹ This has allowed the industrialised world to continue dumping waste in regions of the Global South, oblivious to the fact that the lifespan of waste does not end when it is discarded.⁷⁶⁰ In today's world, products that are commonly seen as waste by those in the industrialised world are instead dumped in impoverished African communities to be downcycled or repurposed.⁷⁶¹ In response to the growing international concerns about the environmental impact of such practices, the Basel Convention, drafted in 1989, was adopted in 1992 to control the transboundary movement of hazardous wastes and their disposal.⁷⁶² While the treaty does not outright prohibit waste movement, it does strive to limit the production of hazardous waste and encourage the use of ecologically sound disposal techniques.⁷⁶³

The Basel Convention, which has 187 signatories, aims to protect countries and their people from the dumping of hazardous waste and other waste that they cannot handle in an environmentally sound manner.⁷⁶⁴ The question arises as to why countries, such as Ghana and

⁷⁵⁷ Ibid; Kakali Mukhopadhyay and Debesh Chakraborty, 'Is liberalization of trade good for the environment? Evidence from India' (2005) 12(1) Asia Pacific Development Journal 109, 110.

⁷⁵⁸ Gill (n. 752); Allan (n. 704) 2.

⁷⁵⁹ Sirleaf (n. 721); Nikita Shukla, 'How The Basel Convention has Harmed Developing Countries' <<https://earth.org/how-the-basel-convention-has-harmed-developing-countries/>> accessed 30 March 2024.

⁷⁶⁰ Ibid.

⁷⁶¹ Ibid.

⁷⁶² Elizabeth Pope, 'The Shadowy World of Hazardous Waste Disposal: Why the Basel Convention's Structure Undermines Its Substance' (2017) 13 SC J Int'l L & Bus 305, 306.

⁷⁶³ Ibid.

⁷⁶⁴ Ibid.

Malaysia, are still forced to cope with waste containers unlawfully brought to them by wealthier nations under the guise of charity and aid. Where does the Basel Convention fall short is an essential question that merits an answer. To begin, it is essential to recognise that there is no globally accepted definition of hazardous waste.⁷⁶⁵ This inconsistency in the definition of hazardous waste creates a gap in the classifications of what constitutes toxic or hazardous waste, making it difficult to track and monitor the actual volumes traded, particularly with developing nations.⁷⁶⁶ In other words, ambiguous language permits exporters to find loopholes in the Basel Convention and continue shipping toxic waste to developing nations without officially breaking the law.⁷⁶⁷ For example, due to the lack of standardisation in terminology definitions, such as “hazardous” and “waste,” compliance criteria are sometimes left to the discretion of exporting nations.⁷⁶⁸ This allows exporters to continue shipping waste to impoverished African communities under the guise of “reuse” policies.⁷⁶⁹

As previously mentioned, a large portion of what is considered ‘waste’ in industrialised communities nowadays is frequently regarded to have value elsewhere, that is, capable of being reused or downcycled in the developing world.⁷⁷⁰ As a result, industrialised communities are allowed to ship what they consider as waste to developing countries by claiming that it would be reused or recycled there rather than dumped.⁷⁷¹ This practice is referred to as “sham recycling” and is another way of trading hazardous waste legally.⁷⁷² On the contrary, in the event that such ‘commodities’ are indeed recycled, the majority of developing nations lack the infrastructure and capacity to dispose of the resulting harmful by-products in a safe manner,

⁷⁶⁵ Okafor (n. 529) 285.

⁷⁶⁶ Ibid.

⁷⁶⁷ Shukla (n. 759).

⁷⁶⁸ Ibid.

⁷⁶⁹ Ibid.

⁷⁷⁰ Ibid; Okafor (n. 529) 285.

⁷⁷¹ Shukla Ibid.

⁷⁷² Ibid.

resulting in additional consequences on human health and the environment.⁷⁷³ That is, according to Fisher, hazardous waste is a combination of waste that, by virtue of its quality and physical and chemical composition, can cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating illness; or poses a potential or substantial threat to human health or the environment when improperly treated, stored, transported, disposed of, or managed.⁷⁷⁴

Concerned about the growing prevalence of indiscriminate waste disposal in developing countries, the Basel Convention was adopted in 1989 and entered into force in 1992.⁷⁷⁵ Its fundamental purpose is to limit the illegal transboundary trafficking of toxic waste.⁷⁷⁶ The Convention establishes a “notice and consent” mechanism, often known as prior informed consent (PIC), for the transfer of hazardous and other specified wastes to importing nations.⁷⁷⁷ Under the Convention, trade in the aforementioned waste categories is generally prohibited, either without the written consent of the importing nation or when the exporting nation has cause to suspect that the waste will not be treated in an environmentally sound manner.⁷⁷⁸ Currently, there are 190 Parties and 53 Signatories to the Convention.⁷⁷⁹ The United States, for instance, signed the Basel Convention in 1990; however, despite the US Senate’s advice and consent to ratification in 1992, the United States have not ratified the Convention because, arguably, it lacks sufficient domestic statutory authority to comply with all of its provisions.⁷⁸⁰

⁷⁷³ Sabaa A. Khan, ‘E-Products, E-Waste and the Basel Convention: Regulatory Challenges and Impossibilities of International Environmental Law’ (2016) 25 Rev Eur Comp & Int’l Envtl L 248, 256.

⁷⁷⁴ Okafor (n. 529) 285-286.

⁷⁷⁵ Alexandra Korcheva, *Basel Convention on the Control of Hazardous Wastes* (Springer, 2021) 2.

⁷⁷⁶ Ibid.

⁷⁷⁷ Yeeun Uhm, ‘Plastic Waste Trade in Southeast Asia after China’s Import Ban: Implications of the New Basel Convention Amendment and Recommendations for the Future’ (2020) 57 Cal WL Rev 1, 2-3.

⁷⁷⁸ Ibid.

⁷⁷⁹ Valsamis Mitsilegas, *Environmental Crime at the International Level: Criminalisation of Illegal Traffic of Hazardous Wastes under the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel Convention)* in V. Mitsilegas, *the Legal Regulation of Environmental Crime* (Brill Nijhoff, 2022) 55-58.

⁷⁸⁰ Okafor (n. 529) 295.

Consequently, the issue of signature versus ratification could render the Basel Convention or any international treaty for that matter, ineffectual in addressing the serious environmental challenges posed by the global apparel industry.⁷⁸¹ Taking the United States as an example, this means that the world's third-largest waste producer is not bound by the provisions of the Convention, which strives to minimise and restrict the export of waste from developed to developing countries.⁷⁸² In other words, although it could be argued that developing countries that import waste from industrialised states rely on the revenue generated by such partnerships, the short-term financial benefits to these nations should not outweigh the long-term costs to society and the environment in general. In 1996, the United States government outlined four requirements in a letter to the Secretary General of the United Nations, one of which stated:

“It is the United States’ understanding that the exporting state may determine that it lacks the capacity to dispose of wastes in an environmentally sound and economically efficient manner if disposal in the importing country would be both environmentally sound and economically efficient.”⁷⁸³

This condition highlights the approach of the United States, and also other developed countries, on the topic of illegal waste trafficking. While these governments claim they cannot dispose of such waste without endangering their immediate environment, they are willing to sell the same to developing countries, despite the fact that these countries have less resources to deal with the problem. Thus, the Basel Convention has a number of flaws, the majority of which are attributable to the potentially unfair power and control that developed countries have over developing countries, and the failure of the developed world to recognise that their impact on the development of these poor developing nations has far-reaching consequences for the entire

⁷⁸¹ Ibid 251.

⁷⁸² Shukla (n. 759).

⁷⁸³ Okafor (n. 529) 296; See also Ashley J. Roach, ‘Navigation in Exclusive Economic Zones’ in Ashley J. Roach, *Excessive Maritime Claims* (4th edn, Brill, 2021) 439, 442.

global community, as evidenced by the recent inexplicable changes in the weather, some of which include heatwaves, wildfires, droughts, and floods.⁷⁸⁴

The fact that the Basel Convention lax enforcement measures to hold those who engage in illegal waste trafficking accountable for the environmental damage they cause has been abused by industrialised nations. The fact that the United States, one of the largest exporters of used textile (low-quality second-hand clothing) and, by extension, toxic “forever chemicals,” has, to date, not ratified the Basel Convention significantly undermines the efficacy of the Convention as a whole. In other words, the flexibility of the Basel Convention encourages exporters to identify loopholes that allow them to export waste to developing countries legally, thus contradicting the Convention’s purpose. To promote better waste management for human health and the environment, the Convention was recently revised to include plastic waste in favour of developing nations, while plastic pollution has become one of the continent’s most pressing problems in recent years.⁷⁸⁵ Similar to plastics, it is projected that textile waste would be added to the category of Annex II wastes requiring special attention in future revisions.

International instruments, such as the Basel Convention and the Bali Declaration on Waste Management, adopted during the ninth meeting of the Conference of the Parties to the Basel Convention in June 2008, have attempted to prohibit the dumping of waste into African communities.⁷⁸⁶ However, recent recurrent incidents involving the transboundary movement of textile wastes on the continent demonstrate the inadequacy and ineffectiveness of these instruments.⁷⁸⁷ Thus, although the Bamako Convention has achieved some noticeable

⁷⁸⁴ Ibid.

⁷⁸⁵ Khan (n. 773) 256; Olusola O. Ayeleru, ‘Challenges of plastic waste generation and management in sub-Saharan Africa: A review’ (2020) 110 *Waste Management* 24, 28.

⁷⁸⁶ Bali Declaration on Waste Management for Human Health and Livelihood 2008.

⁷⁸⁷ Avitus Agbor, ‘The Ineffectiveness and Inadequacies of International Instruments in Combatting and Ending the Transboundary Movement of Hazardous Wastes and Environmental Degradation in Africa’ (2016) 9(4) *African Journal of Legal Studies* 235, 235-236.

milestones, its shortcomings remain the same.⁷⁸⁸ In other words, the ban on the transboundary movement of hazardous wastes is but one aspect of the larger problem (many poor African communities) face. Air, water, and soil contamination are the consequences of fast fashion on developing countries, particularly those in Africa.⁷⁸⁹ However, the reality is that most existing international conventions only aim to address a tiny fraction of the numerous problems that these communities face as a result of waste trafficking. Thus, it is anticipated that additional measures would be necessary to complement current efforts.

Since its adoption, the Bamako Convention has been the African Continent's primary tool for regulating and monitoring the transboundary movement of hazardous wastes.⁷⁹⁰ The Convention has had some success as a legal instrument, notwithstanding the few loopholes that still permit industrialised nations to trade waste into Africa.⁷⁹¹ Overall, the outcomes of the Bamako Convention are of historic importance. Among these is an extension of the definition of hazardous waste, which makes it easier to argue the case for textiles and condemn their dumping into Africa.⁷⁹² In addition, the Bamako Convention includes a wider variety of potentially hazardous wastes than any previous convention.⁷⁹³ In other words, the Convention fills a gap that no other international instrument, either before or after it, has filled.⁷⁹⁴ Similar to the Basel Convention, the Bamako Convention prohibits the entry of hazardous and radioactive wastes into African territories under all circumstances, including recycling.⁷⁹⁵ Nowadays, while many industrialised nations have used the concept of recycling to take

⁷⁸⁸ Ibid.

⁷⁸⁹ Mutombo Mpanya, *The dumping of toxic waste in African countries: A case of poverty and racism* (Routledge, 2019) 208-210.

⁷⁹⁰ Agbor (n. 787) 236.

⁷⁹¹ Ibid 247.

⁷⁹² Benjamin Piribauer and Andreas Bartl, 'Textile recycling processes, state of the art and current developments: A mini review' (2019) 37(2) *Waste Management & Research* 112, 113.

⁷⁹³ Ibid.

⁷⁹⁴ Zada Lipman, 'Transboundary Movement of Hazardous Waste: Environmental Justice Issues for Developing Countries' (1999) 1999 *Acta Juridica* 266, 268.

⁷⁹⁵ Ibid 248; Bamako Convention, art 4(3).

advantage of the economic deprivation in Africa to offer financial incentives, one of the goals of the Bamako Convention is to put an end to this, at least in theory.⁷⁹⁶

Although this was a significant development from the Basel Convention, which considered trafficking “illegal,” but not a criminal offense, the Bamako Convention stipulates that any importation of hazardous waste into Africa “shall be deemed illegal and a criminal act.”⁷⁹⁷ That is, while the Bamako Convention contains the same five conditions of illegality as the Basel Convention, it goes on to state that each Party must pass the necessary domestic legislation to hold those responsible for such illegal imports accountable through criminal prosecution, which is an important milestone missing in the Basel Convention.⁷⁹⁸ Such sanctions must, among other things, be severe enough to penalise and discourage the behaviour in question.⁷⁹⁹

Accordingly, the Bamako Convention envisions hazardous waste trafficking being regulated through each state’s domestic penal law, rather than just through tort law, as in the case of the Basel Convention. This means that, in contrast to the Basel Convention, the Bamako Convention offers a clear justification for understanding the later decision to establish a regional forum to prosecute hazardous waste trafficking.⁸⁰⁰ Despite the obstacles, it is likely that parties have recognised that relying solely on domestic enforcement to prosecute hazardous waste trafficking was producing insufficient punishment and deterrence, and thus expected that the establishment of a regional court through the Malabo Protocol would produce better results.⁸⁰¹

⁷⁹⁶ Okafor (n. 529) 288-290; Agbor (n. 787) 236.

⁷⁹⁷ Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal (Basel Convention) 1989, art 9; Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa, 1991 (Bamako Convention), art 4(1).

⁷⁹⁸ Bamako Convention, art 9(1).

⁷⁹⁹ Ibid, art 9(2).

⁸⁰⁰ Sirleaf (n. 721) 346.

⁸⁰¹ Ibid.

Notwithstanding these forecasts, the transboundary movement of hazardous wastes among African states has not been halted due to some shortcomings in the Convention.⁸⁰² To begin, the adoption of the Bamako Convention has demonstrated unequivocally that African states were dissatisfied with the protection provided by the Basel Convention.⁸⁰³ Even so, ratification of the Bamako Convention has also been delayed, which is a major indicator of the lack of universal support and approval among African governments themselves.⁸⁰⁴ Even though the Convention has been in force since 1998, only 29 out of 54 African nations have ratified it to date.⁸⁰⁵ In addition to the lack of political will, the transboundary movement of hazardous wastes into Africa remains unabated due to the harrowing economic realities confronted by some governments. Unlike in other regions of the world, technological, economic, and political factors have a significant impact on the implementation of international and domestic environmental law in Africa.⁸⁰⁶

Despite the fact that the Bamako Convention prescribes stringent measures regulating the transboundary movement of hazardous wastes among state parties, it contains no specific provisions regarding the development of waste management technologies that would, at least in theory, minimise such activity on the African continent.⁸⁰⁷ Furthermore, despite the fact that collaborative work with the Basel Convention is required for the effective implementation of the Convention's objectives, the Bamako Convention does not include any procedures for cooperation between its Secretariat and the Basel Secretariat.⁸⁰⁸ For instance, the sources of hazardous wastes, such as textile waste, how they are to be managed, the toxicity of the wastes, the plans in place to destroy, recycle, or dispose of the wastes, and, most importantly, the threats

⁸⁰² Jean C. Kanamugire, 'African Response to Transboundary Movement of Hazardous Wastes' (2017) 3(2017) *Acta Universitatis Danubius Juridica* 121, 121-122.

⁸⁰³ Agbor (n. 787) 248.

⁸⁰⁴ *Ibid* 249.

⁸⁰⁵ *Ibid*.

⁸⁰⁶ *Ibid* 257.

⁸⁰⁷ *Ibid*.

⁸⁰⁸ *Ibid*.

they pose to human health and the environment, must be made public in order to discourage the illegal trafficking of such environmentally destructive goods into Africa and other deprived regions of the world, especially developing countries that are particularly vulnerable to the adverse effects of climate change.⁸⁰⁹

In contrast to the Basel Convention, which is said to be flexible, the Bamako Convention has been criticised of being extremely rigid, as was the case with the Kyoto Protocol, which failed on all fronts.⁸¹⁰ However, unlike the Basel Convention, the Bamako Convention is more realistic because it requires members to agree that the export of toxic waste is only permitted if the state of origin lacks the technical capacity and facilities for waste disposal, recycling, and reprocessing.⁸¹¹ Furthermore, it provides that the exportation of hazardous waste is permitted only if the recipient country is capable of disposing of the waste effectively.⁸¹² Therefore, an important question is whether or not the poor African nations that have currently become ‘pollution havens’ are capable of managing the vast quantities of waste dumped on their coastlines, given that the developed nations that engage in such trades are unable to dispose of such waste without endangering the immediate environment.

Thus, while the Bamako Convention appears to be more robust than the Basel Convention, one major flaw is the issue of determining what constitutes an appropriate waste disposal facility under the former.⁸¹³ As a result, despite the Bamako Convention’s robust provisions and apparent political support, the parties do not appear to have the ability or will to enforce its terms. Instead, they appear to have little power to stop indiscriminate waste disposal in their

⁸⁰⁹ Ibid.

⁸¹⁰ William Nordhaus, ‘The climate club: how to fix a failing global effort’ (2020) 99 *Foreign Aff* 10, 11.

⁸¹¹ According to the Bamako Convention, Parties shall take the appropriate measures to ensure that the transboundary movements of hazardous wastes only are allowed if: “(i) The State of export does not have the technical capacity and the necessary facilities, capacity or suitable disposal sites in order to dispose of the wastes in question in an environmentally sound and efficient manner [...]”

⁸¹² Bamako Convention (n. 795), art 4(3)(i).

⁸¹³ Ibid.

countries.⁸¹⁴ According to Okafor, the high cost and the decline in the number and capacity of disposal sites in developed nations favour the exportation of waste to developing nations, many of which lack the technology and/or equipment to monitor activities at landfills or to determine the composition of what is being disposed of.⁸¹⁵

Beyond that, there appears to be a general lack of enthusiasm across the African continent for ratifying the Bamako Convention. That is, unlike the Basel Convention, which has been ratified by the majority of African nations, the Bamako Convention has so far garnered 35 signatories and 28 party states, excluding Ghana, Nigeria, and Equatorial Guinea (where waste trafficking cases are widespread).⁸¹⁶ Although the Bamako Convention appears to be more stringent than the Basel Convention, with clear provisions regarding the continent's position on the importation of toxic waste into member states, it will be ineffective in resolving the ongoing problems, if non-member states, such as Ghana and Nigeria, which have been identified as the top destinations for discarded second-hand goods, specifically textiles and e-waste, do not sign and/or ratify the Convention.⁸¹⁷

Thus, combining evidence from Kenya, Côte d'Ivoire, Ghana, and Nigeria, among other countries, as highlighted by Okafor, this Thesis argues that waste dumping in regions of the Global South, particularly among African states, is not only a form of environmental injustice but also an act of environmental racism, as the industrialised countries that engage in such dumping practices are unable to dispose of such waste without endangering their own immediate environment.⁸¹⁸ Over the years, the African continent has become a primary target for Western waste brokers, who are cognizant of the potential environmental consequences

⁸¹⁴ Oteng-Ababio (n. 33) 14; Tracey Skelton, 'Cross-cultural research: issues of power, positionality and race' (2001) *Qualitative methodologies for geographers* 87, 88.

⁸¹⁵ Okafor (n. 529) 296-297.

⁸¹⁶ *Ibid* 297.

⁸¹⁷ *Ibid*.

⁸¹⁸ *Ibid* 290-295.

associated with the unethical trafficking of such materials.⁸¹⁹ These brokers often conceal the actual composition of these exports, disregarding the effect of these products on Indigenous communities.⁸²⁰ Thus, this Thesis asserts that, while the Basel and Bamako conventions were enacted with the intention of minimising the transboundary movement of hazardous waste, the limited and unclear definition of what might constitute hazardous waste, especially in today's technologically advanced society where production processes are accelerated by toxic chemicals, has made developing countries an attractive destination for what is considered "environmental toxins" in the Global North.

Thus, without considerable enforcement measures, as well as investigation and probable conviction of those participating in such activities, illegal waste trafficking and its associated transit activities, along with the accompanying dangers to human health and the environment, are likely to increase. As a result, the global community, and particularly the governments of countries in the Global South, must take a clear position against this cycle of exploitation and injustice perpetuated by developed nations. Consequently, this would necessitate the ratification of the Bamako Convention by non-party governments, such as Ghana and Nigeria, followed by swift implementation of its provisions.⁸²¹ Primarily, they must recall the justifications for the establishment of the Convention, including concerns that the Basel Convention: was merely aimed at the regulation or control, rather than the prohibition, of transboundary movement of hazardous wastes, contrary to the spirit of the Organisation of African Unity (OAU), which determined that the dumping of hazardous wastes is a crime against Africa and humanity as a whole.⁸²²

⁸¹⁹ Christine Terada, 'Recycling electronic wastes in Nigeria: Putting environmental and human rights at risk' (2011) 10 Nw UJ Int'l Hum Rts 154, 157.

⁸²⁰ Ibid.

⁸²¹ Okafor (n. 529) 296-297.

⁸²² Mpanya (n. 789) 206. This includes providing a comprehensive regime for liability and for adequate and prompt compensation for damage resulting from the transboundary movement of hazardous wastes and other wastes and their disposal including illegal traffic in those wastes.

Thus, as part of the implementation of the Bamako Convention, signatory nations must equip their seaports with technologies and trained personnel to detect hazardous goods that have been disguised as non-hazardous commodities.⁸²³ In addition, this would require strengthening cooperation among all development stakeholders in order to generate support and innovative solutions to address the numerous obstacles that developing countries confront in protecting their vital ecosystems and people from contamination by toxic chemicals found in such commodities, textiles in this instance. To address the issue of textile waste, countries in the Global South, particularly West African nations such as Ghana and Nigeria, should consider instituting policies that directly address the importation of low-quality second-hand textiles as supposedly reusable clothes. Perhaps there is a lesson to be learned from Uganda, which strictly prohibited the importation of second-hand electronics, particularly computers and their accessories.⁸²⁴

On the contrary, the global community, particularly countries in the Global North from where the majority of these wastes originate, must do more to stop the unlawful trafficking of low-quality second-hand clothes into Africa. Consequently, the Thesis acknowledges the progress made thus far by the international community through the 1995 Basel Convention Ban Amendment. Nevertheless, since the United States has not yet ratified the Basel Convention, it is not bound by its provisions; thus, the amendment does not apply to waste transported from the United States, the world's top exporter of second-hand clothing.⁸²⁵ Consequently, there is an immediate need for an international environmental crime tribunal (complementary to demands for civil liabilities) to administer appropriate retributive punishment against states and corporations convicted of such activities, namely illegally trafficking hazardous waste or other

⁸²³ Okafor (n. 529) 298.

⁸²⁴ Ibid.

⁸²⁵ Phil Smith, 'Leading exporters of used clothing worldwide by country' (Statista, 18 January 2023) <<https://www.statista.com/statistics/523673/used-clothing-leading-exporters-worldwide/>> accessed 30 March 2024.

waste into indigenous African communities, which are believed to lack the capacity to manage such goods properly.⁸²⁶

In addition, infringing states and companies must be held retroactively liable for the damages they have caused, as well as be compelled to execute clean-up activities and establish an adequate compensation mechanism for the affected communities. Yet, it should be noted that environmental justice necessitates long-term development plan and will not respond to short-term initiatives.⁸²⁷ As a result, there is an urgent need for state actors and civil society organisations in the Global South to strengthen cooperation in order to improve waste management practises, fight illegal waste trafficking, and, by extension, promote sustainable development.⁸²⁸ In the late 1980s, for instance, Nigerian students in Italy learnt about the environmental effects of the toxic waste dump at Koko and took action.⁸²⁹ The region's youth, following the example of *Sharma and others* in Australia, must make their voices known and lead regional initiatives to effect constructive change.⁸³⁰ These are serious human rights issues that necessitate immediate action.

2.7 From Regulation to Litigation: How the Malabo Protocol Attempts to Address the Shortcomings of the Basel and Bamako Regimes

Although the overlapping Basel and Bamako regimes for regulating hazardous waste trafficking are believed to have had some effect on the progressive development of international law, and that competing regimes can sometimes create “positive feedback” as an

⁸²⁶ Okafor (n. 529) 298; See Kenneth Ajibo, ‘Transboundary hazardous wastes and environmental justice: Implications for economically developing countries’ (2016) 18(4) *Environmental Law Review* 267, 271; Mario Obradović, ‘Dumping and illegal transport of hazardous waste, danger of modern society’ (2014) 38(2) *Collegium antropologicum* 793, 798.

⁸²⁷ Okafor (n. 529) 298.

⁸²⁸ *Ibid.*

⁸²⁹ *Ibid.*

⁸³⁰ *Sharma and others v. Minister for the Environment* [2021] FCA 560.

incentive for a “race to the top,” despite the large number of people affected and international coverage of the issue, there is currently no effective national, regional, or international mechanism in place, more than fifteen years after the dumping of 540,000 litres of toxic waste in Cote d’Ivoire, to prevent and address a similar disaster from recurring.⁸³¹ According to a joint study by Greenpeace and Amnesty International, while the “Probo Koala” toxic waste dumping is not just a case of corporate crime, but also constitutes a human rights violation, and amounts to a failure of the states at question to protect their citizens and the environment. Unfortunately, little has been done to strengthen the regional and international legal frameworks since hazardous waste dumping in Africa became evident in 2006, when Probo Koala unloaded its toxic waste at open-air sites in Abidjan.⁸³²

The aforementioned case demonstrates how the systems of enforcing international law have failed to keep up with the activities of transnational corporations, and how one company has been able to fully exploit legal uncertainties and jurisdictional loopholes, with terrible consequences for those affected.⁸³³ According to Harvey, Probo Koala involves corporate liability for environmental damage in a transnational setting, raising ethical concerns about not only the defendant in this case, but also the conduct of all multinational corporations.⁸³⁴ Consequently, following the unsatisfactory results in Ivory Coast, several lawsuits were filed in the United Kingdom and the Netherlands, where it was thought that the best remedies would be achieved given the company’s location.⁸³⁵ Notwithstanding the outcomes, these instances

⁸³¹ Sirleaf (n. 721) 346.

⁸³² Fiona Harvey, ‘Trafigura lessons have not been learned, report warns’ (theguardian, 25 September 2012) <<https://www.theguardian.com/environment/2012/sep/25/trafigura-lessons-toxic-waste-dumping>> accessed 30 March 2024.

⁸³³ In late 2005, Trafigura, a multinational trading company, decided to purchase large quantities of unrefined gasoline in order to use it as a fuel blend stock. This product was refined using a process known as caustic washing, which was conducted on the ship Probo Koala. The company had anticipated that the resulting chemical waste would be difficult to treat and dispose of. Probo Koala unloaded the waste shipment at open-air sites in Abidjan, Côte d’Ivoire, on August 19, 2006. According to the allegations in this case, people living near the discharge sites began to suffer from a variety of illnesses soon after. Following that, at least 100,000 people sought medical attention for conditions associated with the presence of toxic waste, and a significant number of people died.

⁸³⁴ Harvey (n. 832).

⁸³⁵ Ibid.

demonstrate that several attempts have been made in both domestic and international courts to limit waste trafficking through criminal sanctions.

Currently, only African states are signatories to the Bamako Convention, which prohibits the import of hazardous waste into Africa. The remaining international frameworks in this area, such as the Basel Convention and the Ban Amendment, aim to impose varying degrees of control on the transboundary movements of such wastes, as opposed to eliminating them entirely.⁸³⁶ That is, the delayed effort at getting a harder enforcement regime in place provides additional normative justification for the Malabo Protocol's move to create a regional court to prosecute traffickers of hazardous waste.⁸³⁷ As early as 1995, state parties to the Basel Convention reached a consensus that a total ban on hazardous waste should be developed.⁸³⁸ Consequently, as the name implies, the Ban Amendment, adopted in 1995, was believed to go further than the Bamako Convention by prohibiting all hazardous waste exports between developed and developing countries, rather than just exports and imports within Africa, as the Bamako Convention does.⁸³⁹

Nevertheless, despite the fact that the Ban Amendment technically requires sixty-two ratifications to enter into force and that 69 Parties to the Basel Convention have ratified it to date, it has not yet entered into force. Among the many reasons for this setback is the parties' inability to reach an agreement on the interpretation of paragraph 5 of Article 17 of the Basel Convention, which governs the number of ratifications required for the Ban Amendment to enter into force.⁸⁴⁰ Thus, despite massive effort since the 8th Conference of the Parties, there

⁸³⁶ Sirleaf (n. 721) 348.

⁸³⁷ Ibid.

⁸³⁸ Shiming Yang, 'Trade for the environment: transboundary hazardous waste movements after the Basel Convention' (2020) 37(5) *Review of Policy Research* 713, 718.

⁸³⁹ Ibid 720; The Basel Convention Ban Amendment 1995.

⁸⁴⁰ Instruments of ratification, approval, formal confirmation or acceptance of amendments shall be deposited with the Depository. Amendments adopted in accordance with paragraphs 3 or 4 shall enter into force between Parties having accepted them on the ninetieth day after the receipt by the Depository of their instrument of ratification,

has been persistent disagreement among Parties regarding the number of ratifications required for the Ban Amendment to enter into force. In 2011, for instance, state parties agreed that the Ban Amendment will enter into force upon ratification by three-quarters of the parties that were parties at the time of the amendment's adoption.⁸⁴¹ Therefore, despite being overlooked, the controversy surrounding the Ban Amendment reflects the continued division between the Global North and South in terms of hazardous waste regulation.

Due to the enormous cost of waste treatment in their region, the majority of, if not all, industrialised states want waste trade activities to be controlled or monitored rather than banned. This is despite the fact that the majority of Global South countries, particularly those that do not directly profit from such trades, have long advocated for a total ban on waste imports into Africa.⁸⁴² Nowadays, similar to how regional systems, such as the EU, have expressed ingenuity and adaptability in other areas of law, Africa has not only innovated in the field of criminal law but also environmental law. For instance, since the OAU resolution in 1988, African states have considered the trafficking of hazardous waste to be a "criminal act."⁸⁴³ In order to supplement international law, regional systems have adopted regional treaties, such as human rights treaties, to fill gaps in international law. Using the EU as an example, regional systems have evolved to cover rights and duties that are not recognised in major international treaties.⁸⁴⁴ Regional human rights systems, for instance, have helped in strengthening the enforcement of human rights worldwide by filling gaps that the international system cannot.⁸⁴⁵

approval, formal confirmation or acceptance by at least three-fourths of the Parties who accepted them or by at least two thirds of the Parties to the protocol concerned who accepted them, except as may otherwise be provided in such protocol.

⁸⁴¹ Khan (n. 773) 202.

⁸⁴² Egelston (n. 16) 88-90.

⁸⁴³ Organization of African Unity: Council of Ministers Resolution on Dumping of Nuclear and Industrial Waste in Africa, [hereinafter OAU Resolution], 1988 [reprinted in 1989].

⁸⁴⁴ Hurst S. Hannum, *International human rights: Problems of law, policy, and practice* (Aspen Publishing, 2023) 4.

⁸⁴⁵ Ibid.

Although not to be rejected, Africa's over-reliance on international support has caused great harm, and it is long overdue for the continent, i.e. AU, to rely more on regional mechanisms, following the example of the EU, rather than the current over-reliance on international support to address some peculiar issues, such as those under discussion, to which the Global North has long appeared adamant due to their selfish interests.⁸⁴⁶ That is, given the success of regionalisation in the international human rights regime, a similar effect in international environmental law is expected now. Thus, in contrast to the Basel Convention, the Bamako Convention's regional criminalisation of hazardous waste, for example, permits greater regulation than was previously permitted at the global level. Consequently, despite widespread capacity constraints at the regional or individual state level, Article 28L of the Malabo Protocol, for instance, provides a potentially more robust venue for regional prosecutions of hazardous waste trafficking.⁸⁴⁷

It is worth mentioning that the Bamako Convention predicted a future regional arrangement for the management of hazardous wastes generated in Africa, and thus permitted the movement of such wastes as long as they did not deviate from the environmentally sound management of hazardous wastes required by the Convention, in addition to being consistent with the Convention's objective of promoting South-South cooperation in the abolition of hazardous waste trafficking through the establishment of a regional forum for prosecutions of hazardous waste traffickers. At the same time the Malabo Protocol stems from Africa's long-standing efforts to criminalise and punish all forms of waste trafficking that violate the aforementioned provision.⁸⁴⁸ Presently, despite hopes that the Malabo Protocol could strengthen "African solutions for African problems" by, among other things, establishing a regional forum of

⁸⁴⁶ Ibid.

⁸⁴⁷ Protocol on Amendments to the Protocol on the Statute of the African Court of Justice and Human Rights (Malabo Protocol) 2014, art 28L.

⁸⁴⁸ Bamako Convention (n. 795), art 11(1).

accountability for all governments, it is criticised for granting immunity to sitting Heads of State and other senior state officials who, despite the grave negative effects of waste trade or import into Africa, may still engage in such activities for their own selfish gain.⁸⁴⁹

Unlike the Ban Amendment, the Malabo Protocol, if ratified by 15 member states, would grant criminal jurisdiction to the existing African Commission on Human and Peoples' Rights (ACHPR), which is proposed to be merged with the African Court of Justice (ACJ) to form the African Court of Justice and Human Rights (ACJHR) under this Protocol.⁸⁵⁰ While under the Bamako Convention state parties were encouraged to cooperate and consider other enforcement mechanisms to ensure that no hazardous waste imports entered Africa, among other remedies, the Malabo Protocol establishes a regional venue for prosecuting the trafficking of hazardous waste into Africa.⁸⁵¹ Thus, despite its ratification issues, the Protocol enhances the international framework for regulating hazardous waste trafficking. Referring to Article 28L, for instance, any import or failure to re-import hazardous waste that is prohibited by the Bamako Convention constitutes hazardous waste trafficking and falls under the criminal jurisdiction of the proposed regional court.⁸⁵² Therefore, once a state accepts the Malabo Protocol, the court will have jurisdiction over all crimes outlined in Article 28L, regardless of their location.⁸⁵³

That said, while it may be possible to interpret Malabo's Article 28L so that it applies only to crimes that the Bamako Convention itself identifies as criminal acts in Article 9, this approach has not been feasible due to the expansive language used. Consequently, if the Protocol is implemented, the potentially expansive jurisdiction of the regional court could contribute to

⁸⁴⁹Eden Matiyas, 'What prospects for an African Court under the Malabo Protocol?' <<https://www.justiceinfo.net/en/37633-what-prospects-for-an-african-court-under-the-malabo-protocol.html>> accessed 30 March 2024.

⁸⁵⁰ The Basel Convention Ban Amendment 1995.

⁸⁵¹ Malabo Protocol (n. 847), art 28L.

⁸⁵² Ibid.

⁸⁵³ Ibid.

more efficient prosecutions of crimes involving toxic waste dumping.⁸⁵⁴ Thus, in addition to state parties, the Assembly of Heads of State and Government, the Peace and Security Council of the African Union, and the independent prosecutor will be able to refer illegal activities such as those in question to the court. In contrast to Trafigura's toxic dumping incident, where remedies had to be sought outside the affected state's territory, namely the United Kingdom and the Netherlands, but appropriate remedies were not met due to jurisdictional constraints, Malabo's proposed regional court could permit trials to be held in or near the locations where atrocities were committed.⁸⁵⁵

This proximity, among other things, has clear added benefits for prosecution investigations, which should have easier access to evidence and witnesses. More importantly, this could give victims a greater sense of "ownership" of the trial, which would likely lead to increased interest, participation, and reconciliation.⁸⁵⁶ In addition, the Protocol establishes an independent office of a public defender.⁸⁵⁷ This provision is not found in any other treaty establishing an international criminal court, with the exception of the Special Tribunal for Lebanon, which has a Defence Office as an independent organ of the court.⁸⁵⁸ This is a substantial addition to the Protocol that would help safeguard "equality of arms" and provide a better avenue for voicing and resolving defense-related issues.

Despite these benefits, the immunity from prosecution before the Court afforded to serving "Heads of State or Government" and "other senior state officials" is one of the Protocol's most contentious provisions.⁸⁵⁹ In other words, while serving heads of state and senior state officials

⁸⁵⁴ Bamako Convention (n. 795), art 9.

⁸⁵⁵ Trafigura (n. 833).

⁸⁵⁶ Sirleaf (n. 721) 348.

⁸⁵⁷ Matiyas (n. 849).

⁸⁵⁸ Ibid.

⁸⁵⁹ According to Article 46A of the Malabo Protocol, "no charges shall be commenced or continued before the Court against any serving African Union Head of State or Government, or anybody acting or entitled to act in such capacity, or other senior state officials based on their functions, during their tenure of office."

enjoy immunity from criminal jurisdiction of a third state under customary international law, they do not have such immunity before international criminal courts. This clause, however, prohibits the investigation of heads of state and senior state officials who frequently abuse their position to commit crimes, such as those being discussed. Consequently, Malabo's immunity clause undermines the legitimacy of the Court and the fight against impunity on the continent, as well as the founding and organisational principles of the African Union.⁸⁶⁰ Aside from this, numerous obstacles, including political and financial ones, may impede the regional criminal court's ability to provide an effective prosecution mechanism for the trafficking of hazardous waste.

As of now, it is uncertain whether the AU will have the resources necessary to operationalise and maintain the ACJHR. For example, the AU has difficulty funding its own operations, including its human rights treaty bodies.⁸⁶¹ Even though it contributes less than a quarter of its budget (excluding the peace and security budget, which is almost entirely funded by donors), the AU continues to found new institutions.⁸⁶² Some traditional donors to the AU, such as the EU, have already stated that they will not fund the ACJHR due to the immunity clause.⁸⁶³ Consequently, the Court's credibility is likely to be affected by the immunity clause. According to some scholars, in addition to financial concerns, a lack of political will may prevent the establishment of Malabo's proposed regional court.⁸⁶⁴ Thus, even if the proposed court is established, there may be political obstacles in relation to its decisions and their enforcement.⁸⁶⁵

⁸⁶⁰ Zeray Yihdego, 'The African Union: Founding Principles, Frameworks and Prospects' (2011) 17(5) *European Law Journal* 568, 572.

⁸⁶¹ Amnesty International, *Malabo Protocol: Legal and Institutional Implications of the Merged and Expanded African Court* (Amnesty International Ltd, 2017) 9.

⁸⁶² *Ibid.*

⁸⁶³ *Ibid.*

⁸⁶⁴ Charles C. Jalloh, *The African Court of Justice and Human and Peoples' Rights in Context: Development and Challenges* (Cambridge University Press, 2019) 2-3.

⁸⁶⁵ *Ibid.* 4.

Moreso, it is thought that the court would have a difficult time avoiding accusations of bias, particularly when the accused state or entity is not from the African continent.⁸⁶⁶ In addition, because of Africa's excessive reliance on international aid, it is believed that the proposed court will have difficulty adhering to international fair trial standards and conducting its proceedings transparently.⁸⁶⁷ Last but not least, the Malabo Protocol could have a negative effect on the court's human rights jurisdiction, including potentially negative new implications for future ratifications of the Protocol on the Statute of the African Court of Justice and Human Rights, as it proposes reducing the number of judges responsible for human rights issues from 11 to 5.⁸⁶⁸ Among other things, this reduction will significantly hinder the African Court's ability to expeditiously hear human rights cases. That is, despite these setbacks, the Malabo Protocol provides criminal jurisdiction within the proposed African Court of Justice and Human Rights (ACJHR) to, among other things, stop the illegal trafficking of hazardous waste and other waste into Africa, as well as the potential to stop the negative environmental impact of textile waste dumped on the continent, including the negative effects on climate change. To conclude, the chapter posits that textile waste, similar to plastic waste, is clearly hazardous and, unfortunately, rather obscurely regulated.⁸⁶⁹

2.8 Conclusion

The primary goal of this chapter was to discuss the environmental impact of fast fashion on global environmental sustainability, with a focus on how the fashion industry, similar to the oil/fossil fuel industry, poses grave environmental threats to our planet now, and how, as in the case of plastic waste, International Environmental Law has failed to provide a timely response

⁸⁶⁶ Amnesty International (n. 861) 11.

⁸⁶⁷ Ibid.

⁸⁶⁸ Ibid 7; Protocol on the Statute of the African Court of Justice and Human Rights 2008.

⁸⁶⁹ Khan (n. 773) 202.

to the inhumane dumping of textile waste into developing countries, particularly African nations, and how the continent has struggled for decades to address waste dumping issues in general.⁸⁷⁰ In addition, the chapter aimed to explain why there is such a high demand for clothing in contemporary modern society despite the environmental damage it causes, specifically through the emission of greenhouse gases.

Ultimately, the chapter revealed that the majority of consumers are concerned about environmental issues, despite their somewhat irrational choices that are not always well connected to their values. According to one study, consumers buy more to satisfy deep inner motivations and unconscious needs.⁸⁷¹ Consequently, they desire assistance in the form of green taxation and environmental information to alter their consumption patterns to more sustainable ones.⁸⁷² While the majority of consumers believe their values are based on ethics, they believe authorities have placed too much responsibility on their shoulders.⁸⁷³ In other words, consumers want producers to assume greater responsibility, if not total responsibility, for environmental issues.⁸⁷⁴ Consequently, consumers desire producers who encourage them to incorporate their own ethical values into their purchasing and consumption habits.

Produced by low-paid workers in China and Bangladesh, sold in Western countries, and dumped in Africa, fast fashion is in many ways detrimental to the global environment.⁸⁷⁵ Not only does the industry contribute 10% of global carbon emissions, but it also contributes 20% of industrial wastewater through textile treatment and dyeing.⁸⁷⁶ Worse than these are the massive amounts of textile waste currently dumped in countries of the Global South. Given their infrastructure needs, the chapter characterises this practise as not only a form of

⁸⁷⁰ Okafor (n. 529) 286-304.

⁸⁷¹ Niinimäki (n. 563) 76.

⁸⁷² Ibid.

⁸⁷³ Ibid.

⁸⁷⁴ Ibid.

⁸⁷⁵ Plastic Soup (n. 41).

⁸⁷⁶ Rao (n. 537).

environmental injustice, but also an act of environmental racism, as the developed nations that engage in such practises claim they are unable to dispose of these materials without endangering their immediate environment.⁸⁷⁷ Similar to plastic waste, the chapter identifies textile waste as posing equal or even greater environmental harm, necessitating that it be treated as hazardous and prohibited from being dumped in developing nations, especially those in Africa, which lack the infrastructure to properly destroy or recycle such materials.⁸⁷⁸

Among other things, the chapter identified the need for a stricter regulatory regime, most likely through the establishment of a regional court to prosecute hazardous waste trafficking, following the shortcomings of the overlapping Basel and Bamako regimes, notably the issue of ratification. Despite its shortcomings, the Malabo Protocol provides criminal jurisdiction to the proposed African Court of Justice and Human Rights to, among other things, prosecute the illegal trafficking of hazardous waste and other waste into Africa, as well as the potential to stop the negative environmental impact of fast fashion waste dumped on the continent, importantly the effects on climate change. While both are uniquely relevant in addressing the global waste management crisis, regional enforcement seems to be more robust and effective than international mechanisms. Despite this, regional enforcement, while preferred, is not a substitute for international law. On the whole, the chapter highlighted that textile waste, similar to plastic waste, is clearly hazardous and, unfortunately, rather obscurely regulated.⁸⁷⁹

⁸⁷⁷ Terada (n. 819) 157.

⁸⁷⁸ UNEP (n. 733).

⁸⁷⁹ Khan (n. 773) 202.

CHAPTER 3

THE HISTORY OF WASTE MANAGEMENT IN EUROPE: LESSONS FROM THE EU'S STRATEGY FOR PROMOTING SUSTAINABLE AND CIRCULAR PRODUCTS

3.1 Introduction

While international efforts have traditionally focused on regulating the transboundary movement of wastes, particularly toxic/hazardous waste, the EU has adopted a different strategy. Instead of waste management, the EU approach has been to limit waste production, particularly in the clothing industry, owing to the present insatiable demand for clothing, facilitated by fast fashion.⁸⁸⁰ In today's world, raw materials are extracted from the Earth, transformed into finished goods, and then are disposed of as waste; in other words, the process is linear.⁸⁸¹ A circular economy, on the other hand, aims to reduce waste production from the very beginning. Thus, the transition towards a Circular Economy (CE) necessitates forsaking linear production processes and the throwaway culture, through which waste is reduced by producing more sustainable fabrics and limiting the consumption of new products.⁸⁸²

Thus, the present chapter is focused on identifying the applicable EU waste law, in order to illustrate how the law has evolved to accommodate contemporary waste management issues, such as those originating from the fast fashion industry, in contrast to existing international efforts.⁸⁸³ Among other things, the chapter provides a critical analysis of the following documents: the EU Waste Framework Directive, the Landfill Directive, the Waste Incineration

⁸⁸⁰ Brewer (n. 4) 2.

⁸⁸¹ Maitre-Ekern (n. 21) 125454-125455.

⁸⁸² Ibid.

⁸⁸³ Sirleaf (n. 721) 332.

Directive, the Ecodesign for Sustainable Products and Textiles (Proposal), the EU Strategy For Sustainable And Circular Textiles, the EU Circular Economy Action Plan, the European Green Deal, and the European Climate Law.

3.2 The History of Waste Management in Europe

Throughout history, waste management has frequently been a defining element in the advancement of human civilisation.⁸⁸⁴ As long as people lived in small settlements and relied primarily on the hunting of animals and/or self-grown sustenance, waste was neither a societal nor an environmental concern.⁸⁸⁵ However, things shifted dramatically after the emergence of the first urban-like settlements.⁸⁸⁶ Evidently, as population density grew, waste management became increasingly problematic.⁸⁸⁷ That is, as urban populations increased, space for waste disposal shrank, forcing societies to devise waste management systems.⁸⁸⁸ Therefore, notwithstanding the prevailing discourse surrounding environmental matters in contemporary society, it is imperative to recollect that environmental awareness existed prior to the Industrial Revolution (1760–1840).

Historically, there have been four fundamental methods for coping with waste: dumping, burning, recycling, and waste minimisation.⁸⁸⁹ Although the earliest known waste management system was built in modern-day Syria (El Kowm), the history of waste management can be traced back to ancient civilisations, such as the Roman Empire that utilised complex aqueducts

⁸⁸⁴ Filip Havlíček and Miroslav Morcinek, ‘Waste and Pollution in the Ancient Roman Empire’ (2016) 9(3) *Journal of Landscape Ecology* 33, 34-36.

⁸⁸⁵ Robert Tonkinson, ‘Australian Aboriginal society and culture: an overview’ [2015] *International Encyclopedia of the Social & Behavioral Sciences* 234, 235-236.

⁸⁸⁶ *Ibid.*

⁸⁸⁷ Sabine Barles, ‘History of waste management and the social and cultural representations of waste’ (2014) *The basic environmental history* 199, 204-208.

⁸⁸⁸ *Ibid.*

⁸⁸⁹ David C. Wilson, *Global waste management outlook* (UNEP, 2015) 2-4.

to effectively manage the vast quantities of waste produced by its population.⁸⁹⁰ Nonetheless, the first solid waste management system was invented in London in the late 18th century, when a waste collection and resource recovery system was established around the ‘dust-yards,’ paving the way for the seamless transition to a municipally-run solid waste management system in England.⁸⁹¹

As the dust-yard system functioned effectively until the middle of the 1850s, when the value of ‘dust’ plummeted, it became imperative to facilitate a smooth transition to an institutionalised waste management system.⁸⁹² However, it was not until the middle of the 19th century that cholera outbreaks and public health discussions coalesced in the enactment of the first comprehensive laws on the subject.⁸⁹³ Highly influential in this new development was Edwin Chadwick’s 1842 study, ‘The Sanitary Condition of the Labouring Population,’ in which he argued for the importance of proper waste disposal and management facilities to improve the health and the well-being of people.⁸⁹⁴ Nevertheless, it is frequently argued that Chadwick’s proposals, despite being well-intentioned, were founded on the debunked miasmatic theory of disease transmission, which was disproved at the turn of the 20th century.⁸⁹⁵

Among other initiatives, the Nuisance Removal and Disease Prevention Act of 1846 instigated the gradual evolution of a regulated waste management system in England and throughout Europe.⁸⁹⁶ The Metropolitan Board of Works was the first citywide authority that centralised

⁸⁹⁰ Havlíček (n. 884) 35.

⁸⁹¹ Costas A. Velis, ‘19th century London dust-yards: A case study in closed-loop resource efficiency’ (2009) 29(4) Waste Management 1282, 1283-1284.

⁸⁹² Richard Girling, *Rubbish!: Dirt on our hands and crisis ahead* (Random House, 2011) 4-6.

⁸⁹³ Velis (n. 891) 1283-1284.

⁸⁹⁴ Edwin Chadwick, ‘The Sanitary Condition of the Labouring Population’ (Victorian Web Home, 2018) <<https://victorianweb.org/history/chadwick2.html>> accessed 30 March 2024.

⁸⁹⁵ Priti Joshi, ‘The Dual Work of “Wastes” in Chadwick’s Sanitary Report’ <<https://omf.ucsc.edu/london-1865/victorian-city/sanitary-report.html>> accessed 30 March 2024.

⁸⁹⁶ Wayne K. Davies, *Background to sustainable cities: Solutions for urban problems* (Springer, 2015) 153-155.

sanitation regulation for the rapidly expanding city of London, while the Public Health Act of 1875 made it mandatory for every household to deposit their weekly waste in ‘moveable receptacles’ for disposal. This was the first time that the concept of a ‘dust-bin’ was created and utilised.⁸⁹⁷ The initial surge in waste generation necessitated the creation of the first-ever incineration facilities, which were formerly referred to as ‘destructors’.⁸⁹⁸ Using a design by Alfred Fryer, the first incinerator was constructed in Nottingham in 1874.⁸⁹⁹ However, opposition arose as a result of the immense quantities of ash they produced, which dispersed over neighbouring regions. Eventually, similar waste collection systems began to appear in other major European cities at the turn of the 20th century.⁹⁰⁰ Among other inventions, the first-ever refuse trucks were open-sided waste waggons pulled by horses.⁹⁰¹ Shortly after the advent of motorisation, enclosed trucks were introduced in Europe during the beginning of the 20th century.⁹⁰² These vehicles were fitted with a disposal lever mechanism that effectively eliminated odours. The first of these vehicles were introduced in Britain in the 1920s.⁹⁰³

3.3.1 Evolution of EU Waste Law

During the initial stages of the European Union’s formation, waste management was predominantly considered the responsibility of local governments.⁹⁰⁴ It was not until the 1970s and 1980s that the European Union began to accord greater significance to the issue of waste management.⁹⁰⁵ Among other things, EU legislators were concerned that legal fragmentation

⁸⁹⁷ Ibid.

⁸⁹⁸ Lewis Herbert, *Centenary history of waste and waste managers in London and South-East England* (Chartered institution of wastes management, 2007) 8-16.

⁸⁹⁹ Ibid.

⁹⁰⁰ Ibid; See Martin F. Lemann and Martin Lemann, *Waste management* (Peter Lang, 2008) 4.

⁹⁰¹ Herbert Ibid.

⁹⁰² Ralph Stone and Francis R. Bowerman, ‘Incineration and Alternative Refuse Disposal Processes’ (1956) 121(1) Transactions of the American Society of Civil Engineers 273, 275-279.

⁹⁰³ Ibid.

⁹⁰⁴ Maitre-Ekern (n. 21) 125457.

⁹⁰⁵ Ibid.

could lead to the proliferation of national waste regulations, which they believed could jeopardise the development and the operation of the internal market.⁹⁰⁶ Nevertheless, as time passed, pollution from refuse dumping became an issue of significant concern. Thus, considerations for the internal market, as well as the need to provide a level-playing field for waste producers, influenced the passage of the first Waste Directive in 1975.⁹⁰⁷ While this Directive initially explained the concept of waste, established general waste management principles, and encouraged Member States to engage in prevention and recycling, prevention was initially less about preventing at the source and more about preventing at the point of impact.⁹⁰⁸ In other words, early waste legislation focused on limiting to the bare minimum activities of landfilling and waste incineration rather than minimising waste generation.⁹⁰⁹

At present, EU waste law is a comprehensive legal framework that regulates industrial, commercial, and household waste.⁹¹⁰ Central to this framework is the 2008 Waste Framework Directive (2008/98/EC), which defines key concepts, lays out fundamental waste management principles, and assigns responsibilities pertinent to the entire legal field.⁹¹¹ Recently, with a growing emphasis on extending product lifetime to reduce resource use and waste generation, the EU is committed to transitioning from a linear to a circular economy, where the value of products, materials, and resources is maintained in the economy for as long as possible, and

⁹⁰⁶ Raymond B. Brennan, 'Management of landfill leachate: The legacy of European Union Directives' (2016) 55 *Waste management* 355, 358-360.

⁹⁰⁷ Council Directive 75/442/EEC of 15 July 1975 on waste, Preamble; Maitre-Ekern (n. 21) 125457; Jurgita Malinauskaite and Spencer N, 'Waste prevention and technologies in the context of the EU Waste Framework Directive: lost in translation?' (2017) 26(3) *European Energy and Environmental Law Review* 66, 68.

⁹⁰⁸ Maitre-Ekern (n. 21) 125457.

⁹⁰⁹ Ibid; See Council Directive (EC) 1999/31/EC on the landfill of waste (EC Landfill Directive); Council Directive (EC) 2000/76/EC on the incineration of waste (EC Waste Incineration Directive); Council Directive (EC) 1994/62/EC on packaging and packaging waste (EC Packaging Directive); Council Directive (EC) 2000/53/EC on end-of life vehicles (EC End-of-Life Vehicles Directive); Council Directive (EC) 2006/66/EC on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC (EC Battery Directive); Council Directive (EU) 2012/19/EU on waste electrical and electronic equipment (EU WEEE Directive); Council Directive (EC) 91/689/EEC on hazardous waste (EC Hazardous Waste Directive).

⁹¹⁰ Ibid.

⁹¹¹ Directive 2008/98/EC of the European Parliament And of the Council of 19 November 2008 on waste and repealing certain Directives (hereinafter Waste Framework Directive).

waste generation is minimised.⁹¹² Consequently, EU waste law has become a significant component of these efforts to develop a sustainable and resource-efficient economy. The waste hierarchy established by the Waste Framework Directive, for instance, establishes a priority order from prevention, preparation for reuse, recycling and energy recovery, to disposal, which encourages the use of the most environmentally sound processes to treat waste and divert it from landfills, an essential plan that is lacking in the area of international law until now.

While international regulation of waste has traditionally focused more on the regulation of transboundary waste movement and disposal methods rather than on prevention, in the CE (i.e., under EU regulation), waste may be a resource that has the potential to replace primary raw materials from traditional extractive resources.⁹¹³ According to a 2012 study, despite still leaving a significant portion to waste recovery and disposal (landfills), 1.6 billion tons of the estimated 2.5 billion tons of waste generated annually in the EU are reused or recycled.⁹¹⁴ Although not the target, the EU has determined that an additional 600 million tons of these materials could be reused or recycled in the near future.⁹¹⁵ Consequently, while waste management efforts must continue to increase and improve, it is believed that the most efficient method to reduce pollution from waste is to treat the transition to the Circular Economy seriously in order to prevent waste from occurring altogether.⁹¹⁶

As proper waste management procedures include measures to reduce consumption, design more durable and repairable products, use fewer resources in production, extend product life

⁹¹² Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Closing the Loop - An EU Action Plan For the Circular Economy, para 1; See also Maitre-Ekern (n. 21) 125454.

⁹¹³ Maitre-Ekern Ibid; Andreas Mayer, 'Measuring progress towards a circular economy: a monitoring framework for economy-wide material loop closing in the EU28' (2019) 23(1) *Journal of industrial ecology* 62, 63-65; Teresa Domenech and Bettina Bahn-Walkowiak, 'Transition towards a resource efficient circular economy in Europe: policy lessons from the EU and the member states' (2019) 155 *Ecological Economics* 7, 8-12.

⁹¹⁴ Tanmoy R. Karak and Pradip Bhattacharyya, 'Municipal solid waste generation, composition, and management: the world scenario' (2012) 42(15) *Critical Reviews in Environmental Science and Technology* 1509, 1528-1535.

⁹¹⁵ Ibid.

⁹¹⁶ Maitre-Ekern (n. 21) 125454; See also Domenech and Bahn-Walkowiak (n. 913).

through maintenance and repair, and promote reuse, the purpose of the following section is to identify the unique approach of EU waste law in reducing the environmental impact of the vast quantities of waste currently produced from the products we consume. Unlike the international approach of primarily focusing on preventing the transboundary movement of waste, particularly hazardous waste, the EU has taken a different approach via its circular economy policies to limit or prevent waste from being generated in the first place. The chapter explores, among other things, how regional efforts may prove superior to international waste management efforts aimed at preventing the dumping of fast fashion waste in regions of the Global South, particularly African countries that lack the infrastructure to effectively manage or treat these environmentally hazardous fabrics.

3.3.2 The EU's Extended Producer Responsibility (EPR) Policy Approach: An Overview

To begin with, the manner in which we collect and manage our waste can either result in high recycling rates or valuable materials finding their way back into the economy.⁹¹⁷ Incorporated into EU waste law in the 1990s, EPR policies were intended to link product and waste by incentivising manufacturers to improve product design and thereby reduce waste management costs.⁹¹⁸ While the programme has had a limited impact on waste prevention, it would be far more effective to merely regulate waste trafficking, as is the case with current international waste management initiatives. Thus, while this chapter identifies EPR policies as one of the most important milestones in the evolution of EU waste legislation, the purpose of this section is to introduce a producer responsibility strategy that emphasises preventive actions over

⁹¹⁷ Piero Morsetto, 'Targets for a circular economy' (2020) 153 *Resources, Conservation and Recycling* 104553, 104556; See also Domenech and Bahn-Walkowiak (n. 913).

⁹¹⁸ Kleoniki Pouikli, 'Concretising the role of extended producer responsibility in European Union waste law and policy through the lens of the circular economy' (2020) 20(4) *ERA forum* 491, 495-502; Marco Compagnoni, 'Is Extended Producer Responsibility living up to expectations? A systematic literature review focusing on electronic waste' (2022) 367 *Journal of Cleaner Production* 133101, 133104.

market access restrictions.⁹¹⁹ Consequently, this section diverges from the typical literature on EPR in that it does not seek to debate the future of the scheme, but rather suggests abandoning the economic rationale that partially justified its adoption and concentrating on the development of a truly preventive waste management strategy.⁹²⁰

In waste management, EPR is a policy approach in which producers are held accountable for the end-of-life of their products after they have been sold.⁹²¹ This policy approach modifies the default rule for waste management and reverses the rights and responsibilities inherent to the product chain.⁹²² Nowadays, the successful implementation of the EU's eco-design initiative has increased the likelihood of addressing environmental harm caused by products at their point of origin, i.e. during the conception phase, as opposed to the end-of-life phase.⁹²³ The strength of this programme lies in the fact that it prevents the worst performing products, particularly in terms of environmental impact and energy efficiency, from entering the EU market, an important initiative that is absent, for instance, in AU law, where waste management has been a longstanding concern. Among other things, the concept of 'pre-market producer responsibility' (PPR), as emphasised in this chapter, ensures that producers cannot pay their way out of selling products that fail prematurely, cannot be repaired, or are recycled rather than reused.⁹²⁴ In other words, rather than disposing of their products, manufacturers would be accountable for guaranteeing their products' quality and advocating for repair and reuse.

⁹¹⁹ Maitre-Ekern (n. 21) 125457.

⁹²⁰ Ibid.

⁹²¹ Cai Ya-Jun and Choi Tsan-Ming, 'Extended producer responsibility: A systematic review and innovative proposals for improving sustainability' (2019) 68(1) IEEE transactions on engineering management 272, 273; Atalay Atasu, 'Operational perspectives on extended producer responsibility' (2019) 23(1) Journal of Industrial Ecology 744, 745; See Maitre-Ekern (n. 21) 125457.

⁹²² Noah Sachs, 'Planning the funeral at the birth: Extended producer responsibility in the European Union and the United States' (2006) 30 Harv. Envtl. L. Rev 51, 52-56.

⁹²³ Atasu (n. 921) 745.

⁹²⁴ Maitre-Ekern (n. 21) 125457.

The concept of ‘Extended Producer Responsibility’ first appeared in Europe during the early 1990s.⁹²⁵ Lindhqvist and Lidgren, in a 1990 report for the Swedish Ministry of Environment, defined EPR as an environmental protection strategy to achieve an environmental goal of a decreased total environmental impact from a product, by making the manufacturer of the product responsible for the entire life-cycle of the product.⁹²⁶ In other words, EPR serves a dual purpose: on the one hand, it seeks to shift the financial burden of waste management from society (i.e. taxpayers) to producers (and consumers). On the other hand, it seeks to encourage innovations in product design to reduce these costs and the environmental damage they cause.⁹²⁷ Put differently, by requiring producers to pay for waste management, EPR policies tend to compel manufacturers to consider environmental factors when making business decisions.⁹²⁸

According to Lindhqvist, producer responsibility may be divided into four different categories: liability, economic, informative, and physical.⁹²⁹ Simply put, producers would be required to cover all or a portion of the cost of collection, recovery, and final disposal of the products they manufacture (economic and financial responsibility), participate in waste product management (physical responsibility), or provide consumers and recyclers with information about proper recycling processes (informative responsibility).⁹³⁰ Under this regulation, producers would be held liable for environmental harm caused by their products. Together with other policy initiatives, such as the transition to a Circular Economy and eco-design initiatives, these are crucial initiatives assisting the EU in addressing its waste problems, but they are still absent

⁹²⁵ Ibid.

⁹²⁶ Thomas Lindhqvist and Karl Lidgren, *Model for extended producer responsibility* (Ministry of the Environment, 1990) 13.

⁹²⁷ Ibid.

⁹²⁸ OECD, *Extended producer responsibility: guidance manual for governments* (OECD Publications Service, 2001) 102.

⁹²⁹ Lindhqvist T, *Extended producer responsibility in cleaner production: Policy principle to promote environmental improvements of product systems* (Lund University, 2000) 38-39.

⁹³⁰ Naoko Tojo, *Extended Producer Responsibility as a Driver for Design Change - Utopia or Reality?* (The International Institute for Industrial Environmental Economics, 2004) 24-29.

from the international legal agenda, which for decades has focused solely on restricting the transboundary movement of waste rather than limiting its generation. Thus, instead of attempting to address what appear to be inherent flaws in the EPR policy with regard to waste prevention, it may be more appropriate to address these issues primarily in another context, namely by regulating products rather than waste, as is the case with current international initiatives.

Presently, preferable to the traditional EPR policy is what is known as ‘pre-market producer responsibility,’ which attempts to limit market access to minimum requirements of durability, repair and reuse, and thereby addressing the shortcomings of the conventional Extended producer responsibility scheme.⁹³¹ That is, instead of relying on products’ end-of-life requirements, the PPR would provide the groundwork for imposing environment-oriented measures upon placing products on the market. In other words, a pre-market producer responsibility would not be founded on financial responsibility, as per the polluter-pays principle. Rather, it would be based on a sense of obligation to exercise caution, which is a fundamental aspect of the EU environmental policy.⁹³²

Thus, in contrast to the conventional EPR framework, which aims to hold producers accountable for the financial cost of managing the impact of their products’ end-of-life phase, the PPR would require producers to limit the environmental impact of their products and increase their lifespan in accordance with CE objectives prior to placing them on the EU internal market.⁹³³ This, along with other policy recommendations, is part of the EU’s long-term environmental strategy to reduce the environmental impact of products, especially during their end-of-life phase. However, they are not part of the international legal framework for

⁹³¹ Maitre-Ekern (n. 21) 125462.

⁹³² Ibid.

⁹³³ Ibid.

waste control and management, which is a major contributor to the current state of affairs, in which the lack of similar policies has turned developing countries into pollution havens for their developed country counterparts, notwithstanding the long-term effect of such practices on the global environment.

Given that PPR is a more efficient approach than the conventional EPR scheme, the question of how to increase the role of manufacturers in waste prevention as opposed to waste management remains crucial. It is commonly believed that the (financial) responsibility for the end-of-life phase of products automatically incentivises producers to introduce upstream changes (such as design for the environment, repairability, or reusability), but an evaluation of the existing EPR schemes demonstrates that this is not the case.⁹³⁴ Expecting producers to implement systemic changes in, for example, design and production on a voluntary basis will not work in the absence of sufficient financial incentives. Thus, despite its recommendation at the international level, EPR plans should be revised to serve as an incentive for improved design and to extend beyond cost coverage.⁹³⁵

Instead of optimising inferior designs, EPR fees should serve as price signals that encourage producers to implement systemic changes. This is particularly crucial as EPR programmes are implemented for an expanding number of product categories. Consequently, there is the need for mandatory eco-modulation of fees to encourage producers to work towards the highest levels of the hierarchy of prevention (fewer products) and reuse (replacing disposables with reusables).⁹³⁶ While such a policy reform is encouraged, none of these initiatives exist under international law; instead, international law has focused for years on limiting the transboundary

⁹³⁴ European Environmental Bureau, *Waste Framework Directive review: why we need waste prevention targets now* (European Environmental Bureau, 2022) 7.

⁹³⁵ Ibid; European Commission, *Development of Guidance on Extended Producer Responsibility (EPR)* (DG Environment, final report, 2014) 104-110.

⁹³⁶ Maitre-Ekern (n. 21) 125462; Julian Ahlers, *Analysis of Extended Producer Responsibility Schemes* (Adelphi consult, 2021) 71-78.

movement of waste, particularly hazardous waste, without ever adjusting to the ever-changing state of environmental issues, where regional efforts, such as those of the EU, are now focused on waste prevention rather than waste control and management.

3.3.3 The EU Waste Framework Directive

To begin with, the EU's Extended Producer Responsibility framework is just one of several policy initiatives undertaken by the EU to limit the environmental impact of waste, particularly in our technologically advanced society where products can be manufactured in the blink of an eye.⁹³⁷ The EU Waste Framework Directive (WFD) was implemented as part of the EU's long-term environmental policy plan to safeguard the environment and human health from hazardous substances during waste processing and to reintroduce reusable materials into the supply chain.⁹³⁸ In 2018, the EU amended several pieces of legislation that regulate the reuse, repurposing, recycling, and disposal of products sold in the European Economic Area (EEA). Among these was the updated EU WFD, which applies to all products placed on the EU internal market, irrespective of their country of origin.⁹³⁹

As the first step to addressing any problem is to identify and clarify its fundamental concepts, the revised EU WFD includes, among other things, important concepts and definitions regarding waste management, such as recycling and material recovery.⁹⁴⁰ It specifies when waste should be regarded as a secondary raw material, enabling stakeholders to differentiate between waste and by-products.⁹⁴¹ In addition, it outlines waste management principles that

⁹³⁷ Neha Soni, 'Artificial intelligence in business: from research and innovation to market deployment' (2020) 167 *Procedia Computer Science* 2200, 2204.

⁹³⁸ Assent, 'What Is the Waste Framework Directive?' <<https://www.assent.com/resources/knowledge-article/what-is-the-waste-framework-directive/>> accessed 30 March 2024.

⁹³⁹ *Ibid.*

⁹⁴⁰ Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste, art 3; Oskar Johansson, 'Did End of Waste bring the End of Waste?' (2022) 20 *Detritus* 1, 2.

⁹⁴¹ *Ibid.*

mandate the management of waste in a way that does not endanger human health or the environment, with a focus on waste prevention, a recommendation to apply the waste hierarchy. This is also, in accordance with the polluter-pays principle, a requirement that the costs of disposing of waste must be borne by the holder of waste, by previous holders, or by the producers of the product from which the waste was generated.⁹⁴²

Contrary to extant international efforts, this is part of the EU's long-term plan to minimise waste generation and, as a result, to protect the environment by spreading waste management costs on both consumers and producers. The Directive stipulates, among other things, measures to protect the environment and human health by preventing or reducing the negative impacts of waste pollution, in addition to reducing the overall impacts of resource use.⁹⁴³ According to Art. 3 of the Directive, 'waste' refers to "any substance or object which the holder discards or intends or is required to discard."⁹⁴⁴ 'Hazardous waste' refers to "waste which displays one or more of the hazardous properties listed in Annex III."⁹⁴⁵

The waste hierarchy is a conceptual framework for guiding and ranking waste management decisions at both the individual and organisational levels.⁹⁴⁶ It prioritises waste prevention, then re-use, recycling, recovery, and ultimately disposal. It helps us reconsider our relationship with waste based on five environmental priorities ranked in order of importance. While prevention is the most preferred option, disposal in landfills is the least preferred option. Within this framework, there is inherently less waste when we prevent waste from occurring in the first place. Less waste necessitates less product reuse, disposal, and, most importantly, landfill

⁹⁴² Waste Framework Directive (n. 911), para 1.

⁹⁴³ Ibid, art 1.

⁹⁴⁴ Ibid, art 3(1).

⁹⁴⁵ Ibid, art 3(2). Such properties include 'Ecotoxic,' which is waste that poses or may pose immediate or delayed risks for one or more sectors of the environment, such as long-term shifts in temperatures and weather patterns.

⁹⁴⁶ Chunbo Zhang, 'An overview of the waste hierarchy framework for analysing the circularity in construction and demolition waste management in Europe' (2022) 803 *Science of the Total Environment* 149892, 149893.

disposal.⁹⁴⁷ In other words, we can prevent waste by using fewer materials and avoiding unnecessary ones during product design and packaging. Moreover, it requires the use of less hazardous waste materials whenever practicable. Nonetheless, when waste is produced, reuse is prioritised according to the hierarchy. Thus, reusing products and materials before they become waste is the next highest priority when prevention becomes unattainable. This is frequently represented by a five-tiered inverted pyramid illustrated below.

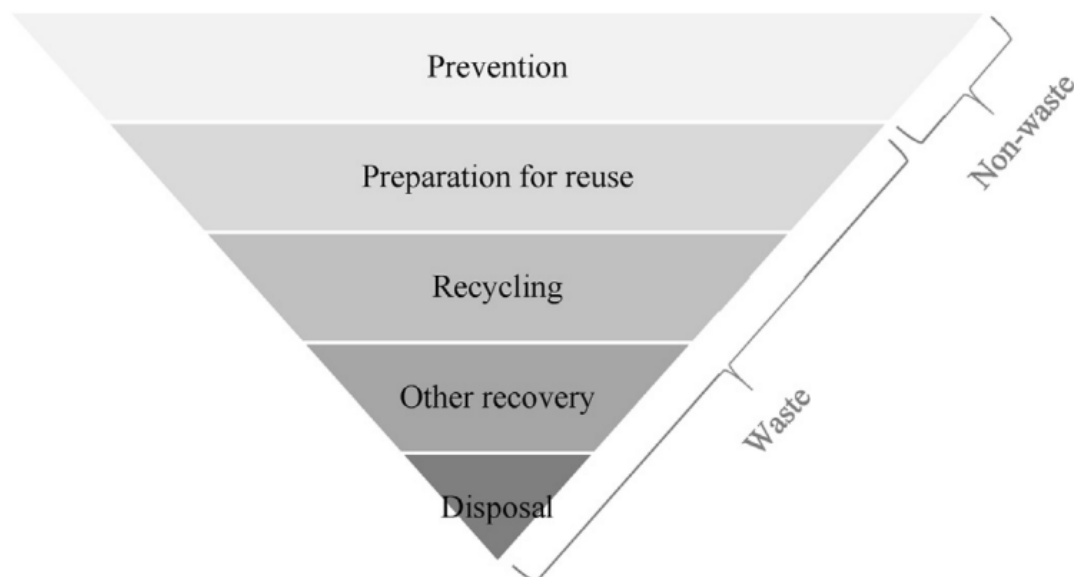


Fig. 2. The Waste Management Hierarchy (WFD 2008/98).⁹⁴⁸

Nowadays, as more single-use products are replaced by reusable alternatives, reusing items is simpler than ever.⁹⁴⁹ Two perfect examples are reusable drinking containers and shopping bags. When it comes to waste disposal, recycling is the most environmentally responsible option.⁹⁵⁰

⁹⁴⁷ Thornton Matheson, 'Disposal is not free: Fiscal instruments to internalize the environmental costs of solid waste' (2022) 29(4) *International Tax and Public Finance* 1047, 1049-1054; Jeanger Juanga-Labayen et al., 'A review on textile recycling practices and challenges' (2022) 2(1) *Textiles* 174, 178.

⁹⁴⁸ Maitre-Ekern (n. 21) 25457.

⁹⁴⁹ Matheson (n. 947) 1049-1054; Juanga-Labayen et al., (n. 947) 178.

⁹⁵⁰ Arminda Paço, 'Fostering sustainable consumer behavior regarding clothing: Assessing trends on purchases, recycling and disposal' (2021) 91(3) *Textile Research Journal* 373, 375.

Recycling essentially turns our waste into a new product or item, thereby reducing the quantity of raw materials needed.⁹⁵¹ Nowadays, the majority of items we use are recyclable.⁹⁵² Paper, cardboard, glass, wood, metal, and the majority of plastics are examples of everyday products that can be recycled.⁹⁵³ When we are unable to apply the first three Rs of waste management in the waste hierarchy, recovery is the next best alternative. For waste that cannot be recycled, energy recovery in the form of “waste to energy” may be viable.⁹⁵⁴ Waste to energy (WtE) is simply the incineration of non-recyclable waste to generate electricity.⁹⁵⁵ It aids in decreasing our reliance on fossil fuels and carbon emissions. Additionally, composting is one of the methods we employ when we cannot recycle materials.⁹⁵⁶ Composting converts organic waste into nutrient-rich food for plants.

While landfilling and incineration are the least sustainable waste management options and our last resort when energy recovery is not possible, they have unfortunately become the norm in developing countries that lack the infrastructure to recycle the vast amount of waste, particularly textile waste dumped on their shores due to fast fashion and the shortcomings of international environmental law.⁹⁵⁷ Landfills, for example, are significantly taxed in the United Kingdom in an attempt to encourage the use of more sustainable waste management options.⁹⁵⁸ Furthermore, landfill tax increases yearly and, as of April 2023, it is £102.10 per tonne of

⁹⁵¹ Ibid.

⁹⁵² Patricia C. Megale, ‘Sustainability of reusable packaging—Current situation and trends’ (2020) 6 Resources, Conservation & Recycling 100037, 100039; Kim Ragaert, ‘Design from recycling: A complex mixed plastic waste case study’ (2020) 155 Resources, Conservation and Recycling 104646, 104648.

⁹⁵³ ISM Waste & Recycling, ‘What is the Waste Hierarchy?’ <<https://ismwaste.co.uk/help/what-is-the-waste-hierarchy>> accessed 30 March 2024.

⁹⁵⁴ Ibid.

⁹⁵⁵ Ronney A. Boloy, ‘Waste-to-energy technologies towards circular economy: a systematic literature review and bibliometric analysis’ (2021) 232(7) Water, Air, & Soil Pollution 306, 308.

⁹⁵⁶ Ibid; Niroshika P. Kumuduni, ‘Converting food waste into soil amendments for improving soil sustainability and crop productivity: A review’ (2023) 881 Science of The Total Environment 163311, 163314.

⁹⁵⁷ Rupali Jha, Shipra Dwivedi, and Bharat Modhera, ‘Measurement and practices for hazardous waste management’ (2022) Hazardous waste management 89, 94-98; Egelston (n. 16) 85-92; Sonil Nanda and Franco Berruti, ‘Municipal solid waste management and landfilling technologies: a review’ (2021) 19 Environmental Chemistry Letters 1433, 1438.

⁹⁵⁸ Boloy (n. 955) 308.

refuse.⁹⁵⁹ That is, in addition to not being sustainable, while landfilling is the most expensive method in the waste hierarchy in the EU, regardless of its impact, it is by far the least expensive in other regions where our fashion waste is commonly discarded, which is all the more reason to end such practises, taking into account the greenhouse gas effect of landfills as well as the incineration of these fabrics.⁹⁶⁰

The disposal of waste (landfilling and incineration) is not only the least preferable option, but it is also a highly unsustainable method of waste management because waste that remains in landfills can continue to have a detrimental impact on the environment.⁹⁶¹ In addition to the substantial carbon imprint of incineration, it is estimated that disposing of one tonne of food waste in landfills generates 450 kg of carbon emissions.⁹⁶² Furthermore, leaking chemicals and toxic substances from landfills can contaminate the soil and groundwater underneath.⁹⁶³ According to a report by the IPCC, the waste sector is responsible for approximately 5% of the global greenhouse gas budget.⁹⁶⁴ This 5% is made up of methane (CH₄) emissions from the anaerobic decomposition of solid waste and carbon dioxide (CO₂) emissions from the decomposition of wastewater.⁹⁶⁵ The effect of landfills on climate change is attributable to their emissions of CO₂ and CH₄, as well as other greenhouse gases. These gases are the by-product of conventional landfills' anaerobic decomposition of organic waste.⁹⁶⁶

⁹⁵⁹ Ibid.

⁹⁶⁰ Ibid.

⁹⁶¹ Ibid.

⁹⁶² Jeremy Nyitrai, 'Environmental life cycle assessment of treatment and management strategies for food waste and sewage sludge' (2023) 240 *Water Research* 120078, 120080.

⁹⁶³ Lou XF and Jaya Nair, 'The impact of landfilling and composting on greenhouse gas emissions—a review' (2009) 100(16) *Bioresource technology* 3792, 3794; See Chengliang Zhang, 'Greenhouse gas emissions from landfills: A review and bibliometric analysis' (2019) 11(8) *Sustainability* 2282, 2285.

⁹⁶⁴ G.H. Sabin Guendehou, Matthias Koch, Leif Hockstad, Riitta Pipatti, Masato Yamada, 'Incineration and Open Burning of Waste' in S. Eggleston, L. Buendia, K. Miwa, T. Ngara and K. Tanabe, *Guidelines for National Greenhouse Gas Inventories* (Intergovernmental Panel on Climate Change, 2006) 20-25.

⁹⁶⁵ Ibid.

⁹⁶⁶ XF and Nair (n. 963); See Rachel A. Slater and Jim Frederickson, 'Composting municipal waste in the UK: some lessons from Europe' (2001) 32(3) *Resources, Conservation and Recycling* 359, 365-368.

However, the use of the waste management hierarchy coincides with the emergence of life cycle thinking in waste management policy, which takes into account the total environmental impact of a product or service from the extraction of raw materials through processing, manufacturing, distribution, and disposal.⁹⁶⁷ This holistic approach to waste management is the driving force behind the Waste Framework Directive that strives to establish a long-term path to sustainable waste management. In addition, Article 4 of the WFD imposes a legal obligation to adhere to the waste hierarchy, which necessitates that Member States' governments and businesses dispose waste in accordance with optimal waste management protocols.⁹⁶⁸ Thus, despite the fact that the national waste policies and plans of Member States may change over the course of legislative cycles, it is expected that the standards specified in this Directive will remain in effect for many years due to its legally binding character, a problem that still exists at the international level.⁹⁶⁹

Among other things, the WFD seeks to encourage sustainable production and consumption throughout the EU economy.⁹⁷⁰ This not only supports but also contributes to the larger EU circular economy initiative, in which, in contrast to the current 'linear' system where products are manufactured, consumed, and discarded with low recycling rates, these cycles are stopped to reduce raw material consumption and increase product redesign. Closing these cycles requires more than just recycling; it necessitates modifying how value is created and maintained, making production more sustainable, and adopting new business models. A circular business model, for example, would encourage companies to develop and produce

⁹⁶⁷ Axil, 'What is waste management hierarchy?' <<https://axil-is.com/blogs-articles/waste-management-hierarchy/>> accessed 30 March 2024.

⁹⁶⁸ Waste Framework Directive (n. 911), art 4.

⁹⁶⁹ Axil (n. 967).

⁹⁷⁰ Directive (EU) 2018/851, art 9(1)(a).

products that do not require any scarce materials and can be recycled through existing waste management systems.⁹⁷¹

Similar to a closed-loop economy, in which no waste is produced, the circular economy aims to reduce raw material consumption, increase the redesign of materials and products, be more resource-efficient, and recapture “waste” as a resource for the production of new commodities. Within this system, everything is shared, repaired, repurposed, or recycled, and “waste” is transformed into a valuable resource for the creation of something new.⁹⁷² Instead, the international legal system has taken a different approach, focusing on restricting the transboundary movement of waste as opposed to minimising its creation, a plan adopted by the EU as part of the solution to our global climate emergency, ensuring that nothing goes to waste, and that everything, including the clothes we wear, has value.

3.3.4 The EU Landfill Directive

Adopted in 1999, the Landfill Directive is a milestone in EU waste policy.⁹⁷³ It signified a decisive transition from landfilling to the EU’s new waste hierarchy, which prioritises waste prevention, followed by re-use, recycling, and recovery, and seeks to avoid landfilling, whenever possible.⁹⁷⁴ The Landfill Directive was adopted in response to the increasing recognition of the negative environmental impact of landfills, including the release of methane and other greenhouse gases, as well as the contamination of the soil, the groundwater and the surface water.⁹⁷⁵ The Landfill Directive was aimed to minimise the negative impact of landfilling waste on human health and the environment by implementing measures to prevent

⁹⁷¹ Charles J. Whalen and Katherine A. Whalen, ‘Circular economy business models: A critical examination’ (2020) 54(3) *Journal of Economic Issues* 628, 635-638.

⁹⁷² *Ibid.*

⁹⁷³ European Environment Agency, *Diverting waste from landfill: Effectiveness of waste-management policies in the European Union* (EEA Report, No 7/2009) 9.

⁹⁷⁴ *Ibid.*

⁹⁷⁵ *Ibid.*

or mitigate such effects.⁹⁷⁶ Consequently, the Directive established targets for the gradual reduction of biodegradable municipal wastes, such as food waste, park and garden waste, paper, wood, and textiles, that commonly end up in landfills.⁹⁷⁷ Additionally, it imposed a number of restrictions on the categories and quantities of wastes that Member States may be allowed to dispose of in landfills in the future.⁹⁷⁸

Pursuant to Art. 5(1), Member States were required to establish a national strategy for the reduction of biodegradable waste going to landfills within two years of the date specified in Art. 18(1) and to notify the Commission of this plan not later than two years of its entry into force.⁹⁷⁹ The proposed approach should encompass various measures aimed at achieving the objectives delineated in paragraph 2, with a particular focus on recycling, composting, and energy recovery.⁹⁸⁰ Among other things, Article 5 placed an outright ban on the landfilling of the following wastes: liquid wastes, oxidising, explosive, corrosive materials, flammable wastes, hospital and other clinical wastes, as well as whole used and shredded tyres.⁹⁸¹ Nonetheless, in cases where these materials were being deposited in landfills, the respective state was obliged to immediately implement an alternative plan or disposal route to manage these sites.⁹⁸²

In addition to encouraging landfill closure, the EU Landfill Directive effectively led to the increase of the use by the Member States of alternative waste management strategies, such as recycling, composting, and waste-to-energy incineration.⁹⁸³ For instance, while Article 5 was intended to reduce the amount of biodegradable municipal waste (BMW) disposed of in

⁹⁷⁶ Council Directive (EC) 1999/31/EC on the landfill of waste (Landfill Directive), art 1.

⁹⁷⁷ *Ibid*, art 5.

⁹⁷⁸ *Ibid*, art 6.

⁹⁷⁹ *Ibid*, art 5(1); See art 18(1).

⁹⁸⁰ *Ibid*, para 2.

⁹⁸¹ *Ibid*, art 5.

⁹⁸² *Ibid*, art 14.

⁹⁸³ EEA Report (n. 973).

landfills, thereby reducing greenhouse gas emissions and groundwater contamination from leachate, Article 6 required landfills to be classified as hazardous, non-hazardous, or inert, and to accept only waste materials that correspond to their respective classification.⁹⁸⁴ Consequently, this would hopefully put an end to the co-disposal of waste streams, which was posing a significant challenge not only to recycling but also to other alternative waste management techniques, such as waste-to-energy incineration.⁹⁸⁵ In this regard, the Directive not only sought to prevent landfilling whenever possible, but also provided alternative waste management strategies for materials that cannot be landfilled.⁹⁸⁶

The reclassification of landfills would require operators to engage in commercial decision-making processes to determine the best course of action for their sites. This included not only operational considerations, but also monitoring, control, and maintenance. In other words, while existing landfills may continue to emit gases into the atmosphere, possibly in greater quantities than sites established after the Directive's implementation, it was anticipated that the Landfill Directive would substantially reduce emissions from newly established landfill sites in Member States. According to a report on the life cycle inventory conducted by the Land Quality Management (LQM) in the United Kingdom in 2003, 70 to 80 percent of the environmental impact of landfilling is attributable to landfill methane.⁹⁸⁷

As an efficient instrument used in most EU countries to divert biogenic waste from landfills, the Landfill Tax was instituted in October 1996 to tax the disposal of waste in landfills.⁹⁸⁸ The objective was to promote waste diversion from landfills to treatment facilities, encourage waste

⁹⁸⁴ Council Directive 1999/31/EC, art 5(1) & art 6; The Department for Environment, Food and Rural Affairs (DEFRA), *Impact of EU Landfill Directive and National Strategies on UK Greenhouse Gas Emissions* (March 2004) 3-4.

⁹⁸⁵ Council Directive 1999/31/EC Ibid.

⁹⁸⁶ Stephen Burnley, 'The impact of the European landfill directive on waste management in the United Kingdom' (2001) 32(3) *Resources, Conservation and Recycling* 349, 52-54.

⁹⁸⁷ Land Quality Management, *Methane Emissions from Landfill Sites in the UK* (January 2003) 15-20.

⁹⁸⁸ Defra (n. 984) 5.

reduction, and elicit a shift in post-consumption behaviour. Therefore, the initial cost was set to reflect dumping expenses that were not included into the market price of landfill space.⁹⁸⁹ Continuing with the United Kingdom as an example, in July 1997 the British government published its Statement of Intent on Environmental Taxation, which outlined its intention to gradually reform the tax system to shift the tax burden from ‘goods’ to ‘bads’ and to increase incentives to reduce environmental damage and encourage innovation to meet higher environmental standards.⁹⁹⁰ Accordingly, the landfill tax on active wastes was set at £10 per tonne in 1998, with an annual increase of £1 per tonne bringing the rate to £15 per tonne in 2004/05. Currently, the standard rate is £102.10 per tonne and the lowest rate is £3.25 per tonne; beginning 1 April 2024, the standard rate will increase to £103.70 per tonne and the lowest rate will increase to £3.30 per tonne.⁹⁹¹

In other words, while international efforts have primarily focused on preventing the transboundary movement of waste, thereby increasing the desire for the prohibition of the transboundary movements of hazardous wastes and their disposal in other States, particularly developing countries, regional efforts, such as those coming from the EU, have been to not only manage or regulate the different streams of impact, including, but not limited to, product design, shipment, and post-consumption waste management methods such as landfilling and incineration, but also to prevent waste from being generated in the first place through its circular economy initiatives. However, given that EU legislation is only enforceable among Member States and the rest of the world is left to its own environmental policies, ignoring the fact that what happens to or affects other nations, such as the dumping of low-quality second-hand goods in developing countries, ultimately affects all, it is imperative that existing

⁹⁸⁹ Ibid.

⁹⁹⁰ Ibid.

⁹⁹¹ Deloitte LLP, ‘Landfill Tax rate increase for 2023-4’ <<https://taxscape.deloitte.com/measures-spring-budget-2023/landfill-tax-rate-increase-for-2023-4.aspx>> accessed 30 March 2024.

international measures actually adapt to address the ever-changing frontiers of present environmental problems.

3.3.5 The Waste Incineration Directive

The conservation of resources is a primary objective within waste management practises, encompassing both material recycling and the recovery of residual wastes. In contrast to existing international frameworks, such as the Basel and Paris Agreements, the EU Waste Incineration Directive mandated energy recovery from waste incineration activities in all Member States.⁹⁹² Consequently, in contrast to other regions, all waste incineration facilities in Member States must be outfitted with a combustion chamber and a suitable energy conversion system. However, the type of energy conversion system employed depends on the by-product generated during the incineration process, which may consist of steam, heat, electricity, or a combination of heat and electricity.⁹⁹³

While waste incineration has historically been criticised for its perceived negative environmental effect, efforts to improve the standards, particularly regarding greenhouse gas emissions, culminated in the adoption of Directive 2000/76/EC on waste incineration by the European Parliament and the EU Council in 2000. This Directive aimed to regulate and govern waste incineration operations in all EU Member States, with a focus on attaining a higher level of environmental protection than the existing standards. Consequently, Article 1 of the Directive aimed to prevent or limit, to the greatest extent possible, the negative environmental

⁹⁹² Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the incineration of waste, para 9.

⁹⁹³ Rui Li, 'Three-stage pretreatment of food waste to improve fuel characteristics and incineration performance with recovery of process by-products' (2022) 330 Fuel 125655, 125658.

effects of waste incineration and co-incineration, including pollution by emissions into air, soil, surface water, and groundwater, and the resulting risks to human health.⁹⁹⁴

In comparison to existing international standards, this goal was intended to be achieved through the implementation of stringent operational and technical standards, such as the establishment of emission limit values for waste incineration and co-incineration facilities in all Member States, as well as complying with Directive 75/442/EEC. Hence, without prejudice to Article 11 of Directive 75/442/EEC and Article 3 of Directive 91/689/EEC, no incineration or co-incineration plant may operate within a Member State without a permit to conduct such activities.⁹⁹⁵ This would lead to operators adhering to stringent environmental regulations regarding waste treatment and incineration, among other benefits. This is a positive development in comparison to other regions, where the lack of regulated incineration activities, particularly of second-hand textiles, necessitates immediate action to prohibit the trade of certain second-hand products, specifically low-quality second-hand clothing, to Global South regions that lack the infrastructure to effectively manage such goods. As it has mentioned earlier, these countries not only lack the necessary infrastructure to efficiently manage such goods, but also lack strict regulations to regulate landfill and incineration practises.

In the EU, the generation of Municipal Solid Waste (MSW) ranges from approximately 250 kg per person per year.⁹⁹⁶ Paper, glass, metals, textiles, and plastics are only a few of the waste fractions that have been diverted and recycled in the majority of countries, particularly among EU's oldest Member States.⁹⁹⁷ In spite of this, incineration remains the preferred inertization technique for residual waste prior to final disposal in the majority of nations.⁹⁹⁸ For example,

⁹⁹⁴ Directive 2000/76/EC, art 1.

⁹⁹⁵ Directive 75/442/EEC, art 11; Directive 91/689/EEC, art 3.

⁹⁹⁶ Jurgita Malinauskaite, 'Municipal solid waste management and waste-to-energy in the context of a circular economy and energy recycling in Europe' (2017) 141 *Energy* 2013, 2015-2018.

⁹⁹⁷ Juergen Vehlow, 'European Union waste management strategy and the importance of biogenic waste' (2007) 9 *Journal of material cycles and waste management* 130, 132-135.

⁹⁹⁸ *Ibid.*

while Germany's incineration rate was projected to reach 40 percent as early as 2006, following the ban on landfills in June 2005, countries, such as Denmark, the Netherlands, and Sweden, now incinerate almost all their residual waste.⁹⁹⁹ Based on a recent study, it was found that Germany's export of second-hand clothing to various low-income countries in the year 2022 amounted to approximately 462,500 tonnes.¹⁰⁰⁰ Based on the country's total population, this represented a 5.5 kilograms of second-hand clothes exported per capita in 2022.¹⁰⁰¹ In addition, this represents a 10.7% decrease compared to the 518,100 tonnes produced the previous year.¹⁰⁰² Thus, despite the fact that this may not be a significant achievement, it can definitely be attributed to the implementation of the EU Landfill and Incineration Directives.¹⁰⁰³

3.3.6 The EU Ecodesign for Sustainable Products and Textiles (Proposal) and the EU Strategy for Sustainable and Circular Textiles

Inspired by the EU Strategy for Sustainable and Circular Textiles, which attempts to address issues related to textile production and consumption within Member States while also acknowledging the significant role of the textiles industry, the proposed Ecodesign for Sustainable Products and Textiles will reduce the environmental impact of the textile industry by making products last longer, be cheaper to repair, and be more energy and resource efficient.¹⁰⁰⁴ In other words, the world strives to achieve the long-term temperature goal outlined in Article 2 of the Paris Accord, and Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, and thus to undertake rapid reductions thereafter in

⁹⁹⁹ Ibid.

¹⁰⁰⁰ Destatis, 'Amount of household wastes generated: Survey of public waste management in Germany' <https://www.destatis.de/EN/Themes/Society-Environment/Environment/Waste-Management/_node.html> accessed 30 March 2024.

¹⁰⁰¹ Ibid.

¹⁰⁰² Ibid.

¹⁰⁰³ Brennan (n. 906) 358-360.

¹⁰⁰⁴ Barbara Cimatti, 'Eco design and sustainable manufacturing in fashion: A case study in the luxury personal accessories industry' (2017) 8 *Procedia Manufacturing* 393, 394-395.

accordance with the best available scientific evidence. In this way they will hopefully strike a fair balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century. As it becomes apparent, one of the most important solutions is to increase the energy and resource efficiency of production, as opposed to managing its resultant impact.¹⁰⁰⁵

Otherwise stated, textiles play a fundamental role in various aspects of daily life, including clothing, housing, furniture, transport, as well as medical and protective equipment.¹⁰⁰⁶ However, it is imperative to address the escalating environmental impact associated with their production and usage. On a global scale, the textile industry exhibits a substantial environmental (water, carbon, and energy) footprint, ranking second only to the oil/fossil fuel industry in terms of impact.¹⁰⁰⁷ Additionally, it ranks as the third most significant area of consumption for water and land use, and the fifth most significant sector in terms of raw material consumption and greenhouse gas emissions.¹⁰⁰⁸

Together, these two frameworks aim to establish an industry that is more environmentally sustainable, economically competitive, and resistant to global disruptions. The goal is to ensure that all textile products placed on the EU market have qualities, such as durability, repairability, and recyclability, i.e., the capacity to be reused at the end of their useful life, so as to minimise waste, pollution, and resource use.¹⁰⁰⁹ In addition, they intend to make a substantial portion of these products from recycled fibres that are free of hazardous substances and manufactured in accordance with legal and environmental standards.¹⁰¹⁰ Otherwise stated, the current trend of

¹⁰⁰⁵ Paris Agreement (n. 319), art 4(1).

¹⁰⁰⁶ Yan Luo, Xiongying Wu, and Xuemei Ding, 'Environmental impacts of textiles in the use stage: A systematic review' (2023) 36 Sustainable Production and Consumption 233, 234-236.

¹⁰⁰⁷ Bailey (n. 28) 1075; Niinimäki (n. 18) 189-190.

¹⁰⁰⁸ Ibid.

¹⁰⁰⁹ Nahid Pervez, *Textile waste management and environmental concerns* (Woodhead Publishing, 2021) 719-722.

¹⁰¹⁰ Ibid.

fast fashion must be considered “obsolete” in terms of environmental standards, as consumers now desire durable and fairly priced products of a higher quality.¹⁰¹¹ This is consistent with the proposed Ecodesign for Sustainable Products and Textiles, but, due to the limitations of regional policies, it may not be to the long-term advantage of the global community, but rather EU Member States. As a result, similar international frameworks that could benefit all nations, as opposed to the existing EU initiatives, are required.

Extending the lifespan of textile products represents a highly efficacious approach for substantially mitigating their climate and environmental impact. The attainment of this objective is contingent upon the pivotal role played by product design.¹⁰¹² Consumers often dispose of textiles due to defects in quality, including issues such as inadequate colour fastness, insufficient tear strength, and low-quality zippers and seams.¹⁰¹³ Increased durability will allow consumers to wear clothing for longer and simultaneously support circular business models such as reuse, renting and repair, take-back services, and second-hand retail, allowing consumers not only to save money but also to contribute to the preservation of our planet.

Additional design elements that can impact the environmental performance of textiles within these frameworks include their material composition, which includes the types of fibres used and their blending, as well as the presence of chemicals of concern that impede the recycling of textile waste.¹⁰¹⁴ While sorting and advanced recycling technologies still need to be improved, enhancing product design is the first step in overcoming technical difficulties in

¹⁰¹¹ Maarit Aakko and Kirsi Niinimäki, ‘Quality matters: reviewing the connections between perceived quality and clothing use time’ (2022) 26(1) *Journal of Fashion Marketing and Management* 107, 110-112; See D Morris and M D Crosby, ‘Quality requirements for textiles and clothing in Europe’ (1995) 2 *International Trade Forum* 1, 4.

¹⁰¹² Kirsi Niinimäki and Lotta Hassi, ‘Emerging design strategies in sustainable production and consumption of textiles and clothing’ (2011) 19(16) *Journal of cleaner production* 1876, 1879-1880.

¹⁰¹³ *Ibid.*

¹⁰¹⁴ Subramanian Muthu and Miguel A. Gardetti, *Sustainability in the textile and apparel industries* (Springer, 2020) 12-16.

managing the environmental impact of the clothing and textiles industry.¹⁰¹⁵ In addition, due to the limited availability of methods to separate textile waste by fibre, for instance, fibres are frequently combined with one another (such as polyester with cotton).¹⁰¹⁶ Moreover, elastane, which is frequently added to fabrics to increase their functionality, can act as a contaminant in nearly all textile fibres recycling technologies, affecting the economic and environmental viability of the recycling process.¹⁰¹⁷ Furthermore, blending different kinds of polyester can also negatively impact the processing of textile waste as well as the output quality of recycling.¹⁰¹⁸

Subject to its approval, the proposed Ecodesign for Sustainable Products and textiles Regulation will develop a set of binding product-specific eco-design requirements to increase textiles' performance in terms of durability, reparability, reusability, mandatory recycled fibre content, as well as fibre-to-fibre recyclability, to minimise and track the presence of substances of concern, and to reduce the negative impacts on climate and the environment.¹⁰¹⁹ The Strategy aims to create a coherent framework and a vision for the transition of the textiles industry, such that by 2030, textile products placed on the EU market are long-lasting and recyclable, made to a large extent of recycled fibres, devoid of any hazardous substances, and climate-friendly.¹⁰²⁰ Thus, given the need to promote reuse, the EU's eco-design approach should be viewed as preferable to the widely advocated ban on the trade of second-hand clothing, primarily due to the prevalence of fast fashion, a business model characterised by the

¹⁰¹⁵ Ibid.

¹⁰¹⁶ Małgorzata Koszewska, 'Circular economy—Challenges for the textile and clothing industry' (2018) 18(4) *Autex Research Journal* 337, 339-340.

¹⁰¹⁷ Ibid.

¹⁰¹⁸ Ibid.

¹⁰¹⁹ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, (hereinafter EU Strategy For Sustainable And Circular Textiles) 1-3.

¹⁰²⁰ Ibid 2.

rapid production of cheap, low-quality, disposable clothing and consequently concerns about the quality of clothes.

3.3.7 The European Green Deal and the EU Climate Law

Despite the singular existence of our planetary abode, it is predicted that by 2050 mankind will consume as if there were three.¹⁰²¹ While annual waste generation is expected to increase by 70% by 2050, global consumption of materials such as fossil fuels, biomass, metals, and minerals is projected to double over the next four decades.¹⁰²² As half of all greenhouse gas emissions and more than 90 percent of wastewater and biodiversity loss are attributable to resource extraction and processing, the European Green Deal establishes a coordinated strategy for a climate-neutral, resource-efficient, and competitive economy.¹⁰²³ Thus, to achieve climate neutrality by 2050, it will be essential to expand the circular economy beyond its initial supporters to include a broader spectrum of economic actors, most notably non-EU/foreign nations. This will, among other things, help decouple economic growth from resource consumption while ensuring that no one is left behind, which was an important flaw in the Kyoto Protocol.¹⁰²⁴

The atmosphere is warming, and the climate is changing with each passing year.¹⁰²⁵ Approximately one million out of the total eight million species present on Earth are currently

¹⁰²¹ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, COM(2020) 98 final, (hereinafter EU Circular Economy Action Plan) 1-2; OECD, *Global Material Resources Outlook to 2060: Economic Drivers and Environmental Consequences* (OECD Publishing, 2019) 6-10.

¹⁰²² Silpa Kaza et al., *What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050* (World Bank, 2018) 1-2.

¹⁰²³ Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, Com/2019/640 Final, (hereinafter the European Green Deal) 1-4.

¹⁰²⁴ EU Circular Economy Action Plan (n. 1021) 3.

¹⁰²⁵ Gabriel Filippelli, *Climate Change and Life: The Complex Co-evolution of Climate and Life on Earth, and Beyond* (Elsevier, 2022) 209-215.

facing the threat of extinction.¹⁰²⁶ The pollution and destruction of forests and oceans remains an ongoing concern. Thus, in addition to other initiatives, the European Green Deal is an attempt to address these problems. It is a new environmental strategy aimed at transforming the EU into a thriving society with a modern, resource-efficient, and competitive economy by 2050, with no net greenhouse gas emissions and economic development decoupled from the consumption of resources.¹⁰²⁷ The EU, in its attempt to be at the forefront of orchestrating global endeavours, aimed at establishing a cohesive legal framework that upholds sustainable solutions, is believed to assertively expedite and bolster the imperative transformation required across all industries through the implementation of the European Green Deal, among other initiatives.¹⁰²⁸

It is imperative, nonetheless, to acknowledge that the attainment of the environmental objectives delineated in the Green Deal by the EU necessitates the fostering of collaboration and cooperation with other regions. Climate change and biodiversity loss are driven by global factors that transcend national boundaries. Among other actors, the EU has the potential to leverage its influence, expertise, and financial resources to persuade its neighbours and partners to collaborate with it to promote global environmental sustainability. Together with other initiatives, the Green Deal aims to maintain the EU's leadership position in global initiatives by establishing partnerships with nations that share similar objectives. Consequently, it is imperative that all initiatives undertaken by the EU align with and support the long-term objectives of this framework.

¹⁰²⁶ Vânia Proença and Henrique M Pereira, 'Comparing extinction rates: Past, present, and future' (2013) *Encyclopedia of biodiversity* 167, 169-172.

¹⁰²⁷ Grégory Claeys, Simone Tagliapietra, and Georg Zachmann, *How to make the European Green Deal work* (Bruegel, 2019) 1-5.

¹⁰²⁸ Marco Siddi, 'The European Green Deal: Assessing its current state and future implementation' (2020) 114 *UPI Reporting* 1, 4-8.

Nonetheless, as the complexity and interconnectedness of environmental challenges may pose significant obstacles, it is imperative that all policy responses be both assertive and comprehensive, focused on maximising benefits not only in terms of health but also in terms of quality of life as a whole.¹⁰²⁹ The successful implementation of this endeavour, however, necessitates a high level of coordination in order to effectively leverage the existing synergies across various policy domains. The Green Deal plays a crucial role in the European Commission's efforts to implement the United Nations' 2030 Agenda and achieve the sustainable development goals. Consequently, the Commission intends to incorporate the United Nations' sustainable development goals into the restructuring of the European Semester process of macroeconomic coordination.¹⁰³⁰

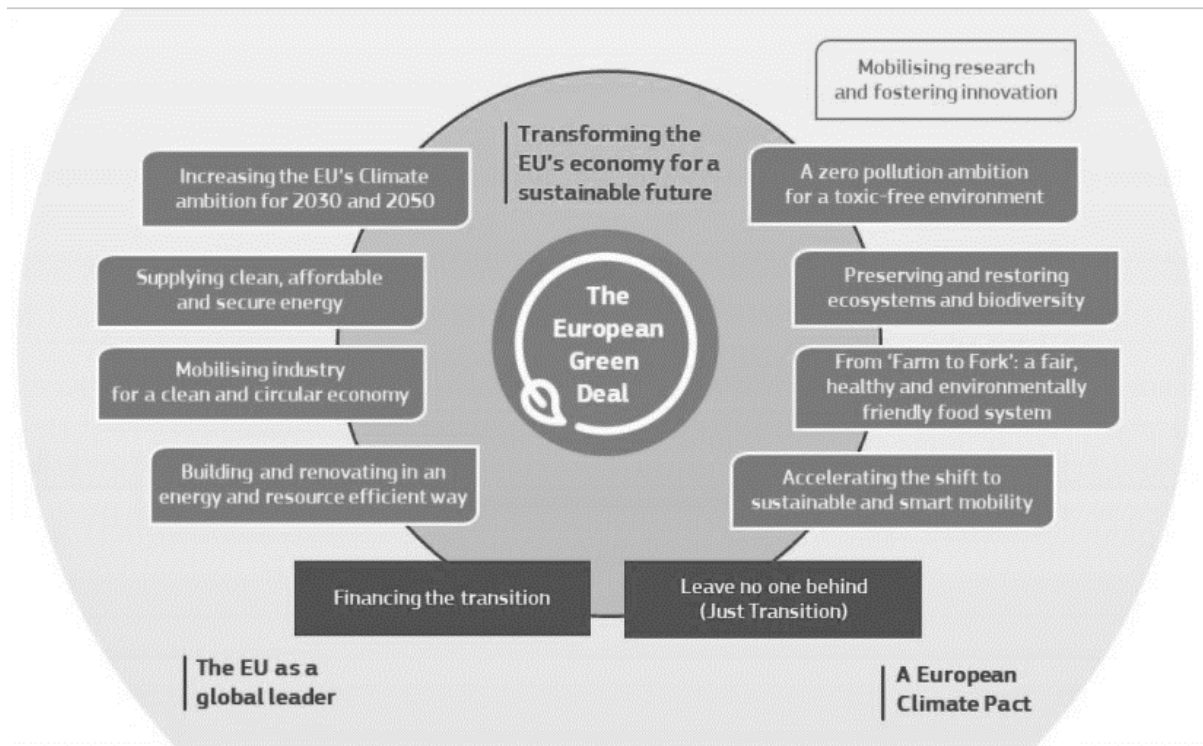
This will involve prioritising sustainability and the well-being of people and the planet in all endeavours and ensuring that the EU policymaking aligns with the United Nations' Sustainable Development Goals. Thus, in order to accomplish these goals, it will be essential to undertake a comprehensive evaluation of the supply chain policies that regulate the EU economy, alongside other policy considerations. Policy analysis in this context will involve the assessment of production and consumption practises, as well as considerations of large-scale infrastructure planning, including transportation, food, and agricultural supplies.¹⁰³¹ Though ambitious, EU climate plans were largely in line with those of the international community prior to the adoption of the Green Deal. The Green Deal established the goal of reaching net zero emissions or a balanced budget for emissions by 2050. Figure 3 below illustrates the various elements of the European Green Deal.

¹⁰²⁹ Anthony J. Culyer, *Commodities, characteristics of commodities, characteristics of people, utilities, and the quality of life* (Routledge, 2002) 25-30.

¹⁰³⁰ The European Green Deal (n. 1023) 5.

¹⁰³¹ *Ibid.*

Fig. 3. The European Green Deal



Source: Com/2019/640 Final.

The European Green Deal delineates a clearly defined strategy proposed by the Commission to augment the climate aspirations of the European Union for the period of 2030 and beyond.¹⁰³² The plan includes a clear vision for achieving climate neutrality by the year 2050. This vision serves as the foundation for the long-term strategy submitted by the EU to the United Nations Framework Convention on Climate Change in early 2020.¹⁰³³ On March 4, 2020, the Commission astutely put forth the inaugural European “Climate Law” with the noble intention of explicitly delineating the prerequisites for an efficacious and equitable transition, while simultaneously safeguarding the irreversibility of said transition.¹⁰³⁴ Thus, given the

¹⁰³² Ibid 4-6.

¹⁰³³ Ibid.

¹⁰³⁴ Ibid.

inherent interconnectedness and reciprocal nature of these actions, careful consideration will be required when potential trade-offs exist between economic, environmental, and social goals.

That is, despite the EU's consistent demonstration of leadership in driving global policy changes, particularly in the areas of climate and/or environmental matters, it is imperative that this serves as a strong call to action for both the United States and, more importantly, the African Union to undertake similar policy initiatives. In other words, it is crucial to recognise that the environmental aspirations encapsulated within the Green Deal cannot be fully realised through Europe's solitary efforts. This is particularly important due to the fact that the underlying factors contributing to climate change possess a global nature, surpassing the confines of individual nations.¹⁰³⁵

Consequently, the European Climate Law legally establishes the objectives outlined in the Green Deal for Europe's economy and society to achieve climate neutrality by 2050.¹⁰³⁶ In addition, the framework establishes an intermediate goal of reducing net greenhouse gas emissions by at least 55 percent by 2030, relative to 1990 levels.¹⁰³⁷ Attaining climate neutrality by 2050 entails attaining net-zero greenhouse gas emissions for all EU member states, primarily by reducing emissions, investing in green technologies, and preserving the natural environment.¹⁰³⁸ The framework aims to ensure that all EU policies contribute to this goal and that all sectors of the economy and society play their part. In comparison to the Paris Agreement, the EU Climate Law establishes, among other things, a long-term plan for

¹⁰³⁵ Timmons J. Roberts and Bradley Parks, *A climate of injustice: Global inequality, north-south politics, and climate policy* (MIT Press, 2006) 4-8.

¹⁰³⁶ Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 (hereinafter European Climate Law), art 1.

¹⁰³⁷ *Ibid*, art 4(1).

¹⁰³⁸ Diana V. Almeida, 'The "Greening" of Empire: The European Green Deal as the EU first agenda' (2023) 105 *Political Geography* 102925, 102928-102930.

achieving climate neutrality by 2050 through all policy endeavours, in a socially fair and cost-efficient manner.¹⁰³⁹

When compared to the EU's Climate Law, the Paris Agreement's most significant weakness lies in its failure to adequately address the heavy greenhouse gas emitting sectors, rather than in its bottom-up approach to mitigation or the absence of a compliance regime.¹⁰⁴⁰ Consequently, the EU Climate Law seeks to ensure that all EU policies contribute to the big goal of achieving net zero greenhouse gas emissions by 2050, and that, in comparison to the Paris Agreement, all sectors of the economy and society play a role, leaving no one behind.¹⁰⁴¹ In contrast to the Paris Agreement, the EU Climate Law not only establishes a more ambitious target for the European Union by 2030, aiming to guide Europe towards achieving climate neutrality by 2050, but it also provides a framework for monitoring progress and implementing additional measures, should the need arise.

Even though there is no legally binding target, the obligation to regularly set a nationally determined contribution is legally binding under the Paris Agreement. Thus, to ensure that the transition to climate neutrality is irreversible, the EU Climate Law establishes a legally binding target to achieve net zero greenhouse gas emissions by 2050.¹⁰⁴² The framework includes an obligation for the Union to achieve not only climate neutrality by 2050, but also an ambitious 2030 climate target of at least a 55% reduction of net greenhouse gas emissions compared to 1990. This was in recognition of the need to increase the EU's carbon sink through a more ambitious Forestry and other land use (FOLU) regulation, for which the Commission made a

¹⁰³⁹ Ibid.

¹⁰⁴⁰ Sharaban T. Zaman, 'The 'Bottom-up Pledge and Review' Approach of Nationally Determined Contributions (NDCs) in the Paris Agreement: A Historical Breakthrough or a Setback in New Climate Governance?' (2018) 5 *ISLRev* 3, 4-8.

¹⁰⁴¹ European Climate Law (n. 1033), para 2; See also EU Circular Economy Action Plan (n. 1021) 3.

¹⁰⁴² European Climate Law, art 14.

proposal in July 2021.¹⁰⁴³ The EU Climate Law, which was published on 9 July 2021 and went into effect on 29 July 2021, includes an obligation to devise sector-specific roadmaps detailing the actions required to achieve climate neutrality in various sectors of the EU economy within the next 25 years.¹⁰⁴⁴

In pursuance of this goal, the EU has already begun to modernise and transform its economy.¹⁰⁴⁵ However, between 1990 and 2018, there was only a 23% reduction in greenhouse gas emissions, and yet current policies will only reduce emissions by a maximum of 60% by 2050.¹⁰⁴⁶ In addition, it is imperative to recognise that the EU faces the potential risk of carbon leakage if its objective of emission reduction is not embraced by its international counterparts.¹⁰⁴⁷ This can occur either through the transfer of production from the EU to countries with lower emission reduction goals or because EU products are replaced by more carbon-intensive imports.¹⁰⁴⁸ If this risk materialises, there will be no reduction in global emissions, undermining the EU's and its industries' efforts to meet not only the climate goals of the Paris Agreement, but also the goals of the European Climate Law.

3.3.8 Circularity as a Prerequisite for Climate Neutrality: The EU Circular Economy

Action Plan

Circularity is a fundamental element that is intricately woven into the fabric of a more expansive industry change, one that encompasses not only the attainment of climate neutrality but also the enduring viability and competitiveness of the EU economy in the long run.¹⁰⁴⁹ As

¹⁰⁴³ European Commission, 'European Climate Law' <https://climate.ec.europa.eu/eu-action/european-green-deal/european-climate-law_en> accessed 30 March 2024.

¹⁰⁴⁴ Ibid.

¹⁰⁴⁵ Alicja Sikora, 'European Green Deal—legal and financial challenges of the climate change' (2021) 21(4) *Era Forum* 681, 682.

¹⁰⁴⁶ The European Green Deal (n. 1023) 5.

¹⁰⁴⁷ Ibid.

¹⁰⁴⁸ Ibid.

¹⁰⁴⁹ EU Circular Economy Action Plan (n.1021) 6.

with the biodiversity crisis, “climate change underscores the importance of pursuing sustainable development; towards achieving economic development and social justice within the non-negotiable limits of our planet.”¹⁰⁵⁰ Presently, the adoption of the circular economy paradigm, alongside various other endeavours, is widely recognised as a crucial step towards the EU’s overarching objective of spearheading worldwide environmental sustainability, with a particular emphasis on attaining climate neutrality.¹⁰⁵¹

Initially proposed by the Ellen MacArthur Foundation and explored in various reports, the concept of the circular economy focuses on optimising the utilisation of available material resources.¹⁰⁵² This objective is achieved through the application of three fundamental principles: reduce, reuse, and recycling; where recycling involves using old products in new ways, i.e. transforming waste into new products; reduce means minimising the amount of waste we generate; and reuse/repurpose means utilising products/items more than once.¹⁰⁵³ Thus, the extension of product life cycles, the optimisation of waste management practises, and the establishment of a more efficient and sustainable production paradigm are pivotal constituents within this strategic framework.¹⁰⁵⁴ In essence, the most effective method for reducing waste is to prevent its generation in the first place.¹⁰⁵⁵ The process of manufacturing new products releases greenhouse gases that contribute significantly to the issue of climate change. Moreover, it requires a substantial amount of energy and resources. This includes the extraction of raw materials from the earth, the manufacturing of the product, and its distribution to the

¹⁰⁵⁰ Beate Sjøfjell, ‘Sustainable companies: possibilities and barriers in Norwegian company law’ (2013) 11(1) *International and Comparative Corporate Law Journal* 1, 1-2.

¹⁰⁵¹ Martin Geissdoerfer, ‘The Circular Economy—A new sustainability paradigm?’ (2017) 143 *Journal of cleaner production* 757, 758-760; See James R. Goddin, *The role of a circular economy for energy transition* (Academic Press, 2020) 187.

¹⁰⁵² *Ibid.*

¹⁰⁵³ Ekström (n. 68) 384-388; Farrant (n. 68) 728-730.

¹⁰⁵⁴ *Ibid.*

¹⁰⁵⁵ Geissdoerfer (n. 1051) 758-760; See Hanieh Heydari, Ata Allah Taleizadeh, and Fariborz Jolai, ‘Financing a two-stage sustainable supply chain using green bonds: Preventing environmental pollution and waste generation’ (2023) 117 *Engineering Applications of Artificial Intelligence* 105583, 105585.

market. Given these circumstances, it is evident that the most efficient strategies for the conservation of natural resources and the preservation of the environment involve the practises of reduction and reuse, which are presently being adopted in the European Union.¹⁰⁵⁶

Nowadays, there is an increasing recognition of the significant amount of waste being sent to landfills and the decreasing availability of natural resources.¹⁰⁵⁷ As a result, there is a heightened focus on recycling, reusing items such as clothes, plastic cups and bottles, shopping bags, etc., and designing products that can be returned and refurbished instead of being discarded.¹⁰⁵⁸ To fulfil this ambition, the international community must, following the EU's lead, accelerate the transition to a regenerative growth model that returns more to the planet than it extracts, advance towards keeping its resource consumption within planetary boundaries, and strive to reduce its consumption footprint and double its rate of circular material use over the next decade. This progressive yet irreversible transition to a sustainable global economy is crucial to the EU's long-term environmental objectives.¹⁰⁵⁹

Presently, in addition to environmental regulations, there exists an urgent need to transition to sociotechnical systems that are more sustainable.¹⁰⁶⁰ Environmental problems, such as climate change, biodiversity loss, resource depletion, and air, water, and soil pollution, are increasingly jeopardising the earth's life-support systems.¹⁰⁶¹ Consequently, the concept of the Circular Economy has gained significance in EU environmental policy as a means to address these issues, with the EU consistently setting the example in terms of policy changes.¹⁰⁶² While not

¹⁰⁵⁶ Ekström (n. 68) 384-388.

¹⁰⁵⁷ Timofey Filkin, 'Estimation of dump and landfill waste volumes using unmanned aerial systems' (2022) 139 Waste Management 301, 302-306.

¹⁰⁵⁸ Michael G. Bell, *City logistics and the urban environment* (Elsevier, 2021) 359.

¹⁰⁵⁹ The European Green Deal (n. 1023) 5, See also EU Circular Economy Action Plan (n. 1021) 6.

¹⁰⁶⁰ Geissdoerfer (n. 1051) 758-760.

¹⁰⁶¹ John Harte, 'Land use, biodiversity, and ecosystem integrity: the challenge of preserving earth's life support system' (2001) 27(4) Ecology Law Quarterly 929, 934-938; See Anthony J. McMichael, *Planetary overload: global environmental change and the health of the human species* (Cambridge University Press, 1993) 4-8.

¹⁰⁶² Vivien A. Schmidt and Claudio M. Radaelli, 'Policy change and discourse in Europe: Conceptual and methodological issues' (2004) 27(2) West European Politics 183, 188-200.

entirely new, it has emerged as a leading approach in global environmental actions.¹⁰⁶³ The approach is defined by Skene and Murray as “an economic model wherein planning, resourcing, procurement, production, and reprocessing are designed and managed, as both process and output, to maximise ecosystem functioning and human well-being.”¹⁰⁶⁴ This definition encompasses various conceptualisations and is characterised by an economic framework that prioritises the reuse and regeneration of materials or products, especially as a means to carry out production in a sustainable or environmentally responsible manner.

Presently, the transition to the Circular Economy holds significant prominence within the environmental policy of the EU and serves as a pivotal component in endeavours to cultivate an economically sustainable and resource-efficient system. By highlighting the significance of minimising waste and maximising the value of resources, the approach is viewed as a potential response to the global climate emergency.¹⁰⁶⁵ In the CE, waste may be a resource that has the potential to replace primary raw materials from traditional extractive resources.¹⁰⁶⁶ It aims to prioritise the environment by promoting the production of high-quality, functional, and safe products.¹⁰⁶⁷ These products are designed to be efficient, durable, and have a longer lifespan. Additionally, they are specifically created with the intention of being reused, repaired, or recycled at a high level of quality.¹⁰⁶⁸

To that end, the EU Circular Economy Action Plan provides a forward-thinking strategy for creating a cleaner and more competitive Europe in collaboration with all economic actors, including consumers, citizens, and civil society organisations.¹⁰⁶⁹ The objective is to expedite

¹⁰⁶³ Geissdoerfer (n. 1051) 758-760.

¹⁰⁶⁴ Alan Murray, Keith Skene, and Kathryn Haynes, ‘The circular economy: an interdisciplinary exploration of the concept and application in a global context’ (2017) 140 *Journal of business ethics* 369, 369-370.

¹⁰⁶⁵ Tonder Van, Thomas F. Luthando, and Tlhologello Sesana, *Culture Consumption Shift to Mitigate the Climate Emergency* (International Conference on Tourism Research, 2022) 66-67.

¹⁰⁶⁶ Maitre-Ekern (n. 21) 125457.

¹⁰⁶⁷ *Ibid.*

¹⁰⁶⁸ *Ibid.*

¹⁰⁶⁹ *Ibid.*

the necessary transformative change outlined in the European Green Deal, while also leveraging the circular economy initiatives that have been in place since 2015.¹⁰⁷⁰ The proposed plan aims to optimise the regulatory framework to support long-term sustainability. It seeks to streamline processes and capitalise on new opportunities arising from the transition, all while minimising negative impacts on both society and the environment.¹⁰⁷¹ The plan outlines a series of interconnected initiatives aimed at creating a robust and cohesive product policy framework. This framework will, among other things, promote the adoption of sustainable products, services, and business models as the standard, while also transforming consumption patterns to prevent the generation of waste from the outset.¹⁰⁷²

Nevertheless, it is important to note that the EU cannot achieve this transformative change solely through its own actions. This is why it demonstrates a commitment to take up a leading role in promoting a circular economy on a global scale.¹⁰⁷³ It aims to leverage its influence, expertise, and financial resources to effectively implement these plans at an international level.¹⁰⁷⁴ The goal is to ensure that the circular economy benefits all individuals, regions, and cities.¹⁰⁷⁵ It also aims to actively contribute to achieving climate neutrality and maximise the opportunities for research and innovation.¹⁰⁷⁶

Along with any future regulatory actions, the primary objective of the aforementioned programmes is to establish a comprehensive framework that covers all phases of a product's life cycle in order to reduce the negative environmental impact of current cheaply produced and quickly abandoned inferior products.¹⁰⁷⁷ This is in stark contrast to what international law

¹⁰⁷⁰ EU Circular Economy Action Plan (n. 1021) 3.

¹⁰⁷¹ Domenech and Bahn-Walkowiak (n. 913) 10-12.

¹⁰⁷² *Ibid.*

¹⁰⁷³ *Ibid*; See Florin Bonviu, 'The European economy: From a linear to a circular economy' (2014) 14 *Romanian J. Eur. Aff.* 78, 79-82.

¹⁰⁷⁴ EU Circular Economy Action Plan (n. 1021) 3-4.

¹⁰⁷⁵ *Ibid.*

¹⁰⁷⁶ *Ibid.*

¹⁰⁷⁷ *Ibid.*

has attempted for decades without success. Consequently, the most efficient method for reducing the environmental impact of waste will be to prevent its generation in the first place.¹⁰⁷⁸ Thus, the Commission intends for the product sustainability principles to guide such legislative changes in the future, in addition to attaining climate neutrality not only in the EU but globally.¹⁰⁷⁹

3.4 Conclusion

While international efforts have traditionally focused on regulating the transboundary movement of wastes, particularly toxic/hazardous waste, the EU has adopted a different strategy. That is, rather than waste management, the EU's approach has been to limit waste production through its circular economy principles, notably for the textiles industry, due to the current insatiable demand for clothing facilitated by fast fashion. Given this recent development, the present chapter focused on identifying the applicable EU waste law in order to illustrate how the law has, contrary to extant international efforts, evolved to accommodate contemporary waste management issues, such as those arising from the fast fashion industry.

In the end, it was determined that several factors, including concerns about the internal market and the desire to level the playing field for manufacturers, played a significant role in the passage of the first Waste Directive in 1975, when environmental issues had just entered the international and intergovernmental arena for the first time.¹⁰⁸⁰ This Directive initially explained the concept of waste, established general waste management principles, and encouraged Member States to engage in prevention and recycling. Nonetheless, contrary to current developments, prevention was initially less about preventing at the source and more

¹⁰⁷⁸ Geissdoerfer (n. 1051) 758-760; See also Heydari (n. 1055).

¹⁰⁷⁹ EU Circular Economy Action Plan (n. 1021) 4-6.

¹⁰⁸⁰ Maitre-Ekern (n. 21) 125457.

about preventing at the point of impact.¹⁰⁸¹ That is, early waste legislation focused on limiting to the bare minimum activities of landfilling and waste incineration, rather than minimising waste production, as is the prevalent approach now.¹⁰⁸²

Presently, EU waste law is a comprehensive legal framework that regulates not only industrial, but also commercial and household waste.¹⁰⁸³ Central to this framework lies the 2008 Waste Framework Directive (2008/98/EC). This Directive not only provides precise definitions of key concepts, but also establishes fundamental waste management principles and allocates obligations that are pertinent to the entire legal field.¹⁰⁸⁴

Given the current emphasis on extending product lifetime to reduce resource use and waste generation, the EU is dedicated to transitioning from a linear to a circular economy, where the value of products, materials, and resources is maintained in the economy for as long as possible and waste generation is minimised.¹⁰⁸⁵ Thus, EU waste law has become an integral part of these endeavours to create a sustainable and resource-efficient economy.¹⁰⁸⁶ The waste hierarchy established by the Waste Framework Directive establishes a priority order from prevention, preparation for reuse, recycling and energy recovery, to disposal, which encourages the use of the most environmentally sound processes to treat waste and divert it from landfills, an essential plan that is absent in the framework of international law.

¹⁰⁸¹ Ibid.

¹⁰⁸² Ibid; See Council Directive (EC) 1999/31/EC on the landfill of waste (EC Landfill Directive); Council Directive (EC) 2000/76/EC on the incineration of waste (EC Waste Incineration Directive); Council Directive (EC) 1994/62/EC on packaging and packaging waste (EC Packaging Directive); Council Directive (EC) 2000/53/EC on end-of life vehicles (EC End-of-Life Vehicles Directive); Council Directive (EC) 2006/66/EC on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC (EC Battery Directive); Council Directive (EU) 2012/19/EU on waste electrical and electronic equipment (EU WEEE Directive); Council Directive (EC) 91/689/EEC on hazardous waste (EC Hazardous Waste Directive).

¹⁰⁸³ Maitre-Ekern (n. 21) 125457.

¹⁰⁸⁴ Waste Framework Directive (n. 911).

¹⁰⁸⁵ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Closing the Loop - An EU Action Plan For the Circular Economy, para 1; Maitre-Ekern (n. 21) 125454.

¹⁰⁸⁶ Maitre-Ekern Ibid.

Historically, international efforts have prioritised regulating the transboundary movement and disposal of waste rather than focusing on prevention. Currently, EU rules recognise that waste can serve as a valuable resource capable of substituting primary raw materials derived from traditional extractive sources.¹⁰⁸⁷ According to a 2012 study, despite still leaving a significant portion to waste recovery and disposal (landfills), 1.6 billion tons of the estimated 2.5 billion tons of waste generated annually in the EU are reused or recycled.¹⁰⁸⁸ Although not the target, the EU has determined that an additional 600 million tons of these materials could be reused or recycled in the near future.¹⁰⁸⁹ Therefore, it is widely thought that the most effective approach to mitigating pollution from waste will be to prioritise the transition to the CE seriously in order to prevent waste from occurring altogether.¹⁰⁹⁰

Through the collective efforts of all industries, the transition to the CE is anticipated to serve as a proactive approach in establishing a more environmentally sustainable and economically competitive Europe.¹⁰⁹¹ This transition aims to minimise the utilisation of primary resources and generation of waste, thereby safeguarding both the natural environment and human existence.¹⁰⁹² The objective is to expedite the necessary transformative change outlined in the European Green Deal, while leveraging those initiatives that have already been put in place since 2015, when the Paris Agreement was adopted.¹⁰⁹³ The plan outlines a series of interconnected initiatives aimed at creating a robust and cohesive product policy framework.¹⁰⁹⁴ In addition, it seeks to promote the adoption of sustainable products, services,

¹⁰⁸⁷ Ibid; Mayer (n. 913) 63-65; Domenech and Bahn-Walkowiak (n. 913) 8-12.

¹⁰⁸⁸ Karak and Bhattacharyya (n. 914) 1528-1535.

¹⁰⁸⁹ Ibid.

¹⁰⁹⁰ Maitre-Ekern (n. 21) 125454; Domenech and Bahn-Walkowiak (n. 913).

¹⁰⁹¹ Maitre-Ekern Ibid.

¹⁰⁹² Ibid.

¹⁰⁹³ EU Circular Economy Action Plan (n. 1021) 3.

¹⁰⁹⁴ Ibid.

and business models as the standard, while also transforming consumption patterns to prevent the generation of waste from the outset.¹⁰⁹⁵

Nonetheless, it is essential to recognise that such a global paradigm shift cannot be accomplished solely by the EU. As a result, despite the fact that the EU is committed to being a leader in promoting these initiatives not only in Europe but globally it is imperative that international law adapt and align with the progressive approach of the EU given the current circumstances, notably issues surrounding climate change and environmental pollution.¹⁰⁹⁶ The objective is to ensure that all individuals, regions, and cities benefit from this plan, leaving no one behind.¹⁰⁹⁷ The plan aims to effectively contribute to achieving climate neutrality, in addition to maximising opportunities for research and innovation.¹⁰⁹⁸ The objective is to establish a comprehensive framework that encompasses all phases of a product's life cycle in order to reduce the negative environmental impact of current cheaply produced and quickly abandoned inferior products.¹⁰⁹⁹

¹⁰⁹⁵ Ibid.

¹⁰⁹⁶ Ibid; Bonviu (n. 1073) 79-82.

¹⁰⁹⁷ EU Circular Economy Action Plan (n. 1021) 3-4.

¹⁰⁹⁸ Ibid.

¹⁰⁹⁹ Ibid.

CHAPTER 4

REGULATORY GAPS: COMPARING THE QUALITY OF SECOND-HAND CLOTHING RESOLD IN THE GLOBAL NORTH AND DUMPED IN THE GLOBAL SOUTH

4.1 Introduction

In order to reduce the environmental impact of the clothing and textile industry, the reuse of clothing is strongly encouraged.¹¹⁰⁰ However, due to regulatory gaps, i.e., inconsistencies in regulations between the Global North and the Global South, it is believed that the quality of second-hand clothing (SHC) dumped in countries of the Global South, compared to that which is resold in the Global North, such as in the EU and the UK, makes it impossible to achieve this goal.¹¹⁰¹ Consequently, this chapter examines the possibility of enhancing the existing legislative framework, particularly trade law, in order to reduce the negative environmental impact of current cheaply produced and quickly abandoned clothing, particularly at their end-of-use phase, and thus the impact of the huge volumes dumped in countries of the Global South, where, due to their poor quality, the vast majority are either burned on open flames or dumped in landfills, notwithstanding the resulting greenhouse gas effect.

The primary objective of this chapter is to compare waste regulation in the EU, the UK, and the AU in order to determine if there are any disparities in regulation, and to examine how these disparities, along with existing international trade practices, contribute to the indiscriminate dumping of fast fashion waste in Africa, despite the global implications, particularly on greenhouse gas emissions. Specifically, the chapter focuses on ongoing

¹¹⁰⁰ Ekström (n. 68) 384-388; Farrant (n. 68) 728-730.

¹¹⁰¹ Sirleaf (n. 721) 332.

practices in East and West African States, such as Ghana, Kenya, and Tanzania, which, according to a recent report, are currently the leading importers of second-hand clothing in Africa.¹¹⁰²

4.2 EU Waste Law: Analysis of Past, Present, and Future Developments

During the early stages of the EU as an institution, waste management was predominantly viewed as part of the national or local governments' responsibilities.¹¹⁰³ Consequently, the recognition of the importance of waste management by the EU did not materialise until the 1970s and 1980s.¹¹⁰⁴ EU legislators were concerned, for instance, that if national waste legislation proliferated due to legislative fragmentation, it would jeopardise the development of the internal market.¹¹⁰⁵ Nevertheless, as time progressed, pollution from waste dumping became a significant concern.¹¹⁰⁶ Thus, deliberations about the internal market, coupled with the imperative of establishing equitable conditions for waste producers, exerted a discernible impact on the enactment of the inaugural Waste Directive in 1975.¹¹⁰⁷

While this Directive initially explained the concept of waste, established general waste management principles, and encouraged Member States to engage in prevention and recycling, prevention was initially less about preventing at the source and more about preventing at the point of impact.¹¹⁰⁸ In other words, early waste legislation focused on limiting to the bare minimum activities of landfilling and waste incineration rather than minimising waste

¹¹⁰² The Observatory of Economic Complexity (n. 41).

¹¹⁰³ Lemann (n. 900) 4.

¹¹⁰⁴ *Ibid.*

¹¹⁰⁵ Brennan (n. 906) 358-360.

¹¹⁰⁶ *Ibid.*

¹¹⁰⁷ Council Directive 75/442/EEC of 15 July 1975 on waste, Preamble; Maitre-Ekern (n. 21) 125454-125457; Malinauskaite and Spencer (n. 907) 68.

¹¹⁰⁸ Maitre-Ekern (n. 21) 125454-125455.

generation.¹¹⁰⁹ Currently, EU waste law is a comprehensive legal framework that regulates not only industrial, but also commercial and household waste.¹¹¹⁰ Central to this framework is the 2008 Waste Framework Directive (2008/98/EC), which defines key concepts, lays out fundamental waste management principles, and assigns responsibilities pertinent to the entire legal field.¹¹¹¹ That is, with an increasing emphasis on extending product lifetime to reduce resource use and waste generation, the EU is committed to transitioning from a linear to a circular economy (CE), where the value of products, materials, and resources is maintained in the economy for as long as possible, and waste generation is minimised.¹¹¹² This is the future of EU waste legislation.

4.3 Waste Regulation in the UK: Analysis of Past, Present, and Future Developments

Following the recent withdrawal from the EU, the UK remains free from obligations to comply with EU directives.¹¹¹³ However, it is important to acknowledge that the UK has long maintained its own set of domestic laws for a considerable duration. Central to these rules are the requirements specified in Section 34 of the Environmental Protection Act 1990, which imposes a duty of care on anyone concerned with handling waste in the UK. This duty of care applies not only to waste producers, but also to those who import, transport, keep, treat, or

¹¹⁰⁹ Ibid; See Council Directive (EC) 1999/31/EC on the landfill of waste (EC Landfill Directive); Council Directive (EC) 2000/76/EC on the incineration of waste (EC Waste Incineration Directive); Council Directive (EC) 1994/62/EC on packaging and packaging waste (EC Packaging Directive); Council Directive (EC) 2000/53/EC on end-of life vehicles (EC End-of-Life Vehicles Directive); Council Directive (EC) 2006/66/EC on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC (EC Battery Directive); Council Directive (EU) 2012/19/EU on waste electrical and electronic equipment (EU WEEE Directive); Council Directive (EC) 91/689/EEC on hazardous waste (EC Hazardous Waste Directive).

¹¹¹⁰ Ibid.

¹¹¹¹ Waste Framework Directive (n. 911).

¹¹¹² Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Closing the Loop - An EU Action Plan For the Circular Economy, para 1; See also Maitre-Ekern (n. 21) 125454.

¹¹¹³ Steve Peers, 'So close, yet so far: the EU/UK trade and cooperation agreement' (2022) 59(1) Common Market Law Review 49, 65-69; Nicola McEwen, 'Irreconcilable sovereignties? Brexit and Scottish self-government' (2022) 10(5) Territory, Politics, Governance 733, 736-740.

dispose of waste, or have control over such waste.¹¹¹⁴ The aforementioned provision requires that businesses and individuals separate recyclable materials, such as paper, plastic, and glass from other forms of waste.¹¹¹⁵ The objective is to increase not only the quality, but also the quantity of recycling in the UK.¹¹¹⁶

The history of waste management in the UK is closely tied to the process of urban modernisation.¹¹¹⁷ As people migrated to cities during the Industrial Revolution, the need for waste management infrastructure became apparent due to health and environmental concerns.¹¹¹⁸ Nevertheless, it was not until the prevailing circumstances plummeted to an extremely dismal state that an outbreak of cholera precipitated a heightened understanding of the imperative nature of implementing appropriate methodologies for waste collection in the UK.¹¹¹⁹ Thus, the first modern attempt to regulate waste can be traced back to the Public Health Act of 1875, which played a significant role in legalising modern refuse collection techniques and establishing the requirement for household waste to be properly prepared for transportation. Since then, various strategies have been employed to address the issue of waste in the UK.¹¹²⁰

The first incinerator, for example, was produced and used in Nottingham in the 1920s.¹¹²¹ While the incinerator was effective at reducing waste, its byproduct was plumes of pollution over the city, and this method ultimately encountered significant opposition.¹¹²² Consequently, landfills remained the predominant method of waste management for a growing population

¹¹¹⁴ Environmental Protection Act 1990, s 34(1).

¹¹¹⁵ *Ibid.*

¹¹¹⁶ Glenn Hole and Anastasia S. Hole, 'Improving recycling of textiles based on lessons from policies for other recyclable materials: A minireview' (2020) 23 *Sustainable Production and Consumption* 42, 43-46.

¹¹¹⁷ Velis (n. 891) 1283-1284.

¹¹¹⁸ *Ibid.*

¹¹¹⁹ Herbert (n. 898) 8-16.

¹¹²⁰ Stone and Bowerman (n. 902) 275-279.

¹¹²¹ *Ibid.*

¹¹²² *Ibid.*

with escalating consumption patterns; however, presently the emphasis has shifted to the reduction of these waste mountains.¹¹²³ Having recently left the EU, the UK has witnessed ongoing developments in waste management practices.¹¹²⁴ This is due to the growing significance of environmental concerns resulting from climate change and/or global warming, and the consequent need for businesses and individuals to collect and dispose of waste responsibly.

Similar to the EU, recycling has acquired preminent importance in the UK, primarily driven by the need to mitigate the negative environmental effect of extracting raw materials and effectively repurposing valuable or exhaustible resources.¹¹²⁵ This conscientious endeavour is motivated by the increasingly urgent concerns surrounding our ecological impact on the planet. Plastics, constituting a weight proportion of 10% and a volume proportion of 26% in the overall recycling landscape of the UK, stand as a significant component.¹¹²⁶ Glass, in contrast, exhibits an exceptional characteristic of being completely recyclable, boasting an impressively high efficiency rate of 100%.¹¹²⁷ In line with trends noticed in the EU, businesses and companies operating in the UK are required to assume the distinctive obligation, commonly referred to as the duty of care, of reducing the quantity of waste generated and maximising the recycling of said waste.¹¹²⁸ Thus, by engaging in such endeavours, the UK has the potential to reduce its carbon emissions and advance its climate ambitions.

¹¹²³ Barles (n. 887) 204-208.

¹¹²⁴ Dan Wang et al., 'Assessing the transition of municipal solid waste management by combining material flow analysis and life cycle assessment' (2022) 177 *Resources, Conservation and Recycling* 105966, 105969-105973.

¹¹²⁵ Piribauer (n. 792) 114-116; Neil Carter, *The politics of the environment: Ideas, activism, policy* (Cambridge University Press, 2018) 8-12.

¹¹²⁶ Edward Kosior and Jonathan Mitchell, *Current industry position on plastic production and recycling — Plastic waste and recycling* (Academic Press, 2020) 139-144; See Martin Burgess, 'The future of UK plastics recycling: one bin to rule them all' (2021) 164 *Resources, Conservation and Recycling* 105191, 105193-105196.

¹¹²⁷ Kosior *Ibid.*

¹¹²⁸ Federico Savini, 'The circular economy of waste: recovery, incineration and urban reuse' (2021) 64(12) *Journal of Environmental Planning and Management* 2114, 2116-2119.

Within the current context of the UK's waste management plans, the practice of recycling plays a crucial and prominent role. This is in line with the UK's broad aspirations to minimise the quantity of waste that is disposed of in landfills.¹¹²⁹ These methods are said to have the ability to preserve natural resources and reduce the environmental effects of both production and the current unsustainable consumption habits in modern society.¹¹³⁰ For instance, despite the fact that metals are more difficult to recycle and can contribute to further environmental pollution, the UK recycles approximately 10 million tonnes of waste metal every year, in addition to the 50% used in production.¹¹³¹ Moreover, while the eventual transition towards a society that reduces its reliance on physical paper may imply a diminished necessity for the recycling of such material, it remains imperative to acknowledge the UK's commendable commitment to paper recycling.¹¹³² It is believed that such commitment is essential not only for mitigating the negative effects of deforestation, but also for advancing environmental sustainability principles.¹¹³³

Notwithstanding the aforementioned accomplishments, textile pollution remains a significant problem in the UK, mirroring the contemporary challenges faced by the EU, the African Union, and other jurisdictions, such as the United States.¹¹³⁴ Annually, approximately 1.75 million tonnes of textile waste are generated in the UK alone.¹¹³⁵ Nevertheless, only 8% of this waste is repurposed through the second-hand clothing business, and only 10% is recycled.¹¹³⁶

¹¹²⁹ Defra, *Our Waste, Our Resources: A Strategy for England* (Department for Environment, Food, and Rural Affairs, 2018) 50-53.

¹¹³⁰ *Ibid.* 29-32.

¹¹³¹ Defra, 'Government unveils plans for wide-ranging Waste Prevention Programme' <<https://www.gov.uk/government/news/government-unveils-plans-for-wide-ranging-waste-prevention-programme>> accessed 30 March 2024.

¹¹³² *Ibid.*

¹¹³³ Ian Scoones, 'Transformations to sustainability: combining structural, systemic and enabling approaches' (2020) 42 *Current Opinion in Environmental Sustainability* 65, 68-72; See Susan Baker, *Sustainable development* (Routledge, 2015) 22-26.

¹¹³⁴ Wai Ching A. Chu, 'Looking back to look forward: Setting future research agenda for international business in textiles and clothing industry' (2019) 17(1) *Journal of International Logistics and Trade* 21, 24-26.

¹¹³⁵ Defra (n. 1129); See also Defra (n. 1131).

¹¹³⁶ *Ibid.*

Consequently, an estimated 85% of textile waste ends up in landfills, including substantial quantities that are exported to the Global South, particularly East and West African States, through the second-hand clothing trade.¹¹³⁷ Despite the potential economic advantages, it is important to consider the significant environmental implications associated with these practices, as textiles contribute to more than 8.1% of the total municipal solid waste in the UK.¹¹³⁸

Historically, whilst the EU has prioritised the transition towards a circular economy, which involves a focus on prolonging the use of products and materials, reducing the dependence on new raw materials, extending the lifespan of products, and maximising the reuse and recycling of waste, the UK's waste management ideal has been 'Zero Waste to Landfill'.¹¹³⁹ This approach aims to break down all waste into its basic constituents and effectively recycle them. While not the highest priority according to the Waste Management Hierarchy, the UK's commitment to achieving 'Zero Waste to Landfill' and embracing recycling practices is undeniably vital in a global context where the pursuit of 'carbon neutrality' is becoming increasingly imperative and tangible.

Under EU law, the waste hierarchy replaces the conventional waste management approach of "the three Rs" (reduce, reuse, and recycle), expanding it into a five-step process in which the most preferred action is prevention, as opposed to disposal methods, such as landfilling and incineration. Nevertheless, as the UK's implementation of a zero waste to landfill strategy requires meticulous planning, it is believed that, over time, companies (producers) may come up with ways to reduce their waste, particularly post-consumer waste, not only through their supply chains, but also crucially during product design or manufacture, which is the goal of the

¹¹³⁷ Niinimäki (n. 18) 190-194; Priya (n. 29) 1680.

¹¹³⁸ Defra (n. 1129) 64-66.

¹¹³⁹ Christine Cole, 'Towards a zero-waste strategy for an English local authority' (2014) 89 Resources, Conservation and Recycling 64, 65-68.

circular economy, preventing waste from the beginning of production. In essence, while the EU has traditionally focused on expanding its circular economy and consequently preventive strategies, the UK's waste management strategy has been primarily focused on achieving its 'zero waste to landfill' goals until recently, when there has been a sudden shift towards transitioning to the circular economy.¹¹⁴⁰ As part of these efforts, the UK has taken the global lead to not only tax, but also ban most single use items/products, although we have yet to hear of a ban on so-called single use clothing, thanks to fast fashion.¹¹⁴¹

As part of its ongoing efforts, the UK government recently unveiled measures to combat litter and safeguard the environment from plastic waste, with prohibitions and restrictions on a variety of single-use plastic items coming into effect from Sunday 01 October 2023. As per the new legislative measures, "No business – whether retailer, takeaway, food vendor or part of the hospitality industry – will now be able to sell single-use plastic cutlery, balloon sticks nor polystyrene cups and food containers in England."¹¹⁴² This includes the supply of single-use plastic plates, trays, and bowls. The new regulations were initially announced in January 2023, and significant efforts have been made throughout these years to offer businesses further guidance on the prohibition. According to the UK's Environment Minister, Rebecca Pow, the implementation of this new ban represents a significant advancement in the UK's efforts to address the issue of detrimental plastic pollution.¹¹⁴³ According to her statement, the adoption of this action will have a positive impact on the environment by reducing litter and preventing plastic pollution from contaminating our streets.¹¹⁴⁴ She added, "This is crucial because it not only threatens our climate but also our wildlife."¹¹⁴⁵

¹¹⁴⁰ Defra (n. 1129) 64-66.

¹¹⁴¹ Defra (n.17).

¹¹⁴² Ibid.

¹¹⁴³ Ibid.

¹¹⁴⁴ Ibid.

¹¹⁴⁵ Ibid.

This initiative builds upon the implementation of globally recognised prohibitions on the usage of straws, stirrers, and cotton buds, as well as the imposition of charges for single-use carrier bags and the introduction of a tax on plastic packaging.¹¹⁴⁶ In congruence with the present situation in numerous nations, the UK has duly acknowledged the pernicious nature of plastic waste, perceiving it as a formidable menace to the nation's environmental integrity. This predicament poses a multifaceted array of potential ramifications, encompassing deleterious effects on ecosystems, the economy, and the overall welfare of humanity. Consequently, the UK government, through its comprehensive 25 Year Environment Plan and the recently implemented Resources and Waste Strategy, has unequivocally pledged its dedication to eradicating the presence of avoidable plastic waste within its borders by the year 2050. However, the prevalence of plastic in our clothing seems to have been neglected from the design and subsequently the implementation of these measures.

When striving for a more sustainable lifestyle, we often prioritise the significance of minimising the use of single-use plastics, such as straws, plastic bottles, and bags. However, plastic is hidden in places we might have never thought about, such as the clothes we wear and the large quantities that are kept in our wardrobes.¹¹⁴⁷ Nylon, Polyester, and Acrylic are widely used synthetic fabrics that contain plastic components and pose challenges in terms of recycling.¹¹⁴⁸ The problem with them extends beyond their production phase and includes their use and disposal. Consequently, it is essential to consider not only the prohibition of single-use plastics, such as straws, plastic bottles, and plastic bags, but also textile products made of synthetic polymers that are worn a few times and then discarded owing to fabric quality and subsequent durability concerns. Polyester (polyethylene terephthalate), for example, is a

¹¹⁴⁶ Eleni Iacovidou, *Plastic Packaging-How do we get to where we want to be?* (UK Department for Environment, Food & Rural Affairs, 2020) 3-6.

¹¹⁴⁷ Ripple (n. 5) 3-4.

¹¹⁴⁸ Ibid.

synthetic fabric derived from petroleum-based products sourced from non-renewable fossil fuels. Not only do these fabrics raise concerns regarding their quality, but fossil fuels are also recognised for their substantial contribution to greenhouse gas emissions.¹¹⁴⁹ Approximately 342 million barrels of oil are used annually by the fashion industry to manufacture textiles from these plastic materials.¹¹⁵⁰ Polyester, which accounts for 52% of the total fibre market and approximately 80% of synthetic fibres, poses a significant challenge to municipal solid waste management due to the difficulties inherent to its recycling process.¹¹⁵¹

In light of such concerns, the UK government has detailed in its most recent proposal a comprehensive plan to reduce the amount of plastic waste generated by the textiles industry and concurrently ban the sale of single-use plastic commodities, with a particular focus presently on tackling the problem of fast fashion products.¹¹⁵² The government has presented a number of strategies in order to achieve the above goals. These strategies encompass the introduction of a tax on plastic waste with less than 30% recycled plastic content, the establishment of a deposit return scheme for plastic beverage containers, the implementation of an Extended Producer Responsibility system for packaging, and the acceleration of initiatives aimed at standardising the collection of recyclable materials from households and businesses.¹¹⁵³ In addition to being crucial to the UK's efforts to eliminate all unnecessary plastic waste by 2042, these measures aim to engage everyone in the pursuance of the country's environmental policy objectives.

Given the circumstances, the government has proactively engaged in collaborative efforts with several relevant stakeholders to facilitate the necessary preparations for the forthcoming rules.

¹¹⁴⁹ Ripple (n. 5) 3-4.

¹¹⁵⁰ Ibid.

¹¹⁵¹ Ibid.

¹¹⁵² New bans and restrictions on polluting single-use plastics come into force. Some of the most polluting single-use plastic items banned from 1 October 2023.

¹¹⁵³ Defra (n. 17).

In pursuit of such partnerships, the government has established intimate alliances with pertinent trade associations as well as local governing bodies, such as Trading Standards officers to expedite the preparedness of businesses for the upcoming legislation.¹¹⁵⁴ These plans include proposals for new measures that will not only intensify action on single-use plastics, such as straws, plastic bottles, and plastic bags, but also on fast fashion products such as shoes and clothing and hold manufacturers accountable for textile pollution.¹¹⁵⁵ These plans are part of a new, comprehensive Waste Prevention Programme for the UK that outlines how the government and industry can reduce waste and work towards a more resource-efficient economy in seven key sectors: construction, textiles, furniture, electrical and electronic products, packaging, single-use items and food.¹¹⁵⁶ This encompasses strategies aimed at improving resource utilisation efficiency, optimising product design and manufacturing processes to extend product lifespan and promoting the repair and reuse of the majority of products. In contrast to previous developments that placed a greater emphasis on recycling, these new developments are also consistent with the EU's circular and resource-efficient economy.

Building on the landmark Resources and Waste Strategy, which outlines how the UK will preserve material resources by minimising waste, promoting resource efficiency, and transitioning to a circular economy, the government aimed to consult with all interested stakeholders by the end of 2022 to determine the most effective strategies for addressing the UK's present waste management issues, such as the issue of fast fashion and its associated textile waste predicament, one potential solution being the adoption of the EU's Extended Producer Responsibility scheme, which would ensure that producers are held accountable or

¹¹⁵⁴ Ibid.

¹¹⁵⁵ Ibid.

¹¹⁵⁶ Subhasish Das, 'Solid waste management: Scope and the challenge of sustainability' (2019) 228 *Journal of cleaner production* 658, 663-668.

contribute to the costs of recycling, alongside measures to encourage more sustainable design and labelling practices.¹¹⁵⁷ Significantly, this plan is intended to increase the reuse and recycling of textiles, thereby mitigating the environmental impact associated with the clothing and textiles industry.

Simultaneously, said plan will endeavour to reduce the damage caused to our natural environment by current prodigious production of waste, primarily through the adoption of waste reduction and safe waste management practices, in addition to confronting all forms of waste-related illegal activities, such as unauthorised collection, improper disposal, and unlawful transfers.¹¹⁵⁸ The document combines immediate measures to be taken by the UK with long-term commitments, thereby delineating a coherent long-term policy trajectory consistent with the objectives outlined in the UK's 25-year Environment Plan.¹¹⁵⁹ The document outlines, among other things, the UK's 25-year Plan to get rid of unnecessary plastic and textile waste.¹¹⁶⁰ The goal is to double resource productivity and eliminate all forms of avoidable waste by the year 2050.

Within this framework, the UK pledges to improve the environment for future generations by consistently adopting measures to preserve and enhance the natural environment.¹¹⁶¹ The plan will be supported by a series of consultations on other known problem areas, such as packaging and the transfer of waste to other countries.¹¹⁶² Through its plan, the UK seeks to attain a leading global position in terms of resource consumption and waste reduction.¹¹⁶³ The primary objective of the aforementioned Strategy is to coincide with the goals outlined in the EU's

¹¹⁵⁷ Defra (n. 17).

¹¹⁵⁸ *Ibid.*

¹¹⁵⁹ UK Resources and Waste Strategy 2018.

¹¹⁶⁰ *Ibid* 56-57.

¹¹⁶¹ *Ibid* 7-10.

¹¹⁶² Defra (n. 17); See also Andrew J. Challinor, Neil W. Adger, and Tim G. Benton, 'Climate risks across borders and scales' (2017) 7(9) *Nature Climate Change* 621, 622-623.

¹¹⁶³ Defra *Ibid*; Das (n. 1156).

circular economy Action Plan and to prolong the lifespan of products used in the UK. The fundamental aim of this transition is to disengage the UK from the inherently inefficient ‘linear’ economic paradigm, characterised by the sequential process of ‘take, make, use, dump’.¹¹⁶⁴ Essentially, this transition will involve intentionally preserving resources for longer periods of time, with the overall goal of maximising the value obtained from resource utilisation.¹¹⁶⁵ The primary aim is to optimise the recovery and recycling of products and resources, if possible, with the intention of assigning them a renewed purpose.

Similar to that of the EU, the UK’s waste strategy aims to address two key objectives. First, it endeavours to assist consumers in choosing and using sustainable products, recognising that doing so is beneficial to both humanity and the environment.¹¹⁶⁶ Second, it places considerable emphasis on tackling instances of waste-related criminal activities, such as unauthorised transfers and illegal disposals.¹¹⁶⁷ Pursuant to Chapter 4 of the Resources and Waste Strategy 2018, waste-related criminal activity costs the UK hundreds of millions of pounds each year. Illegally dumping or exporting waste undermines legitimate business activities by not only disposing of waste cheaply, but also recklessly.¹¹⁶⁸ These practices are believed to not only deprive the economy of tax revenue but also pose a severe threat to local communities and the global environment.¹¹⁶⁹ Consequently, by addressing such practices, the UK endeavours to ensure that resources are properly recycled or recovered and fed back into the economy.

¹¹⁶⁴ David Dixon, *Leadership for sustainability: Saving the planet one school at a time* (Crown House Publishing, 2022)14-18.

¹¹⁶⁵ Ulrich Müller, Armin Lude, and Dawson R. Hancock, ‘Leading schools towards sustainability: fields of action and management strategies for principals’ (2020) 12(7) *Sustainability* 3031, 3032-3034.

¹¹⁶⁶ Iacovidou (n. 1146) 6-8; See also Defra (n. 17).

¹¹⁶⁷ Iacovidou *Ibid.*

¹¹⁶⁸ *Ibid.*

¹¹⁶⁹ *Ibid.*; See Yi Liu, Fanbin Kong, and Ernesto S. Gonzalez, ‘Dumping, waste management and ecological security: Evidence from England’ (2017) 167 *Journal of Cleaner Production* 1425, 1428-1432.

As part of this long-term legislative change, the UK is dedicated to consulting on a new Waste Prevention Programme.¹¹⁷⁰ This Programme aims to establish a Resource Efficient Economy by outlining priorities for action in managing resources and waste.¹¹⁷¹ The primary emphasis will be placed on adhering to the waste hierarchy, which encompasses strategies such as advocating for the reuse, repair, and recycling of products. This approach aligns seamlessly with the EU's circular economy Action Plan, therefore reinforcing the UK's unwavering commitment to this cause. The Programme outlines the potential for and benefits of waste prevention action, what industry is already doing and what it could do, as well as government actions.

The objective is to solicit ideas on the existing proposals from those with an interest in increasing resource efficiency and minimising waste, preserving the natural capital and resource security of the UK, and thus reducing greenhouse gas emissions, notably landfill methane emissions.¹¹⁷² It is believed that consulting on such a programme is not only a legal obligation, but also an opportunity for all interested groups to provide feedback on the preliminary proposals.¹¹⁷³ Very importantly, the government intends to provide everyone with the opportunity to comment on: the UK's approach to waste prevention, whether the UK has identified the appropriate priority areas for action, and on the steps the government plans to take to address its unique environmental challenges, such as those resulting from the UK's excessive consumption of fast fashion and the resulting textile waste predicament.

¹¹⁷⁰ The UK government has announced its plans to increase the repair and reuse of existing materials as well as recycling, including through the 'Maximising Resources, Minimising Waste' programme announced in July 2023.
¹¹⁷¹ Defra (n. 17).

¹¹⁷² Ibid; See also Rees T. White, 'Measuring methane emissions from a UK landfill using the tracer dispersion method and the influence of operational and environmental factors' (2019) 87 *Waste management* 870, 874-878; Martin Meadows, 'Estimating landfill methane emissions' (1996) 37(6) *Energy conversion and management* 1099, 1100-1103; Gardner N, Manley B J, and Pearson J M, 'Gas emissions from landfills and their contributions to global warming' (1993) 44(2) *Applied Energy* 165, 168-172.

¹¹⁷³ Maria J. Garcia, 'Smart regulation law-making and participatory democracy: consultation in the European Union' (2019) 59 *Rev. Catalana Dret Pub* 85, 86-88; Philip Norton, 'Post-legislative scrutiny in the UK Parliament: adding value' (2019) 25(3) *The Journal of Legislative Studies* 340, 344-348.

In contemporary times, there has been a discernible surge in the consumption and disposal of fabrics in UK household waste.¹¹⁷⁴ The purchase of clothing is believed to have increased by almost 20% between 2012 and 2018.¹¹⁷⁵ Annually, approximately 921,000 tonnes of used textiles are discarded in UK household waste.¹¹⁷⁶ Based on a recent report, the UK generates an annual textile waste amounting to 206.456 tonnes.¹¹⁷⁷ The yearly textile waste generated per individual in the UK is 3.1kg.¹¹⁷⁸ However, the recycling rate for this waste is just 0.3kg, with an additional 0.4kg being allocated for reuse.¹¹⁷⁹ Consequently, the UK has emerged as the second largest global exporter of used textiles.¹¹⁸⁰

Based on the findings of the abovementioned report, the UK exports over \$390 million worth of used textiles to foreign nations annually.¹¹⁸¹ The aforementioned figure includes 845,000 tonnes of clothing shipped to Nigeria and Ghana alone, where market vendors frequently express dissatisfaction with the quality of these garments, as they are frequently unfit for resale.¹¹⁸² Consequently, these vendors find themselves with no recourse but to burn or dispose of these garments in landfills. According to a recent study, the fast fashion industry's continuous expansion has been found to greatly worsen the problem of textile waste in the UK.¹¹⁸³ Evidently, this issue has global environmental repercussions that extend beyond the

¹¹⁷⁴ Kamyar Shirvanimoghaddam, 'Death by waste: Fashion and textile circular economy case' (2020) 718 *Science of The Total Environment* 137317, 137318-137322; See also Frank Ackerman, *Why do We Recycle?: markets, values, and public policy* (Island press, 2013) 6-10; Geetha Dissanayake and Pammi Sinha, 'Sustainable waste management strategies in the fashion industry sector' (2012) 8(1) *The International Journal of Environmental Sustainability* 77, 80-83.

¹¹⁷⁵ Yasin (n. 595) 1453-1456.

¹¹⁷⁶ Edward Clay & Sons, 'The UK is the fourth largest producer of textile waste in Europe, according to a new study by sustainable mens fashion label LABFRESH' (August 02, 2023) <<https://edwardclay.co.uk/2023/08/02/textile-waste-in-europe/>> accessed 30 March 2024; See Tamene Wagaw and Murugesh K. Babu, 'Textile Waste Recycling: A Need for a Stringent Paradigm Shift' (2023) *AATCC Journal of Research* 24723444231188342, 24723444231188343-24723444231188347.

¹¹⁷⁷ Clay & Sons *Ibid*; Juanga-Labayen (n. 947) 178-183.

¹¹⁷⁸ Clay & Sons *Ibid*.

¹¹⁷⁹ *Ibid*.

¹¹⁸⁰ Manieson (n. 30) 812-816.

¹¹⁸¹ *Ibid*.

¹¹⁸² *Ibid*.

¹¹⁸³ Wagaw and Babu (n. 1176).

borders of the UK. It is estimated that fast fashion contributes approximately 4% of the world's total carbon emissions.¹¹⁸⁴ This figure is equal to the total emissions produced by France, Germany, and the United Kingdom, which is presently the focus of the ongoing discussion.¹¹⁸⁵

Similar to the actions taken by the EU in addressing the issues presented by fast fashion, the adoption of a producer responsibility scheme in the UK's textiles industry has the capacity to enhance various aspects, including the promotion of reuse, improvement of collection and recycling practices, encouragement of sustainable fibre utilisation, and facilitation of sustainable business models like rental schemes.¹¹⁸⁶ According to Rebecca Pow, the UK's Environment Minister, the UK is resolutely dedicated to discontinuing the prevalent 'throwaway' culture as the country endeavours to reconstruct its economy with a focus on environmental sustainability.¹¹⁸⁷ Consequently, prominent retailers and fashion brands are making significant efforts in mitigating their ecological impact, albeit the need for more action.¹¹⁸⁸ Thus, in addition to various measures, the UK intends to address the issue of fast fashion through the implementation of the Environment Act 2021 and the introduction of substantial reforms.¹¹⁸⁹ These programmes aim to promote recycling and stimulate innovation

¹¹⁸⁴ Brianna Wren, 'Sustainable supply chain management in the fast fashion Industry: A comparative study of current efforts and best practices to address the climate crisis' (2022) 4 *Cleaner Logistics and Supply Chain* 100032, 100034-100036; Greg Peters, Mengyu Li, and Manfred Lenzen, 'The need to decelerate fast fashion in a hot climate-A global sustainability perspective on the garment industry' (2021) 295 *Journal of cleaner production* 126390, 126391-126394.

¹¹⁸⁵ Wren *Ibid.*

¹¹⁸⁶ Defra (n. 31).

¹¹⁸⁷ *Ibid.*

¹¹⁸⁸ Adamkiewicz (n. 34) 100711-100714; See also Bo Zhang, Yaozhong Zhang, and Peng Zhou, 'Consumer attitude towards sustainability of fast fashion products in the UK' (2021) 13(4) *Sustainability* 1646, 1648-1650.

¹¹⁸⁹ The Environment Act 2021 serves as the UK's up-to-date framework for safeguarding the environment. Following the UK's departure from the EU, it became necessary to establish new laws pertaining to nature protection, clean air, water quality, and other environmental safeguards that were previously governed by Brussels. The Environment Act provides the UK with the opportunity to incorporate certain environmental protection measures into legislation. The Act introduces additional powers to establish and enforce new binding targets, encompassing areas, such as water management, air quality, biodiversity preservation, and waste reduction.

in new design as a means of addressing the distinctive environmental challenges posed by the UK's fashion and textiles industry.

Under the guidance of the Sustainable Clothing Action Plan 2012, the textile industry is believed to be making significant progress through a voluntary agreement coordinated by the Waste & Resources Action Programme (WRAP).¹¹⁹⁰ Signatories, which include prominent fashion retailers, such as Next, ASOS, and M&S, reduced their water and carbon footprints per tonne of apparel by 19.5% and 15.5%, respectively, between 2012 and 2019.¹¹⁹¹ In spite of the considerable progress made, the UK government aims to stimulate ambitious industrial initiatives in the coming decade via Textiles 2030, a new voluntary agreement designed to mitigate the environmental impact of the textiles sector by adopting science-based targets rather than relying solely on voluntary measures.¹¹⁹²

Using the powers sought in the Environment Bill, which became law in 2021, it is anticipated that the government will be able to establish minimum standards for the durability and recycled content of clothing, as well as explore methods to enhance labelling, specifically laundry guide, and provide consumers with better information.¹¹⁹³ In the interim, UK Research and Innovation has allocated £30 million for the establishment of five innovative research centres across the UK, one of which will focus specifically on circular textiles technology.¹¹⁹⁴

¹¹⁹⁰ Tim Cooper and Stella Claxton, 'Garment failure causes and solutions: Slowing the cycles for circular fashion' (2022) 351 *Journal of Cleaner Production* 131394, 131395-131398; See Mazedul M. Islam, Patsy Perry, and Simeon Gill, 'Mapping environmentally sustainable practices in textiles, apparel and fashion industries: a systematic literature review' (2021) 25(2) *Journal of Fashion Marketing and Management: An International Journal* 331, 333-337.

¹¹⁹¹ Cooper Ibid.

¹¹⁹² Joel Millward-Hopkins, Phil Purnell, and Sharon Baurley, 'Scenarios for reducing the environmental impacts of the UK clothing economy' (2023) 420 *Journal of Cleaner Production* 138352, 138353-138357.

¹¹⁹³ The Department for Environment, Food and Rural Affairs (Defra), *The waste prevention programme for England: Maximising Resources, Minimising Waste* (Policy paper, 2023) 4-10 <<https://www.gov.uk/government/publications/waste-prevention-programme-for-england-maximising-resources-minimising-waste/the-waste-prevention-programme-for-england-maximising-resources-minimising-waste>> accessed 30 March 2024.

¹¹⁹⁴ Ibid.

According to Marcus Gover, the CEO of WRAP from 2016 to 2023, ‘the world will never attain net zero unless we change the way we produce, use, and dispose of the products that are integral to our everyday existence.’¹¹⁹⁵ When we throw away items, we waste the carbon, water, materials, and labour that went into their production.¹¹⁹⁶ The UK’s Textiles 2030 commitment exemplifies the ambitious goals necessary for global efforts to address the negative environmental impacts of current excessive apparel consumption. The aforementioned Commitment sets forth targets aimed at reducing the ecological footprint of textiles sold within the UK by 50% by the year 2030.¹¹⁹⁷

The initiative builds on the achievements of the Sustainable Clothing Action Plan and seeks to make public the efforts of companies that are assuming responsibility for mitigating the environmental impacts of their products. Despite being launched in April 2021, a considerable number of renowned brands and retailers have already made a firm commitment to participate in the scheme.¹¹⁹⁸ The project is perceived as a constituent of the comprehensive plan introduced in 2018, aimed at exploring ways to help the UK’s transition to a more resource-efficient economy. Similar to the EU’s Circular Economy Action Plan, this transition requires not only an increase in recycling rates but also a reduction in the amount of waste generated by the products we consume.

The proposed Plan on a revised Waste Prevention Programme, specifically targeting England, aims to gather expert opinions on how, similar to the EU’s proposed Ecodesign for Sustainable Products and Textiles, the UK can use new powers granted by the Environment Act 2021 to set eco-design standards for sectors identified to have a high environmental impact, such as the

¹¹⁹⁵ Defra (n. 17).

¹¹⁹⁶ Ibid.

¹¹⁹⁷ Ibid.

¹¹⁹⁸ Cristina Luján-Ornelas, ‘A life cycle thinking approach to analyse sustainability in the textile industry: a literature review’ (2020) 12(23) Sustainability 10193, 10194-10196.

clothing and textiles sector.¹¹⁹⁹ These powers could be utilised to establish requirements for manufacturers, such as the provision of spare parts, the implementation of a minimum level of recycled content, or the assurance that products are designed for disassembly, repair, and long-term use rather than disposal.¹²⁰⁰ These recommendations are intended to supplement the UK government’s plan to implement stricter requirements to address the issue of “premature obsolescence” and aid consumers in repairing and extending the lifespan of their appliances instead of discarding them. Whilst there are other industries to consider, these recommendations are particularly important in addressing the severe environmental impact of today’s single-use (disposable) products, for which fast fashion has made the apparel industry a key industry to address.¹²⁰¹

In light of contemporary business practices, there is a growing interest in exploring avenues beyond recycling as a means to mitigate resource consumption.¹²⁰² According to Wightman-Stone, there is widespread enthusiasm around the implementation of Defra’s draft Waste Prevention Programme.¹²⁰³ The government’s prioritisation of repair, reuse, and remanufacturing in critical industries such as textiles, construction, and food is exemplary. “We want businesses to take advantage of the UK Waste Prevention Programme’s opportunities to reduce carbon emissions, material consumption, and create green employment opportunities,” she said.¹²⁰⁴ These reforms, among other things, hold the potential to accelerate the UK’s recovery, particularly in the aftermath of the pandemic, by adopting a more sustainable and ecologically friendly approach to tackle its waste problems. Akin to the EU’s ongoing

¹¹⁹⁹ Ibid; Defra (n. 17); UK Environment Act 2021, s 30.

¹²⁰⁰ Luján-Ornelas Ibid.

¹²⁰¹ Ibid; Wagaw and Babu (n. 1176).

¹²⁰² Peter Lacy, Jessica Long, and Wesley Spindler, *The Circular Economy Handbook* (Palgrave Macmillan, 2020) 185-195; See also Ackerman (n. 1174) 6-10.

¹²⁰³ Danielle Wightman-Stone, ‘Government unveils proposals to support sustainable fashion’ (Fashion United, March 18, 2021) <<https://fashionunited.uk/news/fashion/government-unveils-proposals-to-support-sustainable-fashion/2021031854527>> accessed 30 March 2024.

¹²⁰⁴ Ibid.

commitment, it is believed that the aforementioned Plans are essential to bolstering the UK's position as a global leader in addressing not only climate change but also waste pollution.¹²⁰⁵

In its capacity as host of COP26, the UK is undertaking a leadership position in influencing the global climate change agenda by putting forth several environmental reforms.¹²⁰⁶ Its significant waste reforms are poised to foster collaboration among governments, societies, and the international community, with the ultimate aim of addressing the urgent environmental challenges facing our planet.¹²⁰⁷

These initiatives are an integral part of the Resources and Waste Strategy, which outlines how the UK government aims to impose greater responsibility on manufacturers to make their products simpler to reuse and recycle. Thus, in order to further the government's efforts in addressing the issue of single-use products, for instance, the government has recently announced a series of measures aimed at tackling litter and protecting the environment from all kinds of pollution, with prohibitions and restrictions on a variety of single-use items coming into effect from 1st October 2023.¹²⁰⁸

As part of this Plan, the government has already prohibited microbeads in rinse-off personal care products and the supply of plastic straws, stirrers, and cotton swabs in England.¹²⁰⁹ In addition, the highly successful charge on single-use plastic bags has been extended to all retailers and increased to 10p as from April 2022, together with a world-leading tax on plastic packaging for items containing less than 30% recycled content.¹²¹⁰ Given the aforementioned advancements, specifically within the UK and the EU, the subsequent section examines the efforts made by the AU to bridge the gap in these areas of development. This analysis

¹²⁰⁵ Ibid.

¹²⁰⁶ Yi Wang, Yuxuan Liu, and Baihe Gu, 'COP26: Progress, challenges, and outlook' (2022) 39 *Advances in Atmospheric Sciences* 1209, 1210-1214.

¹²⁰⁷ Defra (n. 17).

¹²⁰⁸ Ibid.

¹²⁰⁹ Ibid.

¹²¹⁰ Ibid.

recognises the distinctive challenges that the region is currently facing, such as its overreliance on imported second-hand products from the West and the ensuing problem of waste dumping.

4.4 Waste Management in Africa: Analysis of Past, Present, and Future Developments

As Africa is poised to witnessing a significant socio-economic transformation in the coming century, characterised by a rapid population growth, urbanisation of cities, and shifting consumer behaviours, it is anticipated that this phenomenon will result in substantial increases in waste production, hence imposing enormous burdens on public and private sector services and infrastructure that are already limited in capacity.¹²¹¹ The current waste management practices in Africa are well recognised as having significant economic and social consequences, as well as posing severe environmental risks.¹²¹² Consequently, it is imperative for its continental organisation, the African Union, to prioritise not only the resolution of the existing waste management issues, but also to proactively anticipate the projected increase in waste production across the continent in the forthcoming decades.

This will necessitate not only investment and social and technological innovation, but also robust legislative reforms that will regulate and promote sustainable programmes, such as reduce, repair, reuse, and recycling. This should be in addition to transitioning to the Circular Economy, which aims to keep products and materials in use for as long as possible by not only minimising the amount of primary raw materials used, and extending the lifespan of products, but also maximising reuse and recycling of products.¹²¹³ It is believed that such initiatives will help reduce the growing impact of waste produced and dumped on the continent, including,

¹²¹¹ United Nations Environment Programme (UNEP), *Africa Waste Management Outlook: Summary for Decision-Makers* (Policy paper, 2018) 2-3.

¹²¹² Ibid; See Linda Godfrey, *Solid Waste Management in Africa: Governance Failure or Development Opportunity?* *Regional Development in Africa* (IntechOpen, 2020) 1-3.

¹²¹³ Justice K. Debrah, Godfred K. Teye, and Maria A. Pimenta, 'Barriers and challenges to waste management hindering the circular economy in Sub-Saharan Africa' (2022) 6(3) *Urban Science* 57, 58-62.

but not limited to, the issue of second-hand clothing. It is evident that Africa must also recognise the opportunity that secondary resources present for the continent.¹²¹⁴ For instance, it is estimated that diverting waste from dumpsites and landfills to reuse, recycling, and recovery could inject an additional \$8 billion annually into the African economy and create significant socioeconomic opportunities on the continent.¹²¹⁵

Achieving this vision will mean that secondary resources would need to be released back into the African economy, thereby fostering the expansion and/or growth of domestic industry, creating employment opportunities and reducing unemployment, as well as fostering the growth of local and regional economies.¹²¹⁶ This approach, if implemented in a responsible and sustainable manner, is believed to have the potential to mitigate the negative environmental and human health effect caused by the prevalent inadequate solid waste management practices observed across the African continent.¹²¹⁷ As part of its long-term plan, the African Union has established an ambitious goal for African cities to recycle at least 50% of their waste by the end of 2023.¹²¹⁸ According to UNEP, Africa's ability to divert the majority, if not all, of its organic waste from landfills to composting, bioenergy recovery, and higher value product recovery, followed by refurbishment, repair, reuse, and recycling of primary recyclables, such as plastic, paper, metal, glass, tyres, and e-waste, was crucial to the achievement of this goal.¹²¹⁹

Not only that, but it is also recommended that an "African Regional Strategy for Secondary Materials Management" be developed, implemented and resourced, with clear action points

¹²¹⁴ UNEP (n. 1211); David M. Chen, 'The world's growing municipal solid waste: trends and impacts' (2020) 15(7) Environmental Research Letters 074021, 074022-074024.

¹²¹⁵ Chen Ibid; Nicolae Scarlat, 'Evaluation of energy potential of Municipal Solid Waste from African urban areas' (2015) 50 Renewable and Sustainable Energy Reviews 1269, 1273-1277.

¹²¹⁶ Chen Ibid.

¹²¹⁷ Godfrey (n. 1212); See also UNEP (n. 1207); Michael Addaney and Rose A. Oppong, 'Critical issues of municipal solid waste management in Ghana' (2015) 2(1) Journal of Energy and Natural Resource Management 30, 31-35.

¹²¹⁸ Addaney Ibid.

¹²¹⁹ UNEP (n. 1211) 8.

and targets for both countries and cities.¹²²⁰ A strategy that creates opportunities for both small-scale, bottom-up, community based approaches as well as larger-scale, advanced treatment technologies.¹²²¹ Moreover, given the high organic waste content and high resource value of Africa's waste streams, it is expected that the development of this strategy must include a serious discussion about the suitability of large-scale thermal treatment technologies, such as incineration. It is believed that the success of such a strategy will require a governance environment conducive to its implementation, as well as supporting data, infrastructure, institutional capacity, financial provisions, and monitoring and control mechanisms.¹²²²

Moreover, it will be essential to consider strategies that could effectively mitigate the risks associated with investing in Africa, and these measures should be implemented at both the continental and national levels.¹²²³ It is believed that doing so will foster public-private partnerships and encourage profitable investment endeavours in Africa.¹²²⁴ While the establishment of regional secondary resource economies is believed to be essential to such an African strategy, countries will need to find ways to support and facilitate such regionality without inadvertently exacerbating the prevailing issues of waste trafficking and/or illegal waste dumping on the African continent.¹²²⁵ That is, notwithstanding the aforementioned opportunities, it is pertinent to acknowledge that Africa, despite its potential for development, has a prolonged record of poor waste management practices.¹²²⁶ This predicament is further exacerbated by the unscrupulous dumping/trafficking of waste from its neighbouring regions,

¹²²⁰ Ibid.

¹²²¹ Ibid.

¹²²² Ibid; Romeela Mohee and Thokozani Simelane, *Future directions of municipal solid waste management in Africa* (Africa Institute of South Africa, 2015) 5-9.

¹²²³ Landry Signé, *Unlocking Africa's business potential: Trends, opportunities, risks, and strategies* (Brookings Institution Press, 2020) 14-19.

¹²²⁴ Ibid; See also UNEP (n. 1211) 8.

¹²²⁵ Signé Ibid.

¹²²⁶ Mary D. Uva and Jane Bloom, 'Law: Exporting Pollution: The International Waste Trade' (1989) 31(5) *Environment: science and policy for sustainable development* 4, 6-11; Kevin Shillington, *Encyclopedia of African history 3-volume set* (Routledge, 2013) 481; Godfrey (n. 1212) 1-3; See R. Couth and C. Trois, 'Waste management activities and carbon emissions in Africa' (2011) 31(1) *Waste Management* 131, 132-136; Kaza et al., (n. 1022) 2-5; Chen and Burns (n. 626) 252-256.

notably Europe and the United States.¹²²⁷ Consequently, it becomes imperative to confront these injustices and environmental inequalities in order to effectively address the prevailing environmental problems at hand.

Historically, open dumping and open burning have been widely recognised as the primary waste treatment and final disposal methods used in Africa.¹²²⁸ Similar to the EU, the UK has historically relied extensively on landfills as its primary waste management method.¹²²⁹ It is important to highlight, however, that these methods have garnered a negative reputation in recent years, especially in the context of promoting global environmental sustainability.¹²³⁰ Nevertheless, the AU, in comparison to its northern counterparts, continues to face ongoing problems with the practice of open dumping and burning of waste.¹²³¹ While this situation is believed to be exacerbated by the unscrupulous dumping/trafficking of waste from the Global North, particularly the UK and the United States, the current reasons for such practices are believed to include, amongst others, weak legislation, lack of enforcement, low public awareness/inadequate environmental education, low level budgets/infrastructure, corruption, weak political structures, lack of technical expertise, political instability and lack of political will.¹²³²

In essence, while the EU and the UK have made significant progress in transitioning from unsustainable waste management practices to more sustainable approaches, such as waste avoidance, reduction, reuse, recycling, and energy recovery, the AU continues to grapple with

¹²²⁷ Uva and Bloom (n. 1226) 18-21; Kate O'Neill, *Waste trading among rich nations: Building a new theory of environmental regulation* (MIT Press, 2000) 9-14; Jennifer Clapp, *Toxic exports: The transfer of hazardous wastes from rich to poor countries* (Cornell University Press, 2018) 15-23; Kenda J. McCrory, 'The International Exportation of Waste: The Battle Against the Path of Least Resistance' (1991) 9 Dick. J. Int'l L 339, 340-343.

¹²²⁸ Agnes M. Motaung, *Solid Waste Dumping And Burning Practices In The Lesotho Lowlands* (Central University of Technology, 2020) 6-10; Machete F. Dladla and Shale K., 'A review of factors associated with indiscriminate dumping of waste in eleven African countries' (2016) 8(5) African Journal of Science, Technology, Innovation and Development 475, 476-479.

¹²²⁹ Malinauskaite (n. 996) 2015-2018.

¹²³⁰ Ibid.

¹²³¹ Motaung (n. 1228); See also Godfrey (n. 1212) 1.

¹²³² Godfrey Ibid.

challenges associated with landfill dumping and open incineration.¹²³³ These practices are widely acknowledged as significant sources of greenhouse gas emissions, especially methane and carbon dioxide, in addition to the severe human and health hazards associated with them.¹²³⁴ According to a study conducted in 2011, whilst there is no such requirement for Non-Annex 1 Parties to the Kyoto Protocol (developing countries) to monitor, control and report their carbon emissions, it is estimated that approximately 6.8% of the greenhouse gas (GHG) emissions for Africa can be attributed to inadequate waste management practices, a percentage higher than the average of 4.2% observed among all other Non-Annex I parties located outside of Africa.¹²³⁵

According to the study, the average 4.4383 tCO₂ per capita calculated for North African countries between 1994 and 2004 is double the 2.256 tCO₂ per capita required to control global warming, and very similar to the global average of 4.56 tCO₂ per capita.¹²³⁶ Furthermore, it is worth noting that there was a significant rise in greenhouse gas (GHG) emissions seen in the selected North African nations, with an increase from 44% to 69% during the period spanning from 1994 to 2004.¹²³⁷ Out of the 50 nations analysed in sub-Saharan Africa, only four countries, specifically Mauritius, Botswana, Seychelles, and Reunion Island, recorded emissions levels below the established threshold of 2.256 tCO₂ per capita. Four more nations reported emissions ranging from 1 to 2 tCO₂ per capita, while the remaining 42 sub-Saharan countries documented emissions over the threshold of 2.256 tCO₂ per capita.¹²³⁸

¹²³³ Ibid.

¹²³⁴ Prince O. Njoku, Joshua N. Edokpayi, and John O. Odiyo, 'Health and environmental risks of residents living close to a landfill: A case study of Thohoyandou Landfill, Limpopo Province, South Africa' (2019) 16(12) *International journal of environmental research and public health* 2125, 2126-2128.

¹²³⁵ Couth (n. 1226) 131.

¹²³⁶ Ibid.

¹²³⁷ Ibid.

¹²³⁸ Ibid.

While South Africa's emissions are considered to be an exception, with recorded emissions at 9.1927 tCO₂ per capita between 1994 and 2004, approximately double the global average, sub-Saharan countries experienced a significant increase in CO₂ emissions during the same period.¹²³⁹ According to UNSD and CDIAC figures, these emissions rose by 222% and 307% respectively.¹²⁴⁰ The reported carbon emissions in African territories are believed to be largely connected to the continent's inadequate waste management practices/activities.¹²⁴¹ While Nigeria recorded the highest amount of carbon emissions from waste management activities, Gambia reported the highest percentage of GHG emissions from landfill management operations at 72.9%.¹²⁴² The presence of methane emissions from uncontrolled dumpsites is a notable contributor to greenhouse gas (GHG) emissions in Africa. However, the lack of clarity in how these emissions are measured and reported, especially in relation to waste management activities, often result in the inability of African countries to secure external funding to enhance waste management systems and achieve long-term reductions in emissions.¹²⁴³

Throughout history, waste management in Africa has primarily relied on dispersion in the natural environment, which is regulated by the assimilation function of ecological systems.¹²⁴⁴ The practice of open dumping and open incineration is considered to be one of the oldest methods of waste management in Africa.¹²⁴⁵ It continues to be widely used in many developing countries, particularly in Latin America and the Caribbean.¹²⁴⁶ Tragically, in addition to the

¹²³⁹ Ibid.

¹²⁴⁰ Ibid.

¹²⁴¹ Elena Friedrich and Cristina Trois, 'Quantification of greenhouse gas emissions from waste management processes for municipalities—A comparative review focusing on Africa' (2011) 31(7) *Waste management* 1585, 1587-1590; See Meenu Gautam and A. Madhoolika, Greenhouse gas emissions from municipal solid waste management: a review of global scenario. *Carbon footprint case studies: municipal solid waste management, sustainable road transport and carbon sequestration* (Springer, 2021) 136-142; Subramanian S. Muthu, *Carbon Footprint Case Studies: Municipal Solid Waste Management, Sustainable Road Transport and Carbon Sequestration* (Springer Nature, 2020) 144-148.

¹²⁴² Couth and Trois (n. 1226) 132.

¹²⁴³ Ibid.

¹²⁴⁴ Desta Mebratu and Andriannah Mbandi, *Open Burning of Waste in Africa: Challenges and opportunities* (Engineering X, 2022) 30; See also Muthu (n. 1237).

¹²⁴⁵ Mebratu Ibid.

¹²⁴⁶ Ibid.

numerous associated environmental emissions, it is believed that since 1992 more than 31 individuals have perished annually due to waste-slope failures at dumpsites.¹²⁴⁷ Thus, in order to effectively address the implications of waste dumping in Africa, a comprehensive understanding of its origins from a system's perspective is required.

Waste is an inherent byproduct of manufacturing and consumption activity, which has persisted throughout human history and is expected to persist indefinitely into the future.¹²⁴⁸ What has changed is the way human society has managed the waste generated.¹²⁴⁹ In contrast to Africa's perceived dearth of progress, the EU, the US, and the UK are undergoing significant legislative changes to address waste problems.¹²⁵⁰ While the Global North has moved beyond recycling and is now focusing on waste prevention, the current focus in Africa is to end open burning and incineration of waste and to promote recycling.¹²⁵¹

In contrast, waste prevention initiatives in the Global North include a variety of measures intended at reducing the overall volume of waste produced, minimising the presence of hazardous chemicals, and mitigating the negative effects of waste on the environment and human health.¹²⁵² In the majority of instances, waste prevention focuses on materials, products, and components before they become waste. Such prevention strategies encompass various measures, such as implementing effective storage practices to prevent material damage, minimising excessive material orders, reducing unnecessary packaging, incorporating waste

¹²⁴⁷ Ibid 30.

¹²⁴⁸ Nicolas M. Sadeleer, 'New Perspective on the Definition of Waste in EC Law' (2005) 1(4) *Journal of European Environmental & Planning Law* 46, 48-54; Matthias Thüerer, Ivan Tomašević, and Mark Stevenson, 'On the meaning of 'waste': review and definition' (2017) 28(3) *Production Planning & Control* 244, 245-248.

¹²⁴⁹ Mebratu (n. 1244) 30-31.

¹²⁵⁰ Massimiliano Agovino and Gaetano Musella, *EU Waste Regulation in a Linear-Circular Economy Transition* (Springer Nature, 2023) 6-10; Martin C. Friant, Walter J. Vermeulen, and Roberta Salomone, 'Analysing European Union circular economy policies: Words versus actions' (2021) 27 *Sustainable Production and Consumption* 337, 338-341.

¹²⁵¹ Godfrey (n. 1212).

¹²⁵² Mebratu (n.1244) 30-31.

reduction into product design, and designing products with adaptability in mind to prolong their lifespan.¹²⁵³

For example, the waste hierarchy is a framework that has been used in EU and UK environmental policy and law since the 1990s. The principle is straightforward, with waste prevention at the top (the preferable choice) and disposal at the bottom (the worst option). In between, in order of preference, is preparing for reuse, recycling and recovery. While Africa is facing significant challenges in its efforts to transition from a disposal-based waste management system to a recycling-oriented one, the Global North has made substantial progress and is currently at the forefront of waste management practices, particularly in its pursuit of waste prevention via the adoption of circular economy policies.¹²⁵⁴

Using the UK as an example, waste policy and legislation in the past was geared towards the lowest level of the waste hierarchy; that is, reducing the amount of waste that is landfilled, such as by adopting and implementing the Landfill Tax and increasing recovery and recycling activities.¹²⁵⁵ Nevertheless, because it has been comfortably meeting its target since 2010 with a recovery rate of approximately 91%, the UK's current policy priority is to progress up the waste hierarchy, focusing on waste prevention, as opposed to recycling.¹²⁵⁶

Not only would the closing of this gap be an important milestone for Africa, but the continent's ability to learn from the transition strategies of its Western counterparts, namely the EU and the UK, would be equally significant. Among these policy reforms would be the need for a Landfill Directive, as vast amounts of the continent's solid waste are currently deposited in

¹²⁵³ Ibid.

¹²⁵⁴ Friant (n. 1250).

¹²⁵⁵ Luca Panzone, 'A ridge regression approach to estimate the relationship between landfill taxation and waste collection and disposal in England' (2021) 129 *Waste Management* 95, 98-103.

¹²⁵⁶ Ibid.

landfills due to infrastructure issues and technological limitations.¹²⁵⁷ Learning from the EU, for instance, the EU Landfill Directive was intended to protect both human health and the environment by providing measures, procedures, and guidance to prevent or reduce as much as possible, any negative impact from landfill on the environment (especially the pollution of surface water, groundwater, soil, and air) and the global environment (including the greenhouse effect), as well as any other risk to human health that could result from landfilling.¹²⁵⁸

In addition, it is suggested that in order for the continent to keep up with the rest of the world, the AU must come up with a Waste Incineration Directive to help regulate, if not completely prohibit, open burning and incineration of waste in the region.¹²⁵⁹ That is, similar to the EU's Waste Incineration Directive, which relates to standards and methodologies required by Europe for the practice and technology of incineration, an AU Waste Incineration Directive should aim to minimise the negative environmental impact or effect on the environment and human health resulting from emissions to air, soil, surface and ground water from the incineration and co-incineration of waste in Africa.¹²⁶⁰ By doing so, the continent can progress up the waste management hierarchy, away from waste disposal and towards waste prevention, reuse, recycling, and recovery, if not catch up with the rest of the world, which should be the goal.

Despite these policy recommendations, it is important to reiterate that the specific gaps identified in this Thesis in relation to Africa's ability to transition to a more resource-efficient economy can only be understood from a systems perspective, i.e., by describing or explaining how Africa's problem exists as a whole from a global context. According to a 1995 study, developed countries are sending their trash to poor, developing countries in order to save and

¹²⁵⁷ R Couth and C Trois, 'Sustainable waste management in Africa through CDM projects' (2012) 32(11) *Waste management* 2115, 2116-2120.

¹²⁵⁸ Council Directive 1999/31/EC, art 1(1).

¹²⁵⁹ Couth and Trois (n. 1257) 2118-2122.

¹²⁶⁰ Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the incineration of waste, art 1.

gain money, respectively.¹²⁶¹ Fortunately, many developing countries have begun to realize the true cost of accepting wastes and have asked the international community to help end waste exports to the developing world.¹²⁶²

The transboundary movement of waste/low-quality second-hand goods to Africa, for example, is not a new phenomenon, caused by increased regulation of waste disposal in the Global North, particularly in Europe and the United States.¹²⁶³ Regarding the United States, the first comprehensive waste legislation was enacted in 1976.¹²⁶⁴ Prior to that time, wastes were not exported just because they could simply be dumped.¹²⁶⁵ As regulation increased, waste producers found exporting waste, particularly hazardous waste to be an economical alternative.¹²⁶⁶ Waste exports create many problems for developing countries. For example, many less developed countries (LDCs) face challenges in terms of their limited technological capacities to effectively manage domestic waste, much alone handling waste from international sources.¹²⁶⁷ The improper handling of waste, particularly hazardous waste, has significant implications for public health, in addition to posing substantial environmental risks in nations with little capacity to effectively manage or treat such waste.

Notwithstanding the aforementioned dangers, developed countries continue to engage in the practice of exporting waste, specifically low-quality second-hand goods, to less developed countries due to its cost-effectiveness in comparison to local disposal or recycling alternatives. The escalation of environmental regulations in many industrialised nations, along with a concurrent rise in the overall volume of waste generated, has resulted in a significant surge in

¹²⁶¹ Jennifer R. Kitt, 'Waste Exports to the Developing World: A Global Response' (1995) 7 *Geo Int'l Envtl L Rev* 485, 485-486.

¹²⁶² *Ibid.*

¹²⁶³ *Ibid.*

¹²⁶⁴ Resource Conservation and Recovery Act 1976.

¹²⁶⁵ Kitt (n. 1261) 488; See Martin V. Melosi and James G. Hanley, 'The sanitary city: Urban infrastructure in America from colonial times to the present' (2000) 29(1) *Urban History Review* 75, 76.

¹²⁶⁶ Kitt *Ibid.*

¹²⁶⁷ *Ibid.*; Couth and Trois (n. 1257).

disposal costs, reaching as high as \$2,000 per tonne in those industrialised countries.¹²⁶⁸ On the other hand, the disposal rates in Africa amount to around \$40 per metric tonne.¹²⁶⁹ Often, the disparity in costs arises due to lax environmental rules in underdeveloped nations. The implementation of stringent rules in industrialised nations has rendered inexpensive disposal methods, such as landfilling, unfeasible. As a result, many less developed countries (LDCs), particularly those in Africa have become a repository for the disposal of such trash. The low cost of land and labour in Africa makes waste exports profitable for industrialised nations.¹²⁷⁰

Even when these LDCs have comprehensive environmental regulations, they frequently lack the administrative and political infrastructure required to implement them. From a global viewpoint, countries such as Chile, Argentina, and Venezuela, are believed to have comprehensive environmental legislation covering the generation, transport, recovery, transboundary movement, and disposal of wastes; however, these countries and others in Latin America, for example, have not prioritised the enforcement of environmental laws and, thus, are consistently confronted with waste dumping, similar to the current situation in Africa.¹²⁷¹

In the 1980s, the debt crisis in Latin America, for example, compelled countries to prioritise economic development at the expense of environmental protection.¹²⁷² In an effort to accelerate economic development, Latin American nations attempted to open their economies to world trade. Natural resources were exploited, and in many cases environmental laws were compromised.¹²⁷³ This is the current situation in Africa, where the majority of countries have compromised their environmental standards to facilitate certain trade activities, prioritising economic gains over environmental protection.

¹²⁶⁸ Kitt Ibid.

¹²⁶⁹ Ibid.

¹²⁷⁰ Ibid.

¹²⁷¹ Ibid 489.

¹²⁷² Joan M. Nelson, *Economic crisis and policy choice: The politics of adjustment in the Third World* (Princeton University Press, 1990) 8-14; See also Kitt (n. 1257) 488.

¹²⁷³ Nelson Ibid.

That is, notwithstanding the fact that the strict environmental regulations of the industrialised world offer little, if any, protection for developing countries, developing countries agree to import waste for economic reasons.¹²⁷⁴ Most LDCs have a heavy debt burden and need foreign capital to service the debt. Thus, these countries often accept waste because they need “hard currency” to pay off their debt.¹²⁷⁵ In a particular instance, waste traders proposed a deal to the West African nation of Guinea-Bissau, offering them \$600 million in exchange for the importation of fifteen million tonnes of industrial waste over a span of five years.¹²⁷⁶ This amount was more than double the country’s national debt and four times its gross national product.¹²⁷⁷ Although Guinea-Bissau first acquiesced to the agreement, its withdrawal underscores the significant difficulties that poor countries face when confronted with such substantial amounts of money.

Moreover, many LDCs lack the administrative and political infrastructure necessary to properly regulate trade activities. Many do not even have adequate facilities for disposing of their own municipal waste.¹²⁷⁸ Without appropriate control and enforcement mechanisms, imported goods, particularly low-quality second-hand products from the industrialised world will be dumped. In the event that an LDC is able to impose a ban on the importation of such inferior goods, this lack of infrastructure means that enforcement will be weak or non-existent.¹²⁷⁹ Consequently, in order to address this problem, some governments have gone so far as to impose the death penalty for dumping.¹²⁸⁰ Thus, it is argued that unless environmental

¹²⁷⁴ Ibid; See Lilliana A. Guerrero, Ger Maas, and William Hogland, ‘Solid waste management challenges for cities in developing countries’ (2013) 33(1) Waste management 220, 223-226.

¹²⁷⁵ Nelson Ibid.

¹²⁷⁶ Kitt (n. 1261) 488-490.

¹²⁷⁷ Ibid.

¹²⁷⁸ Ibid; See Martin Medina, *Solid wastes, poverty and the environment in developing country cities: Challenges and opportunities* (No. 2010/23, Working Paper, 2010) 1-5; Samuel Y. Lissah, ‘Managing urban solid waste in Ghana: Perspectives and experiences of municipal waste company managers and supervisors in an urban municipality’ (2021) 16(3) PLoS ONE 1, 3-6.

¹²⁷⁹ Medina Ibid: See also Kitt (n. 1261) 488-490.

¹²⁸⁰ Ibid.

rules are strictly enforced, the developing world will continue to serve as a dumping ground for foreign waste, in this case the vast quantities of fast fashion waste produced and dumped from the Global North.¹²⁸¹

While some developed nations view waste trade as a method for recovering basic materials from the waste of the industrialised world, many environmental organisations and LDCs argue that recycling creates a loophole for unlawful waste trade schemes.¹²⁸² The arguments in favour of exporting waste for recycling in LDCs are only valid if the waste can be treated more efficiently in the LDC.¹²⁸³ Thus, if the export is made to take advantage of less stringent environmental regulations or because the waste generator's liability is less in the LDC, the activity must be deemed illegal or improper.¹²⁸⁴ As far back in 1992, Greenpeace discovered that 90% of waste trade schemes used the label "for recycling" to circumvent prohibitions and restrictions on the dumping of hazardous waste.¹²⁸⁵ The most recent trend is to transport these wastes to Africa, where they are frequently discarded.¹²⁸⁶

Currently, this problem is worsened by the question of what to do with the mountains of textile waste produced by the fashion industry. The presence of discarded clothing on the beaches of Ghana and the dunes of the Atacama desert in Chile sheds light on the concept of waste colonialism—the practice of large waste producers, such as the EU and the UK, offloading their waste on to poorer countries without effective waste management plans reveals how overproduction and unsustainable designs have rendered piles of T-shirts, jeans and other

¹²⁸¹ Stelios Andreadakis and Prince Owusu-Wiredu, 'Fashion Footprint: How Clothes Are Destroying our Planet and the Growing Impacts of Fast Fashion' in V. Kumar, *Global Warming - A Concerning Component of Climate Change* (IntechOpen, 2023) 5-7.

¹²⁸² Kaustubh Thapa, *Closing the Circular Economy Loophole: On fair governance for European waste exports* (Utrecht University, 2023) 6-9; Paul Cox, *Environmental justice, waste management, and the circular economy: global perspectives* (Routledge, 2020) 43-46.

¹²⁸³ Cox *Ibid.*

¹²⁸⁴ *Ibid.*

¹²⁸⁵ Kitt (n. 1261) 488-490.

¹²⁸⁶ Lissah (n. 1278) 4-5; See also Medina (n. 1278) 3-5.

dresses worthless to charities and the second-hand clothing trade.¹²⁸⁷ According to Tonti, the 60,000 tonnes of textile waste that Renewcell, a textile recycling company with a mission to make fashion circular, intends to collect and recycle will be a drop in the ocean given the present production volumes.¹²⁸⁸ Using the year 2020 as an example, the EU produced approximately 7 million tonnes of textile waste.¹²⁸⁹ However, it is anticipated that by 2030 this number will surpass 8.5 million tonnes.¹²⁹⁰ According to a report by the Changing Markets Foundation, approximately 70% of this is discarded with regular household waste and sent to landfills or incinerators, while the remaining 30% is collected through donation outlets, take-back programmes, and charities.¹²⁹¹ While the better-quality garments are taken and resold by vintage or charity stores in Europe, the leftovers are exported to Africa to be resold in their second-hand markets.¹²⁹²

The report by the Changing Markets Foundation highlights that a significant portion of the castoffs sent to the Global South are of extremely low quality, resulting in their disposal in rivers and landfills or sold to be burned for (very toxic) fuel, which poses severe environmental risks.¹²⁹³ According to the report, the estimated percentage of clothing that is recycled into new garments ranges from 0.1% to 1%.¹²⁹⁴ Consequently, legislators are becoming increasingly alarmed of the grave environmental impacts of the massive quantities dumped into rivers and landfills. In the near future, it is anticipated that policies such as extended producer-responsibility schemes will require producers to take responsibility for the end-of-life phase of

¹²⁸⁷ The Changing Markets Foundation, *Trashion: The stealth export of waste plastic clothes to Kenya* (Changing Markets Foundation, 2023) 15-20.

¹²⁸⁸ Lucianne Tonti, 'The missing link': is textile recycling the answer to fashion's waste crisis' (the Guardian, 18 Oct 2023) <<https://www.theguardian.com/fashion/2023/oct/18/the-missing-link-is-textile-recycling-the-answer-to-fashions-waste-crisis>> accessed 30 March 2024.

¹²⁸⁹ Ibid.

¹²⁹⁰ Ibid.

¹²⁹¹ The Changing Markets Foundation (n. 1287) 15-20.

¹²⁹² Ibid; Tonti (n. 1288).

¹²⁹³ The Changing Markets Foundation Ibid.

¹²⁹⁴ Ibid.

their products.¹²⁹⁵ The EU, for instance, will prohibit the destruction of unsold products beginning in 2024, and textiles will be collected in a separate waste stream beginning in 2025, similar to paper and glass.¹²⁹⁶ Although the UK has yet to pass any laws pertaining to this matter, in July 2023 the Environment Minister, Rebecca Pow, announced the UK's new environment programme aimed at fostering circularity and establishing an industry for textile recycling.¹²⁹⁷ "There are no excuses anymore," says Rebecca Pow. Our promise is to process 100 percent of textile waste, and we aim to achieve that circularity now.¹²⁹⁸

The aforementioned actions represent a significant shift in our understanding of how swiftly the garment industry has devolved into a take-make-waste system. Nevertheless, the ever-increasing rate of production and the emergence of ultra-fast fashion brands such as Shein and Boohoo will continue to exacerbate the gap between the amount of waste generated and the capacity of textile recyclers, resulting in the vast quantities dumped in countries of the Global South.¹²⁹⁹ In certain respects, players in the fast-fashion industry are assiduously pursuing solutions. H&M, for instance, has a 10.37% stake in Renewcell, a Swedish textile-to-textile recycling company with innovative technology that is revolutionising the global textile industry, and is already retailing clothes made from Circulose.¹³⁰⁰

Since 2013, the company has implemented a take-back programme by placing collection bins in its stores.¹³⁰¹ While some sources claim that their production volumes reach as high as 3 billion garments per year, the programme has only managed to collect 155,000 tonnes of

¹²⁹⁵ Maitre-Ekern (n. 21) 125457.

¹²⁹⁶ Ibid; See Ludwig Krämer, 'Planning for climate and the environment: the EU green deal' (2020) 17(3) *Journal for European Environmental & Planning Law* 267, 270-274.

¹²⁹⁷ Tonti (n. 1288). The new Maximising Resources, Minimising Waste programme consists of a number of initiatives across seven industries that seek to improve product design and the reuse of resources while creating jobs and growing the economy. Defra's objective is a "circular economy approach" that keeps products and materials in circulation for as long as possible and at their utmost value.

¹²⁹⁸ Ibid.

¹²⁹⁹ The Changing Markets Foundation (n. 1287) 15-20.

¹³⁰⁰ Giammarco Pastore, *Sustainable Fast Fashion: Business Case of H&M. Cases on Circular Economy in Practice* (IGI Global, 2022) 158-163; Tonti (n. 1288).

¹³⁰¹ Pastore Ibid.

textiles for resale and recycling in the past decade of its operation.¹³⁰² The reason is simple: fast fashion generates too much waste, and the solution has been to discard the vast majority of this waste in the Global South, particularly in African nations, due to the high cost of recycling in the developed world, notwithstanding the environmental consequences.¹³⁰³ To accommodate the increase in garment production, consumption, and disposal, textile recyclers will need to construct large-scale industrial facilities in the near future.

Nevertheless, while Africa's present focus is on its capacity to recycle the huge amounts of textile waste dumped on its shores, recycling is seen to be a last resort in tackling Africa's ongoing textile waste problem.¹³⁰⁴ Thus, it is believed that strict regional and domestic laws regarding the trade and export of second-hand clothing into Africa are required, as well as a review of the existing international trade regime to determine if there are any loopholes that facilitate such dumping activities, given the limitations of the WTO anti-dumping rules, which only govern how governments can deal with instances of dumping but not how to prevent such practices from occurring.¹³⁰⁵

4.5 Can International Trading Rules Help? Comparing the Quality of Second-Hand Clothes Resold in the Global North and Dumped in the Global South

According to Article VI of the General Agreement on Tariffs and Trade (GATT) 1994 on Anti-dumping and Countervailing Duties, "dumping," defined as any activity in which products from one country are introduced into the commerce of another country at a price less than the normal value of the products, is to be condemned if it causes or threatens material injury to an established industry in a contracting party's territory or materially impedes the establishment

¹³⁰² Ibid.

¹³⁰³ Guerrero (n. 1274) 223-226.

¹³⁰⁴ Ibid; Tonti (n. 1288).

¹³⁰⁵ Guerrero Ibid; General Agreement on Tariffs and Trade (GATT) 1994, art 6(1).

of a new industry.¹³⁰⁶ In accordance with the provisions of this Article, a product is deemed to have been introduced into the commerce of an importing country at a price below its normal value if the price of the product exported from one country to another is either lower than the comparable price for the “like product” destined for consumption in the exporting country during normal trade, or, in the absence of such domestic price, lower than the highest comparable price for the product in question when destined for consumption in the exporting country, or lower than the cost of production of the product in the country of origin plus a reasonable addition for selling cost and profit.¹³⁰⁷

In accordance with the aforementioned provision, the EU regionalises these rules in its 2016 Directive on the protection against dumped imports from countries not members of the European Union, to protect Member States not only from the economic effects of dumping activities, but also from the grave environmental threats that accompany such activities.¹³⁰⁸ In accordance with Article 1 of this Directive, an anti-dumping duty may be imposed on any dumped product whose release for free circulation in the Union causes injury, whether it be of an economic, health, or environmental nature.¹³⁰⁹ In contrast to the current situation in Africa, a recent study reveals a few instances of dumping among some EU Member States.¹³¹⁰ However, findings indicate that the quality of second-hand clothing dumped in African countries is significantly lower compared to those resold in less developed EU Member States or exported to the EU from other places, such as the UK.¹³¹¹

¹³⁰⁶ Ibid.

¹³⁰⁷ Ibid. For the purposes of this Regulation, ‘like product’ means a product which is identical, that is to say, alike in all respects, to the product under consideration, or, in the absence of such a product, another product which, although not alike in all respects, has characteristics closely resembling those of the product under consideration.

¹³⁰⁸ Regulation (EU) 2016/1036 on protection against dumped imports from non-EU countries, art 1.

¹³⁰⁹ Ibid.

¹³¹⁰ The Changing Markets Foundation (n. 1287) 42-45.

¹³¹¹ Ibid.

According to the study, sorting for quality must be improved with the export destination in mind.¹³¹² While certain traders and their unions (trade associations) advocate for sorting to take place in the countries of destination, the study argues that quality sorting must occur at the source, prior to the exportation of garments, given that destination countries could not practically be permitted to return waste.¹³¹³ The real goal is for destination countries to receive higher-quality used clothing with monetary value, while waste clothing is recycled in countries of origin that currently have or are developing the necessary recycling capacity and are able to process such waste in a less environmentally harmful manner.

Nonetheless, currently, the best quality items are selectively chosen and resold at a profit in countries of origin (exporting States), notably the Netherlands, Germany, Italy, Switzerland, Sweden, and Belgium, while clothing with no market in these regions is exported, regardless of the fact that 20-50% of these clothes are deemed unsellable on arrival.¹³¹⁴ Traders are frequently at the mercy of importers and have no ability to appeal if most of the bale is waste. Such waste should remain in the nations of origin and be managed more effectively.¹³¹⁵ According to a 2005 study, not only does the dumping of such inferior second-hand goods to Africa create environmental problems, but also engenders disparities by undermining indigenous textile industries.¹³¹⁶

While the flow of second-hand clothing to Africa and other Asian partners, such as Pakistan and India, does not only originate in the UK, which is thought to be the “mother” country, but also from many other European countries such as Finland, Sweden, Ireland, and France, as well as Canada and the United States, the quality of second-hand clothing arriving in Kantamanto,

¹³¹² Ibid.

¹³¹³ Ibid.

¹³¹⁴ Ibid.

¹³¹⁵ Ibid.

¹³¹⁶ Sally Baden and Catherine Barber, *The impact of the second-hand clothing trade on developing countries* (Oxfam, 2005) 9-12.

Ghana, for example, is believed to be in extremely poor condition when compared to those selected and resold in the EU.¹³¹⁷ It is believed that the current state of affairs in which the Global North exports such detritus to developing countries signifies its disengagement from the value chain.¹³¹⁸

According to Brooks, the nature of the second-hand clothes trade is not only largely unexplored, but supply chains are long and complicated, making it extremely difficult to trace the route of such activities.¹³¹⁹ That is, many actors are involved in the trade, ranging from countries in the Global North, which export their waste clothing rather than recycling it, to charities, to those involved in sorting processes, to brokers who buy and resell unsold clothes from charity shops, to international agents trading with local agents in the Global South, to merchants buying from local agents, and, finally, market women/men who sell at local markets.¹³²⁰

Other negative elements are that the second-hand clothing trade is susceptible to currency and global trade fluctuations, in addition to the adverse consequences of trade liberalisation.¹³²¹ For instance, while the ban of second-hand clothes import by East African nations in 2016, set to be implemented in 2019, could have significantly affected the United States, the United States threatened to discontinue preferential trading practices with these countries in the event that the ban remained in place.¹³²² Preferential trade permits countries to trade particular products while prohibiting trade in others. In this situation, the Global North simply imports valuable natural resources from Africa and then abandons it to deal with the problems that come with

¹³¹⁷ Manieson (n. 30) 814.

¹³¹⁸ *Ibid.*

¹³¹⁹ Andrew Brooks, 'Stretching global production networks: The international second-hand clothing trade' (2013) 44 *Geoforum* 10, 12-16.

¹³²⁰ Manieson (n. 30) 814.

¹³²¹ *Ibid.*; Brooks (n. 1319) 15.

¹³²² Manieson *Ibid.*

their exploitation. In the instance of Ghana, the World Bank and the IMF effectively support the Ghanaian economy, acquiring influence over policies and international trade activities.¹³²³

Ghana has historically relied heavily on the exportation of cocoa, gold, and other mineral resources, with little domestic production. Effectively, Ghana's economy continues to remain within the colonial economic trading structure.¹³²⁴ Within such economic dependence, African countries are subject to import what is essentially dumped by their former colonial leaders, in this case, the huge volumes of good for nothing, rejected second-hand clothing waste dumped in the continent.¹³²⁵ Ironically, if unwanted clothes are left in the United States, as in the example above, they will end up in domestic landfills and have environmental consequences in the US, but not when it is disposed of in Africa. This is a classic illustration of the subtle unfairness and economic oppression that exist in the second-hand clothing trade and impede the development of regional textile industries.

Within global geography of fashion, not only environmental but also work-related liabilities are shifted to these low-income African countries through such trade activities.¹³²⁶ Nonetheless, in order to attain worldwide environmental sustainability, it is imperative that all forms of such environmental injustices be eliminated. However, this will necessitate an analysis of whether existing international trade regulations, particularly those delineated in the Trade and Environment Agenda, such as the Environmental Goods Agreement, and the Carbon Border Adjustment Mechanisms (carbon tariffs), together with the existing WTO Anti-Dumping Rules (i.e., implementation of Article VI of the GATT), can effectively aid in eliminating the aforementioned practices, while concurrently putting an end to Africa's exploitation in global

¹³²³ Albert Laryea, 'An Overview of Trade Policies and Development in Ghana' [2012] *Globalization, trade and poverty in Ghana* 10, 12-18.

¹³²⁴ *Ibid*; See also Manieson (n. 30) 814.

¹³²⁵ Laryea *Ibid*.

¹³²⁶ *Ibid*.

international trade, following the shortcomings of the Basel and Bamako regimes for regulating hazardous waste trafficking into Africa.¹³²⁷ Effectively, an analysis of this nature must consider the unique developmental needs of these nations, specifically their needs for climate mitigation and adaptation, and in consideration of the fact that the aforementioned dumping activities would not only effect these communities, but also have long-term consequences for the global environment.¹³²⁸

To initiate such a discourse, it is important to recognise that climate change has intensified the underlying challenges to development faced by developing countries.¹³²⁹ Consequently, climate adaptation is now emerging as an urgent agenda for the developing world, especially for the least developed countries and small island developing states (SIDS).¹³³⁰ However, because most developing countries lack the necessary finance, technologies, and capacities to progress on the aforementioned environmental goals, which must be pursued alongside other sustainable development goals under the social and economic pillars, this may necessitate an integrated policy approach aimed at low-emission sustainable economic growth. Consequently, international trade is critical for many developing countries to not only generate income, but also to create employment. Imports, for example, provide significant livelihood in many poor and resource-constrained countries, particularly those that rely on the importation of energy-intensive products and necessity goods such as food and clothing. Thus, in addition to development goals, these countries need international support to be able to achieve their climate/environmental goals.

¹³²⁷ Sirleaf (n. 721) 346.

¹³²⁸ Bick (n. 598) 1-2.

¹³²⁹ Rashmi Banga, 'Trade and Environment: Can International Trading Rules Help?' (2022) 65(1) Development 10, 12.

¹³³⁰ Ibid.

Consequently, it is believed that international trading regulations can assist these nations in attaining their trade, environmental, and development objectives.¹³³¹ Nonetheless, rather than focusing on the trade liberalisation agenda and punitive actions such as the Carbon Border Adjustment Mechanisms (CBAM), i.e., carbon tariffs, which limit most of the developing world's export competitiveness and progress towards not only their developmental, but also environmental goals, there is a need to develop a positive Trade and Environment Agenda, which should focus on; providing additional finance for promoting trade of environmentally sustainable products by setting up a Trade and Environment Fund; facilitating patent-free green technology transfers; building technical capacities, especially of LDCs and SIDS; and ensuring adequate policy and fiscal space for developing countries to design their trade policies geared towards achieving both their development and environmental goals.¹³³²

The trade liberalisation agenda of the developed world should not be pushed under the guise of promoting circular economy.¹³³³ Some elements of this agenda include liberalising trade in remanufactured products and waste. Such actions call for the rejection of recycled or remanufactured second-hand goods by some developing countries. It is argued, among other things, that the low pricing of such low-quality second-hand goods undermine local manufactured products.¹³³⁴ Furthermore, it has been argued that these imports would bind emerging economies to outdated and less efficient technologies, putting additional pressure on waste management systems.¹³³⁵ Some studies have also argued that imports of such low-quality second-hand goods such as clothing and footwear would, in addition to health and environmental impacts, undermine the dignity and culture of those living in such communities,

¹³³¹ Manieson (n. 30) 814-815.

¹³³² Ibid.

¹³³³ Ibid.

¹³³⁴ Ibid; See Kitojo K. Wetengere, 'Is the banning of importation of second-hand clothes and shoes a panacea to industrialization in East Africa?' (2018) 6(1) African Journal of Economic Review 119, 123-126.

¹³³⁵ Wetengere Ibid.

particularly African nations thought to be particularly vulnerable to the adverse effects of climate change in meeting the costs of adaptation to those adverse effects.¹³³⁶

From a theoretical or a philosophical standpoint, the relationship between trade and the environment is complicated. According to Goff, it is not clear whether they harm one another or whether they are mutually beneficial.¹³³⁷ However, one could argue persuasively that trade harms the environment by pointing to increases in pollution as economies develop and high import levels becomes a necessity.¹³³⁸ One can cite the example of Ghana, where the recent growth in the population and a significant rise in import-led development have led to a government plan to ban the import of certain second-hand goods thought to be costing the country millions of dollars to manage the impact of such imports, notably lower grade second-hand clothing exported primarily from Europe and the United States.¹³³⁹

According to a report by the Global Commission on the Economy and Climate Change, globalisation has been a major driver of both high- and low-carbon growth during the last few decades.¹³⁴⁰ World trade has tripled in this period, reaching US\$32 trillion in 2022.¹³⁴¹ This has provided an important boost to developing and emerging economies as well as developed ones, but it has also led to a significant rise in waste trafficking, particularly to countries with weaker pollution controls, predominantly least developed countries (LDCs) and small island developing states (SIDS).¹³⁴² That is, while the trade boom has most likely increased global

¹³³⁶ United Nations Framework Convention on Climate Change 1992, art 4(4); Karen T. Hansen, 'Helping or hindering? Controversies around the international second-hand clothing trade' (2004) 20(4) *Anthropology today* 3, 4-7; Andrew Brooks and David Simon, 'Unravelling the relationships between used-clothing imports and the decline of African clothing industries' (2012) 43(6) *Development and Change* 1265, 1267-1270.

¹³³⁷ Patricia Goff, *The environmental goods agreement: a piece of the puzzle* (Centre for International Governance Innovation, NO. 72, 2015) 2.

¹³³⁸ *Ibid.*

¹³³⁹ Priya (n. 29) 1680; See Oteng-Ababio (n. 33) 14.

¹³⁴⁰ The Global Commission on the Economy and Climate Change, *Better Growth, Better Climate: The New Climate Economy Report* (GCECC, 2014) 278.

¹³⁴¹ The United Nations Conference on Trade and Development, 'Global trade set to hit record \$32 trillion in 2022, but outlook increasingly gloomy for 2023' <<https://unctad.org/news/global-trade-set-hit-record-32-trillion-2022-outlook-increasingly-gloomy-2023>> accessed 30 March 2024.

¹³⁴² The Global Commission on the Economy and Climate Change (n. 1340).

greenhouse gas emissions, this type of analysis frequently focuses on emissions from production and transportation, rather than poor waste management practices, such as the dumping of used/low-quality second-hand goods in developing countries with lax trade and environmental policies.¹³⁴³

Notwithstanding the aforementioned propositions, some scholars believe that trade may aid in the achievement of environmental objectives.¹³⁴⁴ That is, they posit a positive correlation between economic development and environmental responsibility. For example, they believe that increasing the trade in second-hand goods, i.e., encouraging reuse, is one of the most essential ways the world can reduce production and maximise product usage.¹³⁴⁵ However, studies have found that, in the absence of strict trade and environmental rules, such sustainable consumption habits would be ruined by the industrialised world's desire to avoid the cost of recycling and, as a result, dump their waste in developing countries with lax trade and environmental regulations, rather than promoting reuse.¹³⁴⁶ It is believed, among other things, that increasing the tariff on the export of second-hand goods can help control, if not completely eliminate, the aforementioned practices by making the cost of recycling those goods in the countries of origin equal to or less than the cost of donating or exporting such goods to developing countries.¹³⁴⁷ Similarly, it is necessary to apply high tariffs on the import of second-hand products in order to prevent the influx of substandard products.¹³⁴⁸

¹³⁴³ Ibid.

¹³⁴⁴ John A. Barrett, 'The Global Environment and Free Trade: A Vexing Problem and a Taxing Solution' (2001) 76 Ind. LJ 829, 830-833; Dominic A. Gentile, 'International Trade and the Environment: What is the Role of the WTO?' (2009) Fordham Environmental Law Review 197, 202-206; Frank Garcia, *Trade, Inequality and Justice: Toward a Liberal Theory of Just Trade Law* (Transnational Publishers, 2021) 10-12.

¹³⁴⁵ Barrett Ibid.

¹³⁴⁶ Sirleaf (n. 721) 346; Judith E. Van and Wim Huisman, 'Smart regulation and enforcement of illegal disposal of electronic waste' (2010) 9 Criminology & Pub. Pol'y 579, 578-582; See also Manieson (n. 30) 814-815.

¹³⁴⁷ Ibid.

¹³⁴⁸ Ibid; See also Oluwatoyin O. Ajayi, 'Examination of the legal and institutional framework for combating the influx of substandard products into Nigeria' (2021) 3(1) Journal of Commercial And Property Law 141, 142-144.

According to Goff, tariffs make imported goods more expensive.¹³⁴⁹ While they can be a source of revenue, they can also shield domestic producers from unwanted competition. Thus, in spite of the aforementioned recommendations, economic theory teaches that tariff elimination or reduction is, in most cases, preferable to tariff increases in order to compensate for the inefficiencies they create.¹³⁵⁰ Exploring the potential contribution of this to larger climate change mitigation and adaptation goals is a worthwhile endeavour. According to a 2020 OECD report, while some countries have proposed trade-related aspects of climate change mitigation and adaptation plans, such as the Carbon Border Adjustment Mechanisms (CBAM), which impose a carbon tariff on certain imports into the EU, the efficacy of such mechanisms in controlling waste dumping to the developing world through international trade is questionable, as carbon emissions in internationally traded goods and services account for only 27% of total global carbon emissions and are concentrated in only seven industries, namely, mining and extraction of energy and related products; basic metals and fabricated metal products; chemicals and non-metallic mineral products; machinery and equipment; computers, electronic and electrical equipment; and motor vehicles, trailers and semi-trailers.¹³⁵¹ This implies that the impact of CBAM on global carbon emission will be extremely limited to the developed world, notwithstanding the specified need of the developing world.

Not only that, but there is also an important debate surrounding what constitutes as environmental goods.¹³⁵² The negotiations for the Environmental Goods Agreement (EGA) are currently in the early stages of determining the specific products that will be included in the agreement. The current process has focused on creating lists of Environmental Goods (EGs)

¹³⁴⁹ Goff (n. 1337) 5.

¹³⁵⁰ Pol Antràs, *Trade policy and global sourcing: A rationale for tariff escalation* (NBER Working Paper 30225, 2022) 4-8.

¹³⁵¹ The Organisation for Economic Co-operation and Development (OECD), *CO2 emissions embodied in international trade and domestic final demand: Methodology and results using the OECD Inter-Country Input-Output Database* (OECD, No. 2020/11, 2020) 16-22; See also Banga (n. 1325) 11.

¹³⁵² OECD Ibid; See also Antràs (n. 1350).

that are relevant. Determining which goods should be included on the list is not a simple task, but it is a crucial exercise to prevent the imposition of high carbon tariffs on all exported products. The outcome of the aforementioned debate has implications for the extent to which this agreement can make a genuine contribution to climate change mitigation and adaptation, particularly in mitigating the grave environmental impact of the type of goods traded to the developing world, as the lack of a comprehensive list of what may constitute an environmentally sound product/good at present provides a loophole for the developed world to dump in developing countries.¹³⁵³

Thus, following the shortcomings of the Negotiations for an Environmental Goods Agreement (EGA), the Agreement on Textiles and Clothing (ATC), and the Carbon Border Adjustment Mechanisms (CBAM), the WTO Anti-Dumping Agreement (i.e., implementation of Article VI of the GATT) could have been the last resort to address the prevailing issues of textile waste trafficking, particularly for most developing countries. However, the Anti-Dumping Agreement does not regulate the actions of companies engaged in “dumping.” Rather, it focuses on how governments can or cannot react to dumping.¹³⁵⁴ That is, it oversees anti-dumping measures rather than trade activities, such as the subject under discussion.¹³⁵⁵

Consequently, there is the need for: an increased scope for regional protection, notably by creating exemptions or special tariff bands under the ECOWAS Common External Tariff (as is currently being devised for some agricultural products) to enable strategic support to key

¹³⁵³ Hanna Bucher, *Trade in environmental goods and services: Opportunities and challenges* (International Trade Centre, 2014) 4-5; The United Nations Conference on Trade and Development has created a list of 25 “environmentally preferable products,” defined as “products which cause significantly less environmental harm at some stage of their life cycle (production, processing, consumption, [or] waste disposal) than alternative products that serve the same purpose, or products, the production and sales of which contribute significantly to the preservation of the environment.

¹³⁵⁴ GATT (n. 1305), art 6(1).

¹³⁵⁵ Rather than controlling, the existing Anti-dumping provision (i.e., Article VI of the GATT) establishes guidelines for governments to follow when imposing duties (taxes) on imported goods to compensate for the difference between their export price and their normal value if dumping is suspected.

sectors such as the second-hand clothing market; Greater regional integration, through creating stronger incentives for cross-border integration of the cotton-textiles industry; Improved customs enforcement, including tightening controls on second-hand clothing regulation to reduce fraud; and the right of developing countries to have the flexibility to choose which tariffs they reduce within WTO Non-Agricultural Market Access negotiations, and by how much, such that developing countries can set their tariffs on imported second-hand goods to discourage dumping.¹³⁵⁶

In the case of *United States v. Egypt*,¹³⁵⁷ which pertains to Egypt's imposition of tariffs on specific textile and apparel products, namely Decree No. 469, despite that the United States raised concerns regarding the inconsistency of these measures, in addition to any accompanying implementation measures, considering Egypt's obligations under Article II of the General Agreement on Tariffs and Trade (GATT) 1994 and Article 7 of the Agreement on Textiles and Clothing 1995, it is important to note that the decision to reduce these tariffs ultimately rested with Egypt, taking into consideration its domestic trade regulations.¹³⁵⁸ Not only that, but in the case of *Hong Kong v. Turkey*,¹³⁵⁹ which pertains to Turkey's restrictions on the imports of Textile and Clothing Products from Hong Kong, despite the fact that Hong Kong challenged Turkey's quantitative restrictions on its imports of textile and clothing products from Hong Kong, primarily to reduce dumping of low-priced fast fashion clothing in order to protect not only Turkey's domestic industry, but also to minimise the end-of-life impact of such low-quality clothing, adding that those measures were in violation of GATT

¹³⁵⁶ Baden (n. 1316) 2-3.

¹³⁵⁷ *United States v. Egypt* [2005] WT/DS305/1.

¹³⁵⁸ The World Trade Organization, 'Egypt — Measures Affecting Imports of Textile and Apparel Products' (WTO, 20 May 2005) <https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds305_e.htm> accessed 30 March 2024.

¹³⁵⁹ *Hong Kong v. Turkey* [1996] DS29.

Articles XI and XIII, it is important to note that the decision to review such restrictions ultimately rested with Turkey, taking into consideration its domestic trade regulations.¹³⁶⁰

Thus, in addition to regional mechanisms such as those adopted by the EU to protect member states from such unscrupulous trade practices, the aforementioned cases demonstrate Africa's need to rely more on domestic trade regulations to stop the ongoing practices of waste dumping from the industrialised world.¹³⁶¹ In light of the current condition of the issue at hand, the World Trade Organisation (WTO) should reassess an additional phase of the Agreement on Textiles and Clothing (ATC), which was terminated on January 1, 2005, and include all restrictions thereunder. The ten-year transition phase of the Agreement on Textiles and Clothing (ATC) caused trade in textile and clothing products to be regulated by quotas under special regimes outside of the normal rules of the WTO/GATT.¹³⁶² These special regimes included national or regional regulatory mechanisms. However, currently, trade in textile and clothing products is governed by the general rules and disciplines of the multilateral trading system.¹³⁶³ It is worth noting that the industrialised world, partly because of its economic influence, tends to take advantage of this system; hence, the need to reassess the efficacy of the current regulatory framework.

4.6 Conclusion

To minimise the environmental impact of the clothing and textile industry, the reuse of clothing is strongly encouraged.¹³⁶⁴ However, due to regulatory gaps, i.e., inconsistencies in regulations between the Global North and the Global South, it is believed that the quality of second-hand

¹³⁶⁰ The World Trade Organization, 'Turkey — Restrictions on Imports of Textile and Clothing Products' (WTO, 12 February 1996) <https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds29_e.htm> accessed 30 March 2024.

¹³⁶¹ Regulation (EU) 2016/1036 (n. 1308).

¹³⁶² Antràs (n. 1350) 4-8.

¹³⁶³ Ibid.

¹³⁶⁴ Ekström (n. 68) 384-388.

clothing dumped in countries of the Global South, compared to that which is resold in the Global North, particularly in the EU and the UK, makes it impossible to achieve this goal.¹³⁶⁵ Thus, the chapter sought to compare waste regulation in the EU, the UK, and the AU in order to determine any inconsistencies in regulation, and to analyse how these disparities, along with extant trade regulations, contribute to the indiscriminate dumping of fast fashion waste in Africa, despite the global implications, particularly on greenhouse gas emissions.

In the end, it was discovered that, in contrast to the present state of affairs in Africa, although there are a few instances of dumping among some EU Member States, the results of a 2023 study reveal that the calibre of second-hand clothing dumped in African countries is considerably inferior to those resold in less developed EU Member States or imported to the EU from other places, such as the UK.¹³⁶⁶ According to the study, sorting for quality must be improved with the export destination in mind.¹³⁶⁷ While certain traders and their unions (trade associations) advocate for sorting to take place in the countries of destination, the study argues that quality sorting must occur at the source, prior to the exportation of garments, given that destination countries could not practically be permitted to return waste.

The real goal is for destination countries to receive higher-quality used clothing with monetary value, while waste clothing is recycled in countries of origin that currently have or are developing the necessary recycling capacity and are able to process such waste in a less environmentally harmful manner. Nonetheless, currently, the best quality items are selectively chosen and resold at a profit in countries of origin (exporting States), notably the Netherlands, Germany, Italy, Switzerland, Sweden, and Belgium, while clothing with no market in these

¹³⁶⁵ Sirleaf (n. 721); The Changing Markets Foundation (n. 1287) 42-45.

¹³⁶⁶ The Changing Markets Foundation Ibid.

¹³⁶⁷ Ibid.

regions is exported, regardless of the fact that 20-50% of these clothes are deemed unsellable on arrival.¹³⁶⁸

While the flow of second-hand clothing to Africa and other Asian partners such as Pakistan and India does not only originate in the UK, which is thought to be the “mother” country, but also from many other European countries such as Finland, Sweden, Ireland, and France, as well as Canada and the United States, the quality of second-hand clothing arriving in Kantamanto, Ghana, for example, is believed to be in extremely poor condition when compared to those selected and resold in the EU.¹³⁶⁹ It is believed that not only does the dumping of such inferior second-hand goods to Africa create environmental problems, but also engenders disparities by undermining indigenous textile industries.¹³⁷⁰

That is, according to Article VI of the General Agreement on Tariffs and Trade (GATT) 1994 on Anti-dumping and Countervailing Duties, “dumping,” defined as any activity in which products from one country are introduced into the commerce of another country at a price less than the normal value of the products, is to be condemned if it causes or threatens material injury to an established industry in a contracting party’s territory or materially impedes the establishment of a new industry.¹³⁷¹ In accordance with the provisions of this Article, a product is deemed to have been introduced into the commerce of an importing country at a price below its normal value if the price of the product exported from one country to another is either lower than the comparable price for the “like product” destined for consumption in the exporting country during normal trade, or, in the absence of such domestic price, lower than the highest comparable price for the product in question when destined for consumption in the exporting

¹³⁶⁸ Ibid.

¹³⁶⁹ Manieson (n. 30) 814.

¹³⁷⁰ Baden (n. 1316) 9-12.

¹³⁷¹ GATT (n. 1305), art 6(1).

country, or, lower than the cost of production of the product in the country of origin plus a reasonable addition for selling cost and profit.

Hence, in accordance with this definition, it may be argued that a significant portion, if not the majority, of second-hand clothes traded for resale in developing countries, with a specific focus on the ongoing issue witnessed within African countries, can be characterised as being dumped of rather than being rightfully sold.¹³⁷² As a result, following the example of the EU, it is recommended that an anti-dumping duty be imposed on any dumped product whose release for trade in these countries may, as a result of their quality, cause injury, whether it be of an economic, health, or environmental nature.¹³⁷³ Despite such a recommendation, it is believed that international trading rules can assist developing countries in achieving a triple win in trade-environment-development goals.¹³⁷⁴ Yet, the existing rules and regulations lack the capacity to stop Africa's ongoing textile waste dumping problems.

For instance, it can be argued that the Environmental Goods Agreement (EGA) has the potential to be extremely important in terms of encouraging trade in green goods to help achieve the targets agreed in Paris in the 2015 Climate Agreement and providing cheaper access to green technologies that can help boost recycling capacities. However, it is important to note that the EGA is more technologically oriented, and it does not currently include/promote green textile technologies. Thus, the Thesis contends, among other things, that there is the need to revisit the Agreement on Textiles and Clothing (ATC) and all restrictions thereunder, whose expiration or termination means that trade in textile and clothing products is no longer subject to quotas under a special regime outside normal WTO/GATT rules but is now governed by the general rules and disciplines embodied in the multilateral trading system.

¹³⁷² Baden (n. 1316) 2-3.

¹³⁷³ Regulation (EU) 2016/1036 (n. 1308), art 1.

¹³⁷⁴ Baden (n. 1316) 2-3.

Conclusion

After decades of focusing on what governments could do to cut harmful greenhouse gas emissions and avoid climate change, the attention has shifted to the responsible role that businesses can play in this fight.¹³⁷⁵ Nonetheless, while these efforts have primarily focused on the oil/fossil fuel industry, the Thesis aimed to identify the textiles industry as posing equal, if not greater, environmental threats than the oil and fossil fuel industry, although little attention has been paid to its horrendous environmental impact, particularly in light of the ongoing climate change problems.¹³⁷⁶ Against this backdrop, the Thesis attempted to provide answers to the following three questions: (a) What is fast fashion, and why is it a socio-legal concern? (b) Do current trade patterns of exporting used textiles to regions of the Global South support the Circular Economy through reuse, or are simply transferring waste to countries lacking the necessary infrastructure to deal with it? (c) To what extent should states be permitted to restrict international trade for environmental protection? Elaborated below are the most intellectually stimulating points derived from this research and the relevant literature in response to the aforementioned questions.

When striving for a more sustainable lifestyle, we frequently emphasise reducing our usage of single-use plastics, such as straws, plastic bottles, and bags. However, plastic is buried in places we might have never thought about, such as the clothes we wear and the large quantities that are kept in our wardrobes.¹³⁷⁷ Nylon, Polyester, and Acrylic are widely used synthetic fabrics that contain plastic components and pose challenges in terms of recycling.¹³⁷⁸ The problem with them extends beyond their production phase and includes their use and disposal. Polyester (polyethylene terephthalate), for example, is a synthetic fabric derived from petroleum-based

¹³⁷⁵ Vo (n. 525) 422.

¹³⁷⁶ Igini (n. 110).

¹³⁷⁷ Ripple (n. 5) 3-4.

¹³⁷⁸ Ibid.

products sourced from non-renewable fossil fuels. Not only do these fabrics raise concerns regarding their quality, but fossil fuels are also recognised for their substantial contribution to greenhouse gas emissions.¹³⁷⁹ Approximately 342 million barrels of oil are used annually by the fashion industry to manufacture textiles from these plastic materials.¹³⁸⁰ Polyester, which accounts for 52% of the total fibre market and approximately 80% of synthetic fibres, poses a significant challenge to municipal solid waste management due to the difficulties inherent to its recycling process.¹³⁸¹

Whilst there is no authoritative definition of the term “fast fashion,” the most well-known one pertains to affordable yet fashionable garments that are cheaply produced and quickly abandoned in favour of new styles.¹³⁸² Despite the fact that clothes form an integral part of our daily lives, many people fail to consider their origin and how they ended up in their closets. From the cultivation of fibers that will become textiles to the dying process and the final consumption, the clothes we wear have an impact on the environment even if we don’t realise it.¹³⁸³ Although the environmental effect of clothing has been substantial throughout post-modern history, the advent of fast fashion has only aggravated this problem.¹³⁸⁴ Put simply, while waste production can contribute to a variety of environmental issues, including the emission of greenhouse gases, the production of waste from the clothes we wear is no exception.¹³⁸⁵

While emotions are at the heart of human existence and play an important role in consumption, clothing and textiles fall under the category of self-expressive products.¹³⁸⁶ This means that

¹³⁷⁹ Ibid.

¹³⁸⁰ Ibid.

¹³⁸¹ Ibid.

¹³⁸² Rao (n. 537).

¹³⁸³ Niinimäki (n. 18) 189-190; See also Algamal (n. 536).

¹³⁸⁴ Algamal Ibid.

¹³⁸⁵ Joy (n. 10) 279-283.

¹³⁸⁶ Haug (n. 618) 144-145.

consumption-related emotions are particularly important following the acquisition of these items. As a result, individuals with strong materialistic values try to get satisfaction by consuming more of these items.¹³⁸⁷ For a contemporary consumer, the relationship between wants, needs, values, attitudes, and experiences are emotionally meaningful.¹³⁸⁸ As a result, emotional obsolescence can cause a product to be discarded prematurely, often with little or no consideration for the environment.¹³⁸⁹

According to Chen and Burns, the symbolic meaning of products is linked to psychological satisfaction via an emotional response; therefore, clothing, for example, can help a person identify with a particular set of individuals, be it cultural or demographic.¹³⁹⁰ As a result, when a product no longer evokes a positive emotional response, such as when it goes out of fashion, the consumer experiences psychological obsolescence and a strong urge to replace the product with a new one.¹³⁹¹ The new product enables the consumer to rediscover that excitement, if only for a brief period of time.

According to Niinimäki, people desire objects that are not readily available, and they cannot enjoy them.¹³⁹² Put simply, desire emerges from the distance created between an individual and a product.¹³⁹³ In other words, consumers engage with products in their attempt to create positive experiences.¹³⁹⁴ As a result, the more products a person consumes, the greater their chances of creating comparable positive experiences are.¹³⁹⁵ This further explains why there is such a

¹³⁸⁷ Ibid.

¹³⁸⁸ Niinimäki (n. 563) 35-37.

¹³⁸⁹ Ibid.

¹³⁹⁰ Chen and Burns (626) 252-256.

¹³⁹¹ Ibid.

¹³⁹² Niinimäki (n. 563) 36.

¹³⁹³ Chapman (n. 615) 30-32.

¹³⁹⁴ Dewey (n. 630) 34-38.

¹³⁹⁵ Niinimäki (n. 563) 37.

strong desire for clothing in our times, where it is all about producing great consumer experiences, even if this comes at the expense of our very existence, the human environment.

According to Bick, people desire to wear the latest fashion items, which are typically promoted by actors, musicians, models and other celebrities; big fashion brands increase in popularity for one simple reason: they are able to capitalise on this psychology and design to satisfy consumer demands.¹³⁹⁶ While high-end designers, such as Louis Vuitton, Chanel, Gucci, and others, tend to charge a lot for their products, with huge price variations between, for example, a jacket from Primark and one from Gucci, the term ‘fast fashion’ was coined when certain companies recognised the opportunity to replicate the latest fashion trends from well-known fashion brands and offer them at significantly lower prices.¹³⁹⁷

This becomes a major issue because, while these high-end designers rely on a quick turnover of their high-priced items, primarily targeting a smaller group of affluent individuals who frequently make large purchases, fast fashion brands constantly strive to imitate these high-end fashion brands, resulting in a similar situation of reliance on quick turnover.¹³⁹⁸ Nonetheless, due to the relatively low profit margin per item in the fast fashion business, it heavily depends on a larger customer base to generate profit, resulting in the current widespread production and disposal of clothing.

Using the UK as an example, it is estimated that around 300,000 tons of textile waste end up in household bins every year, ultimately ending up in landfill sites, where they are frequently burned, leading to pollution.¹³⁹⁹ According to Wohlgemuth, the fast fashion model reduces clothing to the status of disposable cups.¹⁴⁰⁰ Thus, the most effective approach to mitigate the

¹³⁹⁶ Bick (n. 598) 1-2.

¹³⁹⁷ Abdel-Jaber (n. 23) 236-238.

¹³⁹⁸ Ibid.

¹³⁹⁹ Brewer (n. 4) 2; Peters (n. 1180) 126392.

¹⁴⁰⁰ Wohlgemuth (n. 45).

overwhelming impact of the industry would be to promptly implement regulations that not only limit production, but also prioritise quality by adhering to Eco-design standards, and enforce the environmental liability (Waste Duty of Care) of brands in the sector to effectively manage the huge volumes of textile waste currently produced.

At present, if any, the industry suffers from a weak regulatory framework that fails to effectively regulate its operations.¹⁴⁰¹ As a result, companies in the sector often rely on hollow promises, resulting in a phenomenon known as ‘greenwashing,’ where prominent brands make misleading claims about their sustainable practices.¹⁴⁰² A recent instance is the Boohoo case, where it was discovered that the company had falsely put ‘Made in UK’ labels on thousands of clothes that were actually manufactured in South Asia.¹⁴⁰³ Given that only legislation has the power to prevent businesses from engaging in such unethical and questionable practices, as indicated earlier, these arguments combined illustrate the significant environmental issue posed by fast fashion in this day and the urgent importance of tackling fast fashion as a critical socio-legal issue at now due to its negative social and legal implications.

To minimise the environmental footprint of the clothing and textile industry, it is highly encouraged to promote the reuse of clothing. Nevertheless, the absence of adequate standards in the collection, sorting, transport, sales, and disposal of second-hand clothing significantly adds to the negative environmental impact associated with the trade of second-hand clothing. In essence, while the trade of second-hand clothing has the potential to extend the lifecycle of clothes by allowing people in developing countries to buy clothes at an affordable price, creating local job opportunities, and reducing CO2 emissions associated with the manufacturing of new garments, the Thesis identified that the trade of second-hand clothing

¹⁴⁰¹ Ibid.

¹⁴⁰² Adamkiewicz (n. 34) 100711-100714.

¹⁴⁰³ The Panorama Team (n. 579).

frequently has negative consequences in destination markets when the clothes are of poor quality and end up in landfills, where they are frequently burned, leading to pollution.¹⁴⁰⁴

In addition, while certain traders and their unions advocate for sorting to be done in the destination countries, the Thesis argued that it is essential for quality sorting to be conducted at the source (i.e., in the countries of origin) before the export of used textiles. This is because destination countries are not practically able to return waste.¹⁴⁰⁵ The real goal is for destination countries to receive higher-quality used clothing with monetary value, while low-quality/waste clothing is retained for recycling in the countries of origin that mainly have or are in the process of developing the necessary recycling infrastructure to handle such waste in a more efficient and environmentally friendly manner.

At present, the best quality items are selectively chosen and resold at a profit in the countries of origin, notably the UK, the US, Netherlands, Germany, Italy, Switzerland, Sweden, and Belgium, while clothing with no market value in these regions is exported, regardless of the fact that 20-50% of these clothes are deemed unsellable on arrival, not to mention the poor condition (quality) of the tiny portion that are conveniently purchased.¹⁴⁰⁶ Consequently, the Thesis proposed, among other things, that sorting for quality must improve, with the export destination in mind.¹⁴⁰⁷

In addition, when comparing the current conditions in Africa and other Global South regions, the study found that, while there are a few instances of dumping in certain EU Member States, the quality of second-hand clothing currently being exported to countries in Africa is considerably inferior compared to those being resold in less developed EU Member States or

¹⁴⁰⁴ UNECLAC (n. 12).

¹⁴⁰⁵ Ibid.

¹⁴⁰⁶ Ibid.

¹⁴⁰⁷ The Changing Markets Foundation (n. 1287) 15-20.

imported to the EU from other locations, such as the UK.¹⁴⁰⁸ Not only does the dumping of such inferior second-hand goods to the Global South create environmental problems, but also engenders inequalities by undermining indigenous textile industries.¹⁴⁰⁹ Consequently, expanding the definition of environmental injustice to encompass the unequal effect experienced by these communities due to the large-scale manufacturing and disposal of clothing is essential for understanding the extent of global environmental injustice caused by the clothing and textiles industry, particularly the niche industry of fast fashion.

Historically, the Global North has predominantly addressed its textile waste problem through the exportation of unwanted garments to regions of the Global South, specifically African countries.¹⁴¹⁰ However, it is now widely acknowledged that these practices must be immediately discontinued due to the grave dangers they pose not only to these communities, but to the international community at large as a result of their improper handling, which includes the burning of unwanted textiles and the pollution from landfills, including the emission of greenhouse gases, the pollution of ground water, and the washing of synthetics into our ocean.¹⁴¹¹

The garment industry is one of several industries having a threefold impact, namely air, water, and land pollution.¹⁴¹² While the marine environment has become the final destination for a range of human pollutants, microfibers released from synthetic clothes and other textile materials exacerbate the problem, particularly when waste clothing is dumped in impoverished communities that lack the necessary infrastructure to handle such waste properly.¹⁴¹³ That notwithstanding, this is the present situation.¹⁴¹⁴ According to the findings of a study on

¹⁴⁰⁸ Ibid 42-45.

¹⁴⁰⁹ Baden (n. 1316) 9-12.

¹⁴¹⁰ Ibid.

¹⁴¹¹ Ibid; Changing Markets Foundation (n. 33); Jimenez (n. 651).

¹⁴¹² Institution of Mechanical Engineers (n. 652).

¹⁴¹³ Mishra (n. 656) 192.

¹⁴¹⁴ Ibid.

microplastic pollution, approximately 150 million microfibers reach the Atlantic Ocean every day as a result of inefficient textile waste management practices, particularly those washed from landfill sites.¹⁴¹⁵

While the Global North is to blame for the large volumes of textile waste exported to regions of the Global South, notably countries in East and West Africa, the fundamental cause is simple: Western cultures overconsume cheap, low-quality clothing, yet they dislike the waste.¹⁴¹⁶ This phenomenon makes the textile industry, particularly niche industry of fast fashion considerably more polluting than it already is. Made by low-paid employees in China or Bangladesh, sold in the West, rarely worn, and quickly discarded, comparable to plastic waste, textile waste has numerous negative effects on the global environment.¹⁴¹⁷

Fast fashion, characterised by its low quality as well as a very short product life span, is gaining a larger share of the market these days compared to more conventional business models.¹⁴¹⁸ However, the increased purchase of short-life-span products is solely to blame for the massive amounts of waste produced these days.¹⁴¹⁹ For example, while over 70% of used apparel and textiles end up in landfills due to poor product quality, the 30% that is recycled frequently involves downcycling.¹⁴²⁰ In other words, the process of recycling makes low-quality goods much worse, lowering the value of outputs, particularly for textiles.¹⁴²¹

While it has become a sort of tradition for the Global North to dump their unwanted clothes in regions of the Global South, with view to reduce pollution caused by these materials, the Thesis contended that such practices constitute nothing more than a relocation of the problem,

¹⁴¹⁵ Ibid.

¹⁴¹⁶ Plastic Soup (n. 41).

¹⁴¹⁷ Ibid.

¹⁴¹⁸ Niinimäki (n. 563) 29.

¹⁴¹⁹ Ibid 30.

¹⁴²⁰ Ibid.

¹⁴²¹ Ibid.

considering that environmental issues affect all nations equally irrespective of geographic origins.¹⁴²² The Kantamanto market in Accra, Ghana, is currently the largest second-hand clothing market in West Africa.¹⁴²³ Each week, 20 million items of second-hand clothing arrive here; yet 40% are rejected from the market due to their poor quality.¹⁴²⁴ Unsold clothing is frequently abandoned in sewers and landfills before being washed into the ocean, where it is washed up on beaches by the waves and buried in the sand, in addition to the large quantities that are taken away to destroy marine life and food sources.¹⁴²⁵

Using Ghana as a case study, the Thesis found that approximately 10,000 articles of second-hand clothing arrive in Accra, Ghana's capital, every five minutes from the United Kingdom alone.¹⁴²⁶ However, as a result of the damages and poor state of these items, a significant portion is usually consigned to landfills. While the Thesis focused on the environmental impact of these waste, traders in the second-hand clothing business in Accra's largest market, the Kantamanto market, lament the recent decline in their business as more of their stock is dumped as waste due to low quality.¹⁴²⁷

In 2013, the government commissioned a massive landfill in Kpone with a daily capacity of 700 tonnes.¹⁴²⁸ The Accra Metropolitan Assembly (AMA) was tasked with collecting up to 70 tonnes of waste (unsold second-hand clothing) every day from the Kantamanto market alone.¹⁴²⁹ The process began in 2016, and four years later Kpone was overflowing with textile waste.¹⁴³⁰ Currently, in addition to the massive volumes burned in open flames, a significant proportion of these garments are regularly dumped in sewers and carried into rivers, eventually

¹⁴²² Priya (n. 29) 1680; Spijkers (n. 364) 249.

¹⁴²³ Plastic Soup (n. 41).

¹⁴²⁴ Ibid.

¹⁴²⁵ Ibid.

¹⁴²⁶ Priya (n. 29) 1680.

¹⁴²⁷ Ibid 1679.

¹⁴²⁸ Ibid 1680.

¹⁴²⁹ Ibid; Nayak (n. 662) 18-20.

¹⁴³⁰ Priya Ibid.

ending up in the ocean, posing a serious threat to the marine ecosystem and significantly contributing to rising sea levels.¹⁴³¹ Although the focus has always been on the health risks associated with these practices, such as the outbreak of diseases like cholera and malaria, the Thesis focused on the environmental consequences of this problem, specifically how such dumping activities contribute to the issue of climate change through the greenhouse gas effects of these landfill sites and the vast amount of CO₂ emitted through open burning.

In spite of the fact that the Ghanaian government has taken a number of initiatives to ensure the proper management and collection of this waste, the results have been disappointing due to the enormous financial burden associated with this initiative.¹⁴³² According to one study, the government of Ghana pays approximately 7,800 sanitation workers each month to collect these wastes from the various markets, especially the Kantamanto market, and transfer them to the massive dump in Kpone in order to prevent the open burning of such waste as part of the nation's ambitious climate mitigation actions.¹⁴³³

Nevertheless, an important question that remains is whether or not developed nations are prepared to support such projects or compensate for the damages caused by such dumping practises, considering that they significantly contribute to most, if not all, of these problems that developing countries are facing.¹⁴³⁴ Using 2020 as an example, while Ghana became the leading importer of second-hand clothing internationally, the United States (\$600M), China (\$404M), the United Kingdom (\$315M), Germany (\$304M), and South Korea (\$276M) were the leading exporters of used textiles.¹⁴³⁵ Despite the lack of significant progress, countries

¹⁴³¹ Gupta (n. 677) 156.

¹⁴³² Priya (n. 29) 1680.

¹⁴³³ Ibid 1682.

¹⁴³⁴ The Observatory of Economic Complexity (n. 41).

¹⁴³⁵ Ibid.

such as Ghana, are currently seeking international cooperation to prohibit the export of used textiles given its negative environmental consequences.¹⁴³⁶

The dumping of low-quality second-hand clothing is a major problem not just in West Africa, but also in East African countries, such as Kenya and Tanzania.¹⁴³⁷ When consumers donate their used clothing to a charity, a take-back box at a brand's store, or a collection and recycling station, they often hope that the clothes will be resold or recycled into new garments.¹⁴³⁸ Nonetheless, as a result of the damages and poor state of these items, only a tiny proportion (between 10 and 30 percent) are typically resold in the locations where they are first collected.¹⁴³⁹ Consequently, some are downcycled into lower grade materials, such as rags, and more than half are exported for resale, albeit this time primarily to regions of the Global South, as mentioned above.¹⁴⁴⁰

To learn more about what happens to these used and exported clothes, Greenpeace travelled to Kenya and Tanzania to speak with traders in the second-hand clothing business to find out more about the fate of these clothes after they are exported.¹⁴⁴¹ According to the findings of the study, when chatting with sellers at the Gikomba market in Nairobi, the traders lamented that they are frequently disappointed when they open the bales since about half of the garments are worthless and have no market value: they are of lower quality, torn, or stained, and are mainly textile waste.¹⁴⁴² According to the vendors, there is a great deal of tension when opening a bale of second-hand clothes these days: Is the content suitable for resale, or is most of it only textile waste?¹⁴⁴³

¹⁴³⁶ Niinimäki (n. 18) 195.

¹⁴³⁷ Wohlgemuth (n. 45).

¹⁴³⁸ *Ibid.*

¹⁴³⁹ *Ibid.*

¹⁴⁴⁰ *Ibid.*; Nayak (n. 662) 22.

¹⁴⁴¹ Wohlgemuth (n. 45).

¹⁴⁴² *Ibid.*

¹⁴⁴³ *Ibid.*

Within global geography of fashion, not only environmental but also work-related liabilities are shifted to these low-income African countries through such dumping/trading activities. Put simply, while promoting reuse is thought to be one of the most effective ways of reducing the environmental impact of the clothing and textiles industry, donating or exporting low-quality used textiles that cannot be reused due to their poor quality to regions of the Global South will only serve to double the environmental impact of these goods, as in addition to the problems they cause when burned or dumped in landfills, they must also be transported.¹⁴⁴⁴ According to Wohlgemuth, it turns out that the Global North has found a backdoor to do away with its textile waste problem by exporting used clothing to countries of the Global South and basically forcing them to deal with the repercussions of fast fashion despite lacking the infrastructure to do so.¹⁴⁴⁵

Greenpeace's researchers were astonished to discover that, while walking from Gikomba market to the Nairobi River, they were literally stepping on textile waste, which was accumulating along the riverbanks, dropping into the water, and being carried downstream into the ocean.¹⁴⁴⁶ According to their observations, the Gikomba market in Nairobi is covered in layers of textile waste.¹⁴⁴⁷ In an attempt to address the issue, the locals burn these textiles on open fires, primarily in the evening, causing severe air pollution that affects not only the residents of these communities, but also the entire global community through the massive amounts of CO2 emissions.

Similar to the situation in Ghana, where 30 to 40% of imported second-hand clothing have no market value, it is estimated that around 150 to 200 tonnes of textile waste (60 to 75 truckloads) are abandoned, burned, or transported daily to Dandora and other overflowing dump sites in

¹⁴⁴⁴ Austgulen (n. 44) 459.

¹⁴⁴⁵ Wohlgemuth (n. 45).

¹⁴⁴⁶ Ibid.

¹⁴⁴⁷ Ibid.

Nairobi.¹⁴⁴⁸ According to Wohlgemuth, while the fast fashion trend has reduced clothing to the status of disposable cups, slowing down fashion would be the most appropriate way to reduce the flood of textile waste currently being dumped in the Global South.¹⁴⁴⁹ In addition, global fashion brands must drastically alter their linear business models and begin creating fewer clothes that are higher quality, longer lasting, repairable, and reusable. In other words, there must be a shift away from the neo-colonial attitude of Global North countries that use Global South countries as dumping grounds for their unwanted waste, while doing little or nothing to support or develop the clean manufacturing of local textiles.¹⁴⁵⁰

Collectively, the aforementioned findings demonstrate unequivocally that the existing trade patterns of exporting used textiles to regions of the Global South do not contribute to the Circular Economy by promoting reuse. Instead, they merely involve transferring waste to countries that lack the necessary infrastructure to manage it. As a result, it would be insufficient for global fashion brands to concentrate just on cleaning up their supply chains. The clothing and fashion industry must intensify its efforts to reduce the enormous end-of-life consequences of its products. However, the Thesis contended that without legislation, the sector will be unable to address its adverse environmental impact.¹⁴⁵¹ Consequently, it is expected that trade policies and/or restrictions will be the most effective solutions for bringing about a meaningful and widespread change in the clothing and textiles industry.¹⁴⁵²

Among other players, the EU, renowned for its forward-thinking approach towards sustainability and environmentalism, has recently introduced its newest initiative known as the EU Strategy for Sustainable and Circular Textiles.¹⁴⁵³ This strategy aims to prevent the export

¹⁴⁴⁸ Ibid.

¹⁴⁴⁹ Abdel-Jaber (n. 23) 257.

¹⁴⁵⁰ Wohlgemuth (n. 45).

¹⁴⁵¹ Ibid.

¹⁴⁵² Bick (n. 598) 3.

¹⁴⁵³ Wohlgemuth (n. 45); EU Strategy For Sustainable And Circular Textiles (n. 702).

of textile waste and encourage the production of clothing that is durable, long-lasting, and easily repairable. While acknowledging the progress made, the Thesis argued that addressing the worldwide impact of fast fashion necessitates international regulation of the clothing and textiles industry through a global treaty. This is crucial to effectively mitigate the escalating environmental impacts of fast fashion, especially in regions of the Global South where clothes are produced and then dumped.¹⁴⁵⁴

However, considering the deficiencies of international law, particularly on the limitations of “soft law” procedures, it was crucial to address the extent to which states and regional organisations should have the authority to restrict international trade in order to safeguard the environment. Hence, upon careful scrutiny of the existing international legal framework regulating the export and/or movement of waste/products across national boundaries, which encompasses the Basel Convention, the Environmental Goods Agreement, the Carbon Border Adjustment Mechanisms, and the WTO Anti-Dumping Rules, the Thesis concludes that alongside international mechanisms, regional and national enforcement would provide a more localised approach to tackling the international issues discussed in this Thesis.

Illustratively, in *United States v. Egypt*,¹⁴⁵⁵ which pertains to Egypt’s imposition of tariffs on specific textile and apparel products, namely Decree No. 469, despite that the United States raised concerns regarding the inconsistency of these measures, in addition to any accompanying implementation measures, given Egypt’s obligations under Article II of the General Agreement on Tariffs and Trade (GATT) 1994 and Article 7 of the Agreement on Textiles and Clothing 1995, it is important to note that the decision to reduce these tariffs ultimately rested with Egypt, taking into consideration its domestic trade regulations.¹⁴⁵⁶

¹⁴⁵⁴ Wohlgemuth Ibid.

¹⁴⁵⁵ *United States v. Egypt* [2005] WT/DS305/1.

¹⁴⁵⁶ The World Trade Organization (n. 1358).

Not only that, but in *Hong Kong v. Turkey*,¹⁴⁵⁷ which pertains to Turkey's restrictions on the imports of Textile and Clothing Products from Hong Kong, despite the fact that Hong Kong challenged Turkey's quantitative restrictions on its imports of textile and clothing products from Hong Kong, adding that those measures were in violation of GATT Articles XI and XIII, it is important to note that the decision to review such restrictions ultimately rested with Turkey, taking into consideration its domestic trade regulations.¹⁴⁵⁸ Thus, the Thesis concludes by arguing that, while both are uniquely relevant in addressing the global nature of the textile waste trafficking problem, domestic and regional enforcement appears to be more robust and effective compared to international mechanisms. That being said, it is important to note that regional and domestic enforcements, although preferred, do not constitute a substitute for international law, and vice versa.

Hence, following the example of the EU, it is recommended that an anti-dumping duty be imposed on any product whose release for trade in another country may, as a result of their quality, cause injury, whether it be of an economic, health, or environmental nature.¹⁴⁵⁹ Despite such a recommendation, it is believed that international trading rules can assist developing countries in achieving a triple win in trade-environment-development goals.¹⁴⁶⁰ Yet, the existing rules and regulations lack the capacity to stop Africa's ongoing textile waste dumping problems.

For instance, it can be argued that the Environmental Goods Agreement (EGA) has the potential to be extremely important in terms of encouraging trade in green goods to help achieve the targets agreed in Paris in the 2015 Climate Agreement and providing cheaper access to green technologies that can help boost recycling capacities. However, it is important

¹⁴⁵⁷ *Hong Kong v. Turkey* [1996] DS29.

¹⁴⁵⁸ The World Trade Organization (n. 1360).

¹⁴⁵⁹ Regulation (EU) 2016/1036 (n. 1308), art 1(1).

¹⁴⁶⁰ Baden (n. 1316) 2-3.

to note that the EGA is more technologically oriented, and it does not currently include/promote green textile technologies. Thus, the Thesis contends, among other things, that there is the need to revisit the Agreement on Textiles and Clothing (ATC) and all restrictions thereunder, whose expiration or termination means that trade in textile and clothing products is no longer subject to quotas under a special regime outside normal WTO/GATT rules but is now governed by the general rules and disciplines embodied in the multilateral trading system, of which the industrialised world, partly because of its economic influence often take advantage of this system to use the developing world as a dumping ground for its waste. Overall, the Thesis concludes that textile waste, similar to plastic waste, is clearly hazardous and, unfortunately, rather obscurely regulated.

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