



ECO-FASHION IN AFRICA

NARRATIVES FROM FIELDS TO LANDFILLS

Anne Mastamet-Mason, Nailejileji Mollel-Matodzi & Nalini Moodley (Editors)





IKS IN FABRIC PRODUCTION

CONSUMER BEHAVIOUR IN AFRICA

TRADITIONAL AFRICAN FABRICS (EAST, WEST & SOUTHERN AFRICA)

SUSTAINABLE AFRICAN DESIGNERS & BUSINESSES

SECOND HAND CLOTHING & CLOTHING WASTE



Eco-Fashion in Africa

Narratives from Fields to Landfills

Anne Mastamet-Mason, Nailejileji Mollel-Matodzi & Nalini Moodley

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Contents

Acknowledgement i

Editors' Biographies vii

Chapter One: Evolution of Namibian Traditional Beadwork: The Improvisation of *Onyoka* Beads 1

Maria A. N. Caley, Loini Iizyenda

Chapter Two: Redefining Sustainability: A Review of African Perspectives on the Global Fashion Industry's Eco-Debates 25

Anne Mastamet-Mason, Nailejileji Mollel-Matodzi

Chapter Three: Sustainable Fashion Adoption in South Africa: Consumer Awareness and Education 51

Lebogang Matholwane Mathole

Chapter Four: African Fashion: Innovations in Circularity Through Recycling and Upcycling 73

Josephine Kasambala

Chapter Five: The Implementation of Sustainable Practices by Fashion Brands Across Africa 101

Mabuza Letsiwe, Makhanya Bukisile P, Moyo Senelisile, Wangatia Lodrick Makokha

Chapter Six: Refashion Lab: Discard Studies in Cape Town 145

Jackie May, Dr Erica de Greef, Luleka Zepe

Chapter Seven: The Role of Policy Framework and Government Initiatives in Promoting Sustainable Fashion in Africa 177
Sindi Mokgopha

Chapter Eight: Traditional Textile Techniques and Their Relevance in Contemporary Eco-Fashion in Nigeria 209
Olubunmi Ola-Afolayan

Chapter Nine: Consumption Values Related to Sustainable Clothing and Textile Products in the African Context 227
Hanri Taljaard-Swart, Bertha Jacobs, Nadine Sonnenberg, Lizette Diedericks

Glossary 259

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form the intellectual heart of this book. Their work reflects a collective commitment to critical scholarship, sustainable futures, and transformative creative practice.

Eco-fashion in Africa: Narratives from fields to landfills

1.1. Situating the Debate

The global fashion industry is undergoing profound scrutiny in response to escalating environmental degradation, exploitative labour practices, accelerated consumption cycles, and unprecedented levels of textile waste. In recent decades, sustainability has emerged as a central organising framework through which the industry seeks reform. Dominant approaches have emphasised carbon reduction strategies, technological innovation, lifecycle analysis, circular economy models, and regulatory compliance mechanisms. While these interventions are significant, they are largely framed within Euro-American industrial paradigms that often marginalise alternative knowledge systems and culturally embedded sustainability practices.

This book begins from the premise that sustainability in fashion is neither novel nor exclusively Western in origin. Across the African continent, sustainable textile and clothing systems have long been embedded in Indigenous knowledge systems (IKSs), communal production models, spiritual cosmologies, and intergenerational practices of material stewardship. African fashion traditions reflect enduring principles of resource efficiency, durability, reuse, symbolic continuity, and social accountability. These practices predate contemporary sustainability discourse and challenge the assumption that ecological responsibility must be technologically mediated. African fashion stakeholders are offering models of sustainability that challenge Western assumptions and expand our understanding of what responsible fashion can look like. Second, eco-fashion cannot advance without structural support. Policy alignment, investment in skills and technology, regional collaboration, and consumer education remain essential for scaling the continent's innovations.

Eco-Fashion in Africa: Narratives from Fields to Landfills, therefore, seeks to reposition Africa from the margins of global sustainability debates to the centre of knowledge production. It interrogates how African epistemologies, craft traditions, consumer practices, policy frameworks, and contemporary innovations collectively contribute to a more holistic understanding of sustainable fashion.

1.2. Rationale and Scope

Africa occupies a complex and often contradictory position within global fashion systems. On one hand, the continent is recognised for its rich textile heritage, artisanal expertise, and cultural vibrancy. On the other, it is disproportionately burdened by the environmental and economic consequences of global overproduction, including the influx of second-hand clothing and textile waste from the Global North.

By bringing together interdisciplinary scholarship, empirical research, case studies, and critical theory, this book offers a comprehensive examination of eco-fashion across multiple African contexts. It engages environmental, cultural, economic, and political dimensions of sustainability, demonstrating that these spheres are deeply interconnected rather than discrete domains.

1.3. Structure of the Volume: From Fields to Landfills

The subtitle "Narratives from Fields to Landfills" signals the life-cycle orientation of this book. The chapters collectively trace fashion's trajectory from raw material origins to consumption, waste, policy intervention, and regeneration.

1.3.1. Fields: Origins and Material Culture

The opening chapters examine traditional textile and beadwork practices, including the evolution of Namibian *onyoka* beads and Nigerian textile techniques. These contributions illuminate how sustainability is embedded at the point of material sourcing and production, rooted in ecological respect and symbolic meaning.

1.3.2. Cultural Systems and Knowledge Production

Subsequent chapters critically assess how African sustainability perspectives challenge dominant global eco-fashion narratives. Through engagement with Indigenous knowledge systems and postcolonial fashion theory, these chapters articulate alternative frameworks grounded in African socio-cultural contexts.

1.3.3. Consumers, Values, and Adoption

The book then turns to consumer behaviour and value systems shaping sustainable clothing adoption in African contexts. By examining emotional, environmental, epistemic, social, and functional values, the authors reveal how sustainability is negotiated within lived realities.

1.3.4. Circular Innovation and Brand Implementation

Chapters focusing on recycling, upcycling, and sustainable brand practices highlight emergent business models and entrepreneurial initiatives across the continent. These studies demonstrate how African fashion enterprises align with, reinterpret, and localise global sustainability agendas, including the United Nations Sustainable Development Goals (SDGs).

1.3.5. Waste, Policy, and Governance

The volume further interrogates textile waste flows, discard studies, and government policy frameworks. Comparative analyses across African nations illustrate both the structural challenges and policy innovations shaping sustainable fashion ecosystems.

1.4. Scholarly Contributions

This book makes five primary contributions to the field of sustainable fashion studies:

- It recentres African epistemologies within global sustainability discourse.
- It integrates environmental, cultural, social, and economic dimensions into a holistic framework.
- It bridges traditional craft knowledge and contemporary innovation.

- It positions policy and governance as critical dimensions of eco-fashion.
- It amplifies African scholarly voices and regionally grounded empirical research.

In doing so, the volume advances both theoretical and applied scholarship in fashion studies, sustainability research, and African studies.

1.5. Towards a Pluralistic Sustainability Paradigm

Eco-fashion in Africa cannot be reduced to the use of organic fibres or recycled materials. It encompasses spiritual symbolism in beadwork, communal dyeing practices, garment inheritance systems, artisan livelihoods, informal waste economies, educational interventions, and regulatory reforms. It is simultaneously ancestral and forwards-looking.

The African fashion landscape reveals sustainability as a relational and ethical orientation rather than merely a technical solution. It positions dignity, identity, community cohesion, and environmental stewardship as co-equal dimensions of responsible design and consumption.

1.6. Conclusion

As the global fashion industry seeks transformation, it must move beyond homogenised metrics and technocratic solutions to embrace culturally specific and epistemologically diverse models of sustainability. African fashion systems offer vital insights into how longevity, community, innovation, and heritage can coexist within dynamic creative economies.

Eco-Fashion in Africa: Narratives from Fields to Landfills positions Africa not as a passive recipient of global sustainability mandates, but as an active producer of knowledge, practice, and theory. By engaging Indigenous knowledge systems, cultural sustainability, circular innovation, and policy reform, this volume contributes to a more inclusive and decolonised understanding of eco-fashion.

In doing so, it invites scholars, designers, policymakers, and practitioners to reimagine sustainable fashion through African lenses where ecological responsibility is inseparable from cultural continuity and social justice.

Editors' Biographies

Professor Anne Mastamet-Mason Professor Anne Mastamet-Mason is a researcher who focuses on garment sizing and fit and the socio-environmental aspects of the garment and textile industry. Her passion also extends to decolonising the fashion and textile design curriculum. She has effectively mentored numerous Doctoral and Master's students and boasts a remarkable range of published research in articles, book chapters, and conference proceedings. Prof Mastamet-Mason is the chair of the research niche area, supervising eight Master's and three Doctoral students. In recognition of her research contributions to the field, she earned an NRF C rating in November 2021.

Beyond her academic endeavours, Prof Mastamet-Mason is the Ready-Made Garments Technical Committee chair at the Kenya Bureau of Standards (KEBS). She also actively participates in the South African Bureau of Standards Technical Committee for ready-to-wear clothing. Her engagement in the academic community is extensive, as she is an esteemed member of prominent associations such as the International Textile and Apparel Association (ITAA), the South African Association of Family Ecology and Consumer Sciences (SAAFECS), and the Design Education Forum of South Africa (DEFSA).

Furthermore, Prof Mastamet-Mason generously shares her expertise as a valuable editorial board member for the *Journal for Consumer Studies.* She is also recognised for her commitment to peer review, having assessed numerous scholarly manuscripts for various textile and fashion design journals. Google scholar profile: https://scholar.google.co.za/citations?user=R8E1SNwAAAAJ&hl=en

Doctor Nailejileji Mollel-Matodzi Dr Nailejileji Mollel-Matodzi holds a Doctorate in Fashion. She previously served as a Postdoctoral Research Fellow at Tshwane University of Technology. With over a decade of experience in fashion education, she has been actively engaged in lecturing, supervising Master's and Doctoral students, and contributing to curriculum development in Fashion Design at undergraduate and postgraduate level.

Her expertise encompasses both quantitative and qualitative research methodologies, teaching theoretical frameworks, and guiding creative and practical coursework. She has contributed to the field through publications in academic journals, conference proceedings, and book chapters, and serves as a peer reviewer for academic journals.

Her primary research interests focus on sustainability in the fashion and textile industries, with a particular emphasis on sustainability challenges and opportunities in African fashion systems. Additionally, her work explores consumer clothing behaviour, as well as challenges related to garment sizing and fit.

Google scholar profile: https://scholar.google.com/citations?view_op=list_works&hl=en&hl=en&user=4xUvldEAAAAJ

Professor Nalini Moodley Nalini Moodley is currently the Executive Dean and Professor in the Faculty of Arts and Design at the Tshwane University of Technology, South Africa. She has a B.A (Fine Arts), M.A. (Art History) cum laude, a UPGCE and completed her PhD in Art History at the University of KwaZulu-Natal, which focused on the visual art produced by Indian South Africans. She has spent more than 28 years in the field of education across the sector from Primary, Secondary and Tertiary education. Her present areas of research include the politics of minorities as well as the complexities of race and identity politics within a transforming South Africa. Within this broad area, she focuses on the challenges of being Indian in a post-apartheid South Africa while also engaging in projects that attempt to memorialise the history of Indian Indenture across the globe. In this regard, she is a member of the International Scientific Committee for the memorialisation of Indenture across the globe. She has published papers in peer-reviewed journals on Hindu art and artists in South Africa, Indian dance, and the multiplicity of positionalities of Indians in South Africa. She is currently the Chairperson of the Women In leadership Forum at the Tshwane University of Technology and is also engaged in research projects focusing on women leaders in higher education. Professor Moodley is currently engaged in numerous book projects within her fields of research. In addition, she is also a Bharatha Natyam teacher having brought three students to complete their arangetrams.

Google scholar profile: https://scholar.google.com/citations?user=CIWo1PgAAAAJ&hl=en

Chapter One

Evolution of Namibian Traditional Beadwork: The Improvisation of *Onyoka* Beads

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Abstract

Beads played an integral part in the adornment of Namibian traditional dress by enhancing the beauty and identity of the wearer. The embellished beads are crafted from natural materials consisting of seeds, shells, bones, metal, clay and stone in assorted shapes and sizes. The *onyoka* (also *nonyoka*) beads are stringed handcrafted disc shapes made from oyster shells, which signify an important element in the dress of Aawambo, Ovahimba and Vakavango communities. These shells were considered prestigious because of the way in which they were collected from specific rivers. The *onyoka* beads were often colour dyed or combined with other beads to intensify their aesthetic and symbolism. These beads expressed the subjectivity of the wearer by communicating their clan association, femininity, and spirituality. Beading skills are intergenerational, involving the exchange of knowledge amongst communities to create ceremonial and connotative accessories. Over the years, crafters have been challenged with access to freshwater shells. This pressured artisans to search for new methods and materials for

creating *onyoka* beads. This chapter aims to inform creatives about the production, embedded meaning, and usage of *onyoka* beads to promote innovative, sustainable fashion. This chapter will further discuss the design development by a Namibian creative who has innovated handcraft techniques incorporating *onyoka* beads. We employed a qualitative approach, conducted thorough surveys of relevant literature, supplemented by structured interviews of informants who have knowledge and practice of *onyoka.* We further conducted an observational analysis of *onyoka* beads to highlight our findings. This study finds that the cultural values and Indigenous artisanship of *onyoka* beads have transformed over time, and the non-conventional material used currently is evidence of cultural preservation and sustainable artisanship.

Keywords: Beads, cultural sustainability, Namibian, *onyoka*, shells, traditional crafts

1. Introduction

The pressing global push advocating for sustainable fashion has presented a crucial introspection for fashion brands and design creatives to reconsider their artistic and design approaches. Kasirye and Maina (2020:2) explain, "Sustainable and ethical fashion is an approach that aims to minimise the fashion industry's negative impact on the environment. Furthermore, it involves maximising the benefits of the fashion industry to promote the ethical treatment of workers. It also includes the production of high-quality fashion products that last for a long time and can either be upcycled or wither back to their organic state when discarded". These design approaches require a thorough investigation into the product life cycle to modify activities which can decrease negative impact on the environment and society. The product life cycle refers to all activities carried out from fibre to the finished product and the final disposable stage (Fletcher & Grose 2012). This chapter will highlight how Namibian artisans and designers have unconsciously employed sustainable strategies in making traditional beads over time.

Exploring with locally sourced and crafted beadwork is considered an African inherent craft which complements the

sustainable fashion concerns. Beads play an integral part in both past and current Namibian traditional dress. These beads were often crafted from found materials in the surrounding environment, varying from seeds, grass, ostrich eggshell, metal beads, ivory buttons, oyster shells, and traded glass beads (Nampala & Shigwedha 2006). Because of trade, missionisation, and colonial invention, Namibian traditional dress has changed significantly. For example, Finnish missionaries emphasised that newly converted individuals should embrace Eurocentric dressing and discard traditional dress (Iizyenda 2019). However, remnants of traditional ornaments have remained part of the socio-cultural life amongst Namibian communities despite cultural imperialism. Such significant beads with cultural value, which are still prevalent in Namibia, are called *onyoka*. *Onyoka* beads are strung, handcrafted disc shapes made from oyster shells, which signify an important element in the dress of Aawambo, Ovahimba, and Vakavango communities in Namibia. The beads were encoded with symbolic attachments relating to wealth, clan identification, marriage, and healing. *Onyoka* beads were crafted from river shells found in the southern part of Angola Silvester, Kautondokwa & Shikongeni (2019). Shigwedha (2004) shares the same sentiment that *onyoka* were made from rare oysters harvested from the rivers in southern Angola. Their rarity and the long process of harvesting the oysters may have contributed to their high value amongst Aawambo and Vakavango people, leading to their being reserved only for the wealthy and royal clans. Amongst the Vakavango, *nonyoka* beads were strictly reserved for royal men and women who wore them around their necks (Caley 2020).

Therefore, this study aims to discuss and enhance awareness of the potential of *onyoka* beads for sustainable fashion creations. The chapter will further highlight the transformation of materials used to craft the beads and production methods for the preservation of their cultural heritage. The study will discuss artistic innovation by a Namibian textile designer who explored *onyoka* beads in her creative works. Selecting beads made from natural materials that are renewable, biodegradable, locally sourced, and manually produced by artisans is a crucial approach for designers to support environmentally responsible

production. Africa is home to a wealth of knowledge on organic Indigenous beads and fabrics, which are highly sought after by international fashion brands and designers and "the cultural significance and narratives of the locals are specifically omitted from the current buzz about sustainability" (Kasirye & Maina 2020:3). Therefore, this study, which investigates the traditional yet sustainable production methods, is vital for the advancement of the African fashion industry. Furthermore, highlighting the cultural value and narratives embedded in *onyoka* will try to highlight possible unique selling points (USP) for designers to include in their products.

2. Literature Review and Theories

This review firstly presents a discussion on the historical, prevailing cultural usage of *onyoka* beads and the improvisation of diverse materials in the production methods to maintain the current practices. Secondly, we promote the theory of cultural sustainability, which encourages Indigenous knowledge, cultural heritage and inclusive representation within the design process to challenge the dominating theories and systems on sustainability that guided the conventional fashion and textile industry. Thirdly, the review emphasises collaborative initiatives with local artisans and craft techniques, which are sustainable because of their manual processes and organic material, to foster economic support and ecological protection. Lastly, an interpretative model which highlights the incorporation of *onyoka* beads for sustainable production is presented to emphasise the possible benefits for designers to co-create and root their practice in cultural sustainability.

2.1. *Onyoka* Historical Background

Previous research and literature provide the preliminary knowledge and cultural value of wearing *onyoka* beads. Shigwedha (2004) provides the background on clan association and how women keep their *onyoka* given to them at birth and later pass it on to their children. Recent research by Ameinge (2023) highlights how the cultural value is still practised even though the original *onyoka* beads made from river shells have been substituted with new materials.

Ombale dhi haka: A Bond that cannot be Broken (Silvester, Kautondokwa & Shikongeni 2019) provides a visual documentation of the artefacts collected by missionaries who operated in northern Namibia from the 1880s. The artefacts were believed to be in their original state. The collection depicts various cultural objects, including *onyoka* beads with details on how they were obtained from the river and cultural connections during the period. The sustainable method of collecting the shells is explained when cow dung was submerged in the riverbanks, the smell would then attract the snails, and when a large number were gathered, they were harvested (Silvester, Kautondokwa & Shikongeni 2019). The natural process of harvesting was fully hand-operated, and no pesticides or chemicals were applied. The freshly crafted *onyoka* beads were rough in appearance, and after continuous wear, the edges would become smoother. The circular beads were the most preferred. In the past, the wealthy owners of *onyoka* would give it to the commoner for wearing. Once the edges were smoothed, they would have to give it back to the owner. Because of how expensive it was to acquire *onyoka*, the beads were often passed down from one generation to the next, or if bought, "ten to twelve waist-length *onyoka* cost an animal" (Silvester, Kautondokwa & Shikongeni 2019:56–57).

The research by Ameinge (2023) provides a detailed background on the subject matter of *onyoka*. The study documents and describes the materials and methods used in the crafting of *onyoka* beads with reference to the Ovambadja, a subgroup of the Aawambo ethnic group. According to Silvester, Kautondokwa & Shikongeni (2019), the beads were usually worn around the necks, upper arms and even legs. Ameinge (2023:15) mentions how different genders wore the beads differently depending on the cultural attachment, "During *olufuko* ceremonies, when boys participate as flower boys (*ombwihiki*), they are dressed and decorated with the *onyoka* necklace". The research includes additional ceremonies where the *onyoka* beads should be adorned: "The *onyoka* necklace is beautifully interlinked to various celebratory occasions, including *olufuko* ceremonies, weddings, and *omafiya okutula* (the establishment of traditional kitchens). However, it is essential to note that there are no specific rituals linked to the *onyoka* necklace within the cultural practices of the people (Ameinge 2023). Hence, this study is significant for researchers and creatives to gain knowledge and the symbolic meaning of *onyoka*.

The traditional use of *onyoka* is mainly to represent a symbol of wealth, clan identification, or for aesthetic purposes in socio-cultural ceremonies. Prohibited movements during intercultural trading limited access to the rivers and were enforced during the colonial period using political borders between Angola and Namibia. The cultural imperialism experienced because of colonialism contributed to the loss of many significant local cultural processes and material representations embedded with symbolic meanings (Caley 2020). To continue the cultural practice, new materials have been repurposed to create the desired beads. Collins (2018) describes how the artisans are currently collecting washed-up seashells along the coastline of Namibia, in the towns of Henties Bay, Swakopmund, and Walvis Bay to create the beads and necklaces. The article explains the process of creating beads from seashells. The process is labour-intensive and time-consuming, which requires days to achieve a profitable amount, as one string at that time was sold for 10 Namibian dollars (Collins 2018). Furthermore, Collins (2018) explains how the whole process, beginning with collecting the shells, crushing them into pieces, drilling holes into them, filing the pieces into small discs, and dyeing the shaped beads into different shades of pink. Some shells are left in their natural state. The beads are strung on a string and sold per strand. This information is important for emphasising the environmentally friendly aspect of the production process, which employs no cost and makes use of discarded organic materials and hand techniques.

2.2. Cultural Sustainability and Design

Sustainability practice in fashion design is fundamentally rooted in Indigenous knowledge (IK) of a specific population within a community. In many cases, IK for most local communities has not been documented but rather preserved through generational oral traditions (Gupta 2015:16). For designers to reach the source of IK, they need to embrace collaborative design approaches such as co-creation. The custodians and knowledge keepers of traditional knowledge in a specific community constantly negotiated and transformed alongside technology advancements to avoid cultural loss (Gupta 2015:16). Like knowledge keepers navigate changes, designers advocating cultural sustainability must navigate cultural

appropriation and cultural appreciation to embrace ethical business ideologies, and thus, "cultural sustainability is thus a response to a shift in our values that seeks to rectify the biases of the past by recognising the importance of diversity, inclusion, representation, and respect for other people, communities, and their representative material cultures, as well as the role that artisanship plays in expressing traditional culture" (Brown & Vacca 2022:190).

Several studies have discussed how technological advancements have been at the forefront of sustainable fashion agendas. The concept of exploring local techniques suitable for the local context and consumption has been overlooked. A sustainable method of production which can be considered by designers is to integrate the use of traditional handcraft techniques and methods in the textile and fashion process. These techniques are relevant to the sustainable fashion agenda as they "minimise harm to the environment by incorporating minimal waste and using environmentally friendly methods of production" (Tayaba & Assumpta 2020:11). The provenance of the craft is perceived to "deepen consumer product attachment and encourage the emotional relationship of the consumer with the designed products" (Tayaba & Assumpta 2020:11). Designers should note these personal attachments as they can lead to a longer lifespan, as consumers tend to view the product as a sentimental piece of clothing.

Engaging cultural sustainability in design is met with complexities, from working with fragile materiality that threatens the extinction of traditional artisanship and the need to engage IKSs with a decolonising lens. In the Scandinavian north, a practice-based action research study employed concepts of decolonisation and cultural revitalisation as an approach to discuss cultural sustainability (Härkönen, Huhmarniemi & Jokela 2018:2). This research discusses an examination of three case studies on handcraft-based contemporary art, which shows an overlap between art, design, and handicraft (Härkönen *et al* 2018:9). In addition, Fletcher and Grose (2012) introduce the concept of sustainability in fashion by addressing the negative issues created by the fashion industry, ranging from toxic chemical waste, shocking consumption of natural resources, and deplorable labour exploitation. Fletcher and Grose (2012) present a practical guide for the fashion industry to critically review and

rethink the design process. Fletcher and Grose (2012) note how the impact of garments can be reduced by the right selection of materials, manufacturing processes, reusing, and upcycling of products. They advocate for more material-led innovations, which are presumed to bring change to the industry, as "all materials impact the ecological and social systems in some way, but these impacts differ in scale and type between the fibres" (Fletcher & Grose 2012:13). Upcycling is a design strategy adopted by some artisans, unintentionally, by making use of lollipop sticks or plastic straws when the natural materials are inaccessible. The consideration of incorporating elements made from organic or upcycled material such as *onyoka* beads in fashion products, provides a sustainable process solution because of its "reduced levels of processing inputs", such as water, energy and chemicals resulting in low energy "sometimes considered low-carbon" processing techniques" (Fletcher & Grose 2012:13).

In the study by Tayaba and Assumpta (2020), the traditional textile craft techniques and methods are investigated and argued to potentially address sustainability concerns in the textile and fashion industries. Incorporating traditional techniques is a method that can create value addition in the supply chain. The study employed a case study approach using three Nigerian and two Pakistani sustainable fashion companies that integrate traditional textile crafts techniques and methods in their supply chain. The study further investigated the consumer behaviour of the target audience. The findings promote the concept of "cultural sustainability", which focuses on borrowing from culture to provide sustainable methods. Tayaba and Assumpta (2020) argue that "the relationship between cultural heritage and society has many similarities to the relationship between ecological resources and society, as both must be utilised for the benefit of the current and future generations. Moreover, just as the protection of ecological resources is central to environmental sustainability, so is cultural heritage to cultural sustainability" (Loach, Rowley & Griffiths 2016:26). Exploring organic, culturally significant materials, like *onyoka* is observed to be an example of cultural sustainability. Apart from the cultural aspects of *onyoka*, the craft has empowered many women to support themselves financially. This research highlights the importance of designers collaborating with artisans

to support their economic means while simultaneously promoting cultural diversity and aesthetics. The collaboration will "open opportunities for employment in the craft sector and help alleviate the poverty level in the rural community, and, in turn, address the environmental sustainability issues linked with the textile and fashion industry" (Tayaba & Assumpta 2020:12). As stated earlier, collaboration with artisans can stimulate positive approaches in co-design and can facilitate a move away from cultural appropriation, which often leads to cultural loss. Instead, one can open cultural appreciation through admiration and appreciation for other cultures and can open cultural exchange through skills sharing (Brown & Vacca 2022:159). Using an interpretive model for cultural sustainability through craft, the cultural sustainability of *onyoka* can be harnessed in the same way, as illustrated in Figure 1. Drawing from *onyoka* socio-cultural values, this research illustrates from different perspectives how cultural sustainability is practised.

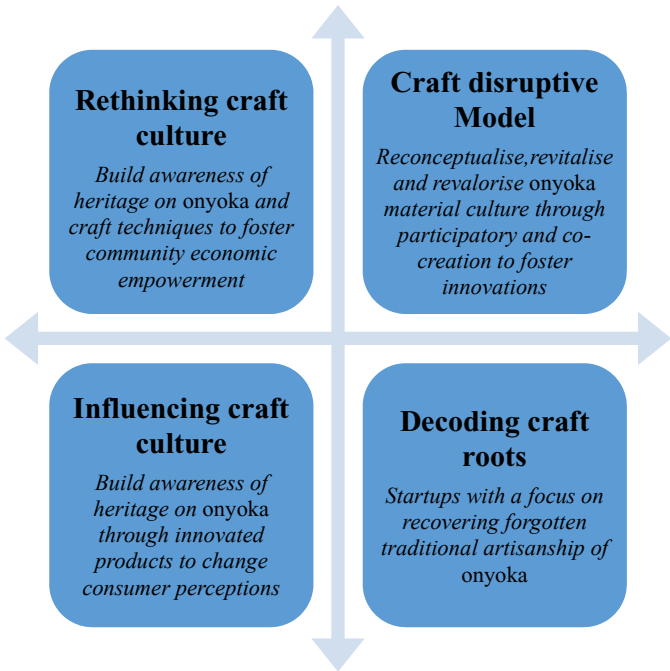


Figure 1: Cultural sustainability through craft: An interpretive model (Brown & Vacca 2022)

3. Materials and Methods

The study aims to inform creatives on the production, embedded meaning, and usage of *onyoka* beads to promote innovative, sustainable fashion. This chapter will further discuss the design developments by a Namibian creative who has innovated handcraft techniques incorporating *onyoka* beads. The study is qualitative in nature and employs a review of existing literature supplemented by interviews of informants with knowledge and use of *onyoka* and observation of their practice. Because of the qualitative nature of the research, the study was emulated from Brown & Vacca (2022) and Härkönen *et al* (2018) to allow a detailed investigation of the selected subject to identify suitable findings for the identified problem. To ensure validity and avoid biases, the study employed multiple qualitative approaches to gather the data, such as "participant observation, archival source analysis, interviews, focus groups, and content analysis" (Stead & Struwig 2001:11). The research used purposive sampling to gain relevant data from selected key informants who had in-depth knowledge regarding *onyoka* beads and had experience in practice with *onyoka*. The data collected is presented in a discussion interlinked to literature and the observations of *onyoka*.

Relevant literature has provided a background in understanding cultural values of wearing *onyoka*, which helps to analyse the innovative new practice with recycled material. We draw from observation of *onyoka,* including the *onyoka* created from conventional material. However, maintaining traditional aesthetics is evidence of a balance negotiation between cultural preservation and innovation. We further engaged informants to understand the personal value and identity attached to traditional necklaces. We requested consent from the informants, and they were informed of their right to participate in our study and were free to discontinue the interviews at any point. Our informants were Rauna Nadawina Oitanaipole Unamwene, Apa-pawa Shatimwene, Laimi Kakololo, and Aurélie Zannier-Wahengo, who are individuals with practical experience and knowledge of *onyoka.* Our informants have given accounts on how they make use of *onyoka*. They shared personal experiences as well as narratives that they know. Information shared has been cross-referenced with other accounts and literature from Silvester, Kautondokwa &

Shikongeni (2019), Shigwedha (2004), and Ameinge (2023), who have conducted detailed research work on our subject matter and the socio-cultural values amongst Aawambo communities.

We give a brief introduction to our informants to build relevance and centre the knowledge from our informants on this study. Background and experiences brought to the study by our informants present various perspectives on the cultural sustainability of *onyoka* through economic empowerment, cultural identity, and artistic expression.

Our first informant, Rauna Unamwene, resides in Onhaulula, in northern Namibia and her interview was conducted telephonically. Unamwene was a combatant fighter in the Namibian liberation struggle from 1976 to 1989, serving in the Ombandja district of Angola. She lives with her grandchildren and is self-employed, selling local products such as *ombike* (traditional liquor), *mahangu* (pearl millet), and traditional beaded jewellery such as *oilanda yomuhanga* (beaded waistband) and *oilanda yovelela* (beadwork for *odhelela* dress). She also sews *ovelela* (traditional dresses) and creates braided hairstyles. Her various experiences are evidence of economic empowerment derived from cultural sustainability and range from being a soldier in the liberation struggle to being a self-sustaining woman.

Our second informant, Apa-pawa Shatimwene, a visual art student from the University of Namibia (UNAM) and is the owner of the *oshinyenye* necklace in Figure 2. This necklace formed part of her class discussion on decolonising Namibian design, a topic explored to motivate students to integrate Namibian cultural identity within their creative process. Shatimwene's argument focused on the importance of creating a fashion trend which included traditional ornaments for everyday contemporary occasions. This sentimental necklace, which she has kept since she was a baby, formed part of her daily wardrobe.

Our third informant, Aurélie Zannier-Wahengo, shares the same sentiment about wearing fashion that reflects Namibian culture. She is a senior lecturer at UNAM and a French national married to an Owambo Namibian national. Zannier-Wahengo highlighted the importance of integrating her husband's heritage into her fashion style, as an example to her children with dual heritage. Her first *onyoka* was presented to her by her

mother-in-law. Zannier-Wahengo's necklace, depicted in Figure 5, was bought from a street vendor. She was fascinated by its creation from a recycled plastic straw stick from cotton buds, yet with a cultural appeal which she appreciated. Because of its lightweight, child-friendly nature, she bought an additional necklace for her daughter to forge a connection to her father's cultural heritage.

Our fourth informant, Laimi Kakololo, is a Namibian visual artist and cultural researcher who explores cultural ornaments in her creative work. Her acquired *onyoka* beads, which are sometimes smeared with pink dye, were purchased from artisans in Swakopmund or vendors at open markets in Okuryangava, Windhoek. She emphasised the act of re-dyeing her necklaces, a cultural practice in preparation for attending traditional events.

As stated before, this study weaves existing literature, informants' experiences and knowledge with observed *onyoka* beads, to construct cultural sustainability practice with *onyoka*. An observational analysis consisting of the *onyoka* objects (Figures 2 to 7) is an additional approach employed to relate and create new meanings of *onyoka*. Photographic images are important for this study as they provide visual text about *onyoka*.

4. Results and Discussions

4.1. *Onyoka* in Current Practice

Our findings show an evolution of *onyoka* beads in use and practice from the past to current practice. We draw from literature and supplement with knowledge from our informants and images of various types of beads currently being used as necklaces and adornments of textiles. Evidently, the images show how the beads have changed and with modern practice that has resorted to beads made from conventional material, such as seashells and lollipop or plastic straw sticks. The work presented by a textile artist reflects another creative use of *onyoka* beads as a form of self-expression of a beaded textile.

Shatimwene (personal communication, 25 September 2024) explains that the necklace was presented with the *onyoka* necklace *oshinyenye* by her father's family when she was three months old, to introduce the child into the paternal clan. Later, the necklace was supplemented with *onyoka* beads (from her mother),

ondjeva (ostrich shell beads), and *onguluwe* (blue glass bugle beads) passed onto her from her sister (A. Shatimwene, personal communication, 25 September 2024). To clarify, this combination of beads on the necklace is worn for people belonging to the Ovakwaanime (lion clan) and Ovakwamhalanga (elephant clan) (A. Shatimwene, personal communication, 25 September 2024). The fashion in which Shatimwene wears the *onyoka* necklace illustrates the preservation and continuation of cultural practice and value. As explained earlier, paternal family representatives presented their biological children born into the family with *oshinyenye*, otherwise, it is considered a taboo if not adhered to (Shigwedha 2004:37, 42; Ameinge 2023:15; R. Unamwene, personal communication, 25 September 2024). *Onyoka* has prevailed with cultural protocols that remain to date, such as one should never steal or take another person's *onyoka*, as it is believed that a curse will surely fall upon you and your family (Ameinge 2023; R. Unamwene, personal communication, 25 September 2024).



Figure 2: Apa-pawa Shatimwene's necklace (Nandjembo 2024a)

4.2. *Onyoka* New Practice and Change

In modern times, change came in the influence of Western culture, which further influenced cultural values and belief systems. However, the wearing of *onyoka* amongst Aawambo communities has not faded away. Certain Aawambo cultural practices, such as welcoming babies, are still practised to a certain extent, where the paternal grandmother welcomes the baby and is adorned with an *oshinyenye* (also *ondiwi)* necklace. However, the most common practice of wearing *onyoka* today is merely for aesthetic appeal. Unamwene (personal communication, 25 September 2024), concurs with this observation and explains that in the past, *onyoka* beads were esteemed as prestigious beads to express wealth and royalty amongst the Aawambo community, and they were not meant for everyone to wear. However, this practice may have faded. Before the beads were adorned on a baby's neck, the beads were anointed with *oshidima*, aromatic herbs, and grounded red ochre *olukula*, crushed wood pulp of *Pterocarpus angolensis.* Apart from beautification purposes, the ointments were added for spiritual protection and healing for the child (R. Unamwene, personal communication, 25 September 2024).

Even though some of the cultural practices may have faded, *onyoka* remains visible amongst *Ovaherero*, Ovahimba, and Vakavango, as well as is most prominent amongst Aawambo people. In post-colonial Namibia, where state-sponsored cultural festivals are rife (Akuupa 2015), *onyoka* remains associated with a traditional aesthetic, and is popular and embraced. This affinity for *onyoka* may have led artisans and creatives to find new ways of creating *onyoka* from nonconventional materials that are accessible in Namibian environments. Previous research has posited that *onyoka* in the past was harvested from the rivers in southern Angola (Ameinge 2023; Silvester, Kautondokwa & Shikongeni 2019; Shigwedha 2004). Presently, obtaining freshwater oysters from Angola for *onyoka*, is a challenge. This may be because of Indigenous skills and knowledge of harvesting the oysters that may have been lost, or the challenges of crossing borders for harvesting oysters in another country may be harder to navigate. Because of these challenges, it is reasonable that artisans have now resorted to nonconventional materials to craft *onyoka.*

The most common nonconventional materials collected for *onyoka* are seashells and oyster shells washed up onto the Namibian coastline. Collins (2018) and Ameinge (2023) explain the process in detail. Figure 3 shows an example of an *onyoka* necklace made from sea oyster shells. Ameinge (2023) explains that such necklaces can also vary in colours from white to reddish hues, as illustrated in Figure 2. We also note that women sometimes dye their *onyoka* necklaces with synthetic pink dyes when attending traditional ceremonies or cultural festivals.



Figure 3: Oyster shell beads (Nandjembo, 2024b)

The new practice of making use of nonconventional material to manufacture *onyoka* beads has led to a variation of *onyoka* necklaces available. It has become harder to tell the difference between *onyoka* from freshwater oysters and from sea oysters.

Nevertheless, the connoisseurs can still make out the differences, and for baby welcoming ceremonies, they will look for the freshwater oyster *onyoka,* which is highly valued.

To show what we mean, we present examples of *onyoka* necklaces that are being worn in a new fashion. Figure 4 is a fashionable combination of *onyoka* and *uuputu* metal beads necklace. Like *onyoka* beads, the production of the esteemed *uuputu* metal beads has evolved to repurposing found metallic objects as a current sustainable method to preserve its socio-cultural usage (Iizyenda 2024). The second non-conventional material used for *onyoka* necklaces is lollipop or plastic straw sticks, illustrated in Figure 5, dyed with pink synthetic dye. Although various versions of *onyoka* have emerged in the market, manufactured from seashells by Chinese manufacturers, these types of beads in Figure 6 are white in appearance compared to the other versions of *onyoka*. Of course, this has not gone uncontested by local manufacturers rebuking Chinese manufacturers for infringing on their niche market. With the variety of *onyoka* beads available in the market, consumers have several choices.



Figure 4: *Onyoka* and *Uuputu* Beads (Nandjembo 2024c)



Figure 5: Zannier-Wahengo's necklace created from cotton buds (Nandjembo 2024d)



Figure 6: White seashell beads (Nandjembo 2024e)

Beyond necklaces, *onyoka* beads have been used by textile artists to decorate fabrics. In one of her textile artworks, Kakololo draws inspiration from the *efundula* initiation ceremony for girls amongst Ovakwanyama. Kakololo's (personal communication, 2022) intent was to explore her cultural heritage by investigating the Aakwanyama traditional ornaments, which were particularly worn for the *efundula* ceremony. The *efundula* ceremony is a socio-cultural event for initiating young women into their womanhood and preparing them for marriage (Shigwedha 2004). During the ceremony, the participants are adorned with culturally symbolic ornaments prepared by family members (Shigwedha 2004). Kakololo's grandmother had prepared some jewellery for her but because of unforeseen circumstances, she did not manage to participate in *efundula*. This absence inspired Kakololo to create textiles (Figure 7) depicting imagined jewellery that her grandmother created for the *efundula* ceremony.



Figure 7: 'Oihanangolo' textile by Kakoloko (Kakololo 2022)

Figure 6 depicts an artwork by Kakololo titled *Oihanangolo*, which is named after a ritual performed during the *efundula* ceremony. In this session, the participants are adorned with garments created from aloe sticks, and their faces are covered with white ash. This rite symbolises the transition into a successful life. Kakololo (personal communication, 24 September 2024) illustrates the aloe sticks through the screen-printed motif on the textile, which is embellished with details of beads, specifically the *onyoka* and white *ondjeva* (ostrich eggshell). According to Kakololo, *onyoka* represents the celebration and welcoming of girls into their womanhood. She elaborates further by explaining how every Kwanyama woman is expected to wear a strand of *onyoka* beads around their neck depending on their age. For jovial events, the beads should be dyed pink in colour. The white and pink lines represent two families uniting. Kakololo's artwork presents an epitome of sustainable creation, which combines cultural narratives, aesthetics, and local material. The artwork is a good example of conceptualising, revaluing, and revitalising of *onyoka* material culture through participatory and co-creation (Brown & Vacca 2022:596).

5. Conclusion and Recommendation

In brief, the socio-cultural values embedded in *onyoka* have prevailed through time. A notable example of this is Shatimwene, who still wears her *oshinyenye* necklace, which, over time, has added to the *oshinyenye* from her mother and her sister. Though manufacturers have changed to using nonconventional material, they still maintain the traditional aesthetics of *onyoka*. Even though the sizes and colour of the beads may vary, local consumers maintain the traditional aesthetics by rubbing the beads with *olukula* or colouring them with synthetic pink dyes. This dyeing is evident in the *onyoka* manufactured from recycling lollipop or plastic straw sticks, which are then dyed pink. It is evident that the variation of *onyoka* available in the market has posed a challenge in distinguishing the difference between *onyoka* made from seashells and oysters. However, the connoisseurs in the local market can tell the difference and still prefer to purchase freshwater oysters *onyoka* and are

willing to pay a costly price for them. Overall, *onyoka* beads have transformed and found new forms of expressing cultural identity beyond jewellery into textile art, as demonstrated by Kakololo.

In conclusion, *onyoka* has survived the test of time and change through transformational production and use. Even though it is considered a desirable ornament for cultural expressions, the saturated market of contemporary beads often threatens its appreciation even amongst local design practitioners. To revive these disrupted cultures, the theory of cultural sustainability should be promoted in seminars and design workshops to impart local craft techniques, upcycling methods and Indigenous knowledge. Through these engagements, creativity can be stimulated to combine sustainable materials and cultural narratives and oral traditions can be stimulated by the design process, as expressed in Kakololo's artworks. Distinctive, exclusive designs with local context and materials can be a great motivation for consumers to create sentimental connections with products, which will encourage them to keep products for a longer period.

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Chapter Two

Redefining Sustainability: A Review of African Perspectives on the Global Fashion Industry's Eco-Debates

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Abstract

The global fashion industry has increasingly embraced sustainability as a central discourse in addressing environmental degradation, ethical labour practices, and overconsumption. However, the prevailing sustainability frameworks are predominantly shaped by Euro-American ideologies, often overlooking the rich, context-specific knowledge systems and sustainable practices embedded within African fashion cultures. This literature-based study critically examines the African perspective on sustainability, interrogating how Indigenous knowledge, traditional textile practices, and community-centred production systems offer alternative paradigms to the dominant eco-fashion narratives. The study draws from a wide range of scholarly sources, including works on circular economies, Indigenous ecological ethics, and postcolonial critiques of fashion globalisation. The review identifies gaps in the current sustainability discourse that marginalise African narratives and

practices. The chapter further explores how African designers, artisans, and consumers are reinterpreting sustainability within their socio-economic and cultural contexts, challenging the homogenisation of sustainable fashion metrics. The findings reveal that African fashion systems, rooted in values of longevity, reuse, community, and environmental harmony, offer holistic and culturally important sustainability models. This study contributes to the decolonisation of fashion studies and advocates for the integration of African epistemologies into global sustainability frameworks. The study concludes by recommending a transdisciplinary and inclusive approach to sustainability that legitimises diverse cultural narratives and local innovations in shaping the future of ethical fashion.

Keywords: Decolonising sustainability, Indigenous knowledge systems (IKSs), postcolonial fashion theory, sustainable fashion in Africa

1. Introduction

The global fashion industry is undergoing a significant transformation in response to escalating environmental challenges, ethical labour concerns, and shifting consumer values (Niinimäki *et al.*, 2020). Central to this transformation is the concept of sustainability, which has gained prominence in recent decades. However, the dominant sustainability discourse remains largely rooted in Euro-American industrial models that emphasise carbon reduction, technological innovation, and circular economy strategies (O'Neill 2019). This narrow framing often marginalises alternative perspectives, particularly those emerging from the Global South.

Africa, with its diverse ecological systems and rich socio-cultural heritage, offers distinctive, long-standing models of sustainable fashion that remain underexplored in global debates (Eicher 2010). Across the continent, Indigenous textile traditions, community-based production systems, and dress cultures are grounded in values of environmental stewardship, social cohesion, and spiritual symbolism (Matasha 2025; Gachara 2025). Practices such as hand weaving, natural dyeing, beading,

cloth reuse, and artisanal artisanship reflected principles of sustainability long before they became a global concern (Gachara 2025; Untapped-Creatives 2024; Ajaab 2024; CeceFinery n.d.). For example, textiles such as *kente* in Ghana (Figure 1), *adire* in Nigeria (Figure 2), *kiondo* in Kenya (Figure 3), and *bark cloth* in Uganda (Figure 4), and are produced using locally sourced materials and environmentally friendly techniques (Matasha 2025). These methods are ecologically sound and embedded within broader cultural practices and intergenerational knowledge transfer (UNESCO 2008).



Figure 1: Kente fabric (https://ankara.co.za/product/kente-futoro-african-print-fabrics/)

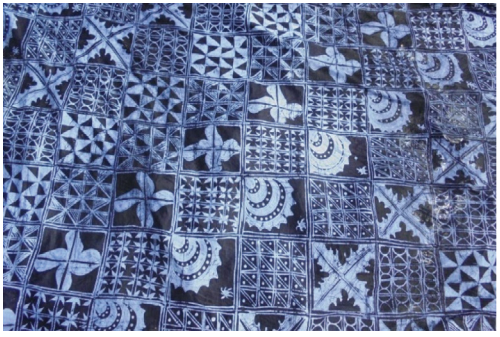


Figure 2: *Adire* fabric (Source: Authors)

Africa possesses a rich heritage of socio-environmental Indigenous practices that support the preservation of natural

resources and the enhancement of environmental conditions, thereby contributing meaningfully to addressing global ecological challenges (Elrashdi 2021). The marginalisation of African-centred sustainability perpetuates a form of epistemic injustice, where Indigenous African fashion systems are either exoticised or rendered invisible, reinforcing postcolonial hierarchies within the global fashion industry. Moreover, there is limited global scholarly engagement with how African designers, consumers, and communities interpret and practice sustainability on their terms while rooted in cultural, social, and spiritual values. The sustainable practices and benefits of Indigenous knowledge systems (IKSs) have been overlooked by mainstream educational systems and international research (Wandera 2024). The absence of these perspectives in dominant sustainability debates risks homogenising the definition of sustainability and overlooking the continent's rich contributions to ethical and ecological fashion.



Figure 3: Kiondo bag (https://mawuafrica.com/products/woolen-woven-kiondo -handbag-nb23)



Figure 4: Bark cloth (Source:https://www.africanfabric.co.uk/fabrics-textiles/unique-decorative-textiles/bark-cloth)

This chapter examines how African fashion practices and epistemologies present holistic and culturally relevant frameworks for sustainability. By centring African narratives, the study challenges the dominance of Western paradigms and calls for a more inclusive, pluralistic understanding of what sustainable fashion entails in the 21st century.

The specific objectives are:

- To explore African textile and clothing practices that embody principles of sustainability rooted in IKSs
- To examine the marginalisation of sustainable African textile and clothing systems and epistemologies in dominant global frameworks.

2. Literature Review and Theories

For centuries, African communities viewed their surroundings as an important aspect of their well-being (Elrashdi 2021). IKSs were established by knowledgeable communities with long-standing first-hand experience with the environment (Wandera 2024). Preserving natural resources and the ecosystem is deeply influenced by African Indigenous cultural values and traditions (Kanene 2016; Elrashdi 2021). IKSs hold significant potential to address contemporary climate challenges; however, mainstream

educational platforms often misunderstand, undervalue, and overlook the wisdom and practices of IKSs (Wandera 2024). This study is grounded in two key theoretical lenses: postcolonial fashion theory and IKSs.

2.1. Indigenous Knowledge Systems (IKSs)

IKSs represent the intergenerational knowledge, practices, and worldviews developed by native communities through sustained interaction with their local environments (Bio-economy n.d.). Rooted in cultural traditions, IKSs encompass methodologies, skills, wisdom, and belief systems that enable communities to manage natural resources, support social cohesion, and promote sustainable livelihoods (Leveridge 2024; Bio-economy n.d.). In fashion, this includes traditional artisanship, resource-conserving techniques, and community-oriented production models. For example, practices such as the Yoruba *adire* (tie-dye) (Anele & Cho 2022), Ghanaian *kente* weaving (Oguamanam & Yeboah-Appiah 2024), and Malian *bogolanfini* (mud cloth) (Akrofi, Ocran & Acquaye 2016; Matasha 2025) reflect deep ecological awareness and community artisanship. Moreover, African fashion systems emphasise circularity where garments are often repaired, repurposed, or handed down through generations (Collacott 2023; Matasha 2025; Afriklens 2024). East African cultural products that embody sustainable design using natural dyes and locally sourced biodegradable materials are the *kikoi* (handwoven cotton) (Figure 5) cloth from Kenya and Tanzania, and the *kiondo* (sisal basket) woven by women in Kenya (Afriklens 2024). The process of making a *kiondo* reflects community engagement, seasonal harvesting, and dyeing with plant-based pigments such as indigo and bark extracts. In Uganda, the traditional bark cloth made from the Mutuba tree has gained international recognition as a UNESCO cultural heritage item (UNESCO 2008). This cloth is harvested without destroying the tree, representing a renewable textile material with ceremonial and everyday uses, reflecting a *zero-waste* ethic and spiritual reverence for nature (Hendo n.d.). Similarly, Ethiopian churches preserve rich traditions of textile-based iconography, mural art, and naturally dyed garments that use local minerals, soils, and plants.

Ethiopia and Kenya sustain age-old traditions of leather tanning using environmentally friendly techniques passed down through generations, producing garments, bags, and accessories rooted in ancestral knowledge systems (UNCTAD 2023). Yet, these practices are frequently excluded from global sustainability metrics that prioritise technological innovation and standardisation over cultural context.

The concept of sustainability in fashion has been widely explored through environmental, economic, and social lenses. Sustainable fashion must go beyond material choices to include systemic change in production and consumption (Fletcher & Tham 2019). However, scholars critique the Western-centric nature of sustainable fashion, pointing out that African textile and clothing traditions have always involved sustainability through methods such as hand-weaving, natural dyeing, and upcycling (Ibrahim 2024; Acquaye 2018). However, Western fast fashion production has compromised sustainable clothing practice in Africa. Fast fashion practices have overshadowed sustainable African fashion practices that are rooted in IKSs. Fast fashion consumption and disposal practices have infiltrated the African retail environment (Nkatha 2023). Furthermore, the mass importation of fast fashion second-hand clothing into Africa (Sumo, Arhin, Danquah, Nelson, Achaa, Nweze, Liling & Ji 2023) has significantly contributed to the continent's entanglement in the global crisis of unsustainable textile and clothing practices. These imports not only overwhelm local waste management systems and contribute to environmental degradation (Sumo *et al* 2023), but they also undermine domestic textile industries and distort local economies (Mollel-Matodzi 2020; Nkatha 2023). As a result, Africa faces a dual challenge: managing the ecological burden of textile waste and addressing the socio-economic disruptions caused by the influx of low-cost, low-quality garments.

Addressing the complex nature of global climate challenges requires transdisciplinary approaches that draw on diverse knowledge systems, including Indigenous and local practices from the Global South, alongside scientific and policy-driven solutions from the broader international community (Obiora & Emeka 2015). Central to this effort is the recognition and

integration of IKSs, which offer context-specific, ecologically attuned, and culturally grounded responses to sustainability challenges. Global dialogues and collaborations that engage both Indigenous communities and international scientists in the exchange of sustainable IKSs practices represent a critical step towards redressing the historical marginalisation of Indigenous knowledge in global sustainability platforms (Kanene 2016; Wandera 2024). These inclusive engagements can facilitate the meaningful incorporation of African IKSs into international sustainability policies and regulatory frameworks. In the context of fashion, acknowledging and integrating these diverse practices into the global sustainability discourse enriches the conversation and promotes more inclusive, culturally relevant understandings of sustainability.

2.2. Postcolonial Fashion Theory

The second theory that guides this study is postcolonial fashion theory. Postcolonial fashion theory is a critical analysis of fashion systems from a postcolonial view, aiming at the lasting impact of colonial history on modern fashion systems (Sustainability-Directory 2024). Postcolonial fashion theory opposes the prevailing Eurocentric fashion ideals, promoting an unbiased and ethically informed fashion industry that recognises and attends to past inequalities (Sustainability-Directory 2024).

In the context of sustainability, postcolonial fashion theory focuses on the skewed power relations intrinsic in the worldwide fashion supply chains and consumption habits (Sustainability-Directory 2024). Furthermore, postcolonial fashion theory exposes how global sustainability discourses are shaped by colonial power relations that continue to privilege Western norms while marginalising African contributions. Said's concept of Orientalism and Bhabha's notions of hybridity and the Third Space offer powerful tools for deconstructing the dominant fashion narratives and illuminating the subtle ways in which African fashion practices are appropriated or exoticised within global frameworks (Gaugele & Titton 2019; Covington 2024).

Hybridity is a result of interconnecting aspects of cultural identities of the coloniser and the colonised and forming a new

equal identity (Bhabha 1994). For instance, designers such as Laduma Ngxokolo of South Africa, founder of MaXhosa Africa, exemplify Bhabha's hybridity by fusing traditional Xhosa beadwork patterns and motifs with contemporary knitwear aesthetics (MaXhosa-Africa n.d.) (Figure 5). MaXhosa products challenge Western fashion hierarchies and assert African modernity. Similarly, Lisa Folawiyo, a Nigerian designer known for her reinvention of Ankara prints using sequins and embellishments (MaXhosa-Africa n.d.), see Figure 6. Folawiyo operates in Bhabha's Third Space by negotiating identity and innovation across local and global fashion systems. According to Bhabha (1994), the third space is the "in-between space" that promotes dialogue and mediation about similarities and variances of different cultural identities, and leads to the transformation and creation of a new identity. These examples highlight how African designers transcend binary categorisations of traditional versus modern and instead occupy fluid spaces of creative and cultural resistance.



Figure 5: Laduma Ngxokolo wearing MaXhosa products (https://visi.co.za/qa-laduma-nxgokolo/



Figure 6: Lisa Folawiyo's hand embellished garment (Source: https://lisafolawiyo.com/product/look-1-top/

Together, postcolonial fashion theory and IKSs provide a framework for re-evaluating the politics of knowledge production in fashion, affirming the value of African worldviews, and reimagining sustainability through more inclusive and culturally grounded paradigms.

3. Materials and Methods

The study involves a systematic review of peer-reviewed journal articles, books, reports, and credible media sources, including JSTOR, Google Scholar, EBSCOhost, and institutional repositories such as UNESCO and African Journals Online (AJOL). The study adopted a qualitative, literature-based research design using an interpretive paradigm to explore the contextual meanings and value systems that are embedded in African sustainable fashion practices. The methodology was guided by the need to engage deeply with text-based evidence and extract themes reflective of Indigenous knowledge and postcolonial critique. The inclusion criteria required that sources directly address sustainability in African fashion, Indigenous textile practices, postcolonial fashion discourses, or relevant cultural artefacts, and specific techniques

such as "bark cloth", "*kiondo* weaving", and "natural dyeing in Africa". Sources spanned between 2000 and 2024.

The data was analysed thematically, following a six-step process (Braun & Clarke 2006). Coding was conducted to identify recurring patterns and contradictions across the literature. Themes were then categorised into areas such as Indigenous sustainability, cultural circularity, postcolonial resistance, and epistemological inclusion. Photographs (Figures 1 to 9) were also used to illustrate core arguments and enrich textual interpretations.

4. Results and Discussion

The results and discussion are based on four themes: Indigenous African fashion as sustainable practices, cultural sustainability and community ethos, marginalisation in global sustainability frameworks, and reclaiming African fashion narratives.

4.1. Indigenous African Fashion as a Sustainable Practice

Indigenous African clothing has always been produced using sustainable fabrics and practices (Ajaab 2024; Untapped-Creatives 2024). Indigenous African fabrics are made "from organic cotton, raffia, bark, leaf fibre and bamboo and other plant materials" (Gachara 2025). The Indigenous fabrics are locally sourced, thereby causing minimal harm to the environment (Ajaab 2024) compared to fabrics and garments sourced outside the country and continent. The production of African fabrics often requires half the amount of water compared to mainstream fabrics (Gachara 2025). However, there is little mention of these fabrics and techniques in the global sustainability dialogue.

Indigenous African fabric practices are often passed down from one generation to another (Figure 7). In East Africa, Kenya's and Tanzania's *kiondo* baskets and *kikoi* fabrics made from cotton and their vibrant colours achieved using natural dyes, embody Indigenous fashion practices that reflect principles of ecological balance and socio-economic inclusion (Venkatraman & Scott 2018; Nokupa 2024; Toms-Trunk n.d.). In Uganda, every stage of bark cloth is produced from environmentally friendly sources (Matasha 2025). These practices use renewable raw materials such as raffia,

cotton, tree bark, and leather, natural dyes, aligning with the values of the circular economy and slow fashion (Matasha 2025).

Several authors (Onyekwelu 2024; Abduljaleel, Gwari, Saliu & Yakubu 2024) report the sustainable practices rooted in the production of the *adire* fabric. In West Africa, *adire* fabrics from Nigeria are traditionally made by Yoruba women using natural indigo dyes (Figure 8) and resist-dye techniques like tying, stitching, and batik stamping. These processes exemplify low-waste artisanry and sustainable dyeing methods. Similarly, *aso-oke* fabric and production processes promote socio-environmental and economic sustainability (Modupe 2020; Olutayo, Àkànle & Fadina 2012). *aso-oke* (Figure 9), also Yoruba in origin, is a handwoven fabric typically used in traditional attire. Produced on narrow looms and dyed using plant-based sources, *aso-oke* not only preserves cultural identity but also promotes localised economies and low-impact manufacturing (River-and-Mara 2024). Similarly, *kente* weaving in Ghana utilises cotton or silk threads handwoven into symbolic geometric patterns (Micots n.d.). The weaving process itself is energy-efficient and deeply embedded in rites of passage, governance, and storytelling, demonstrating a synthesis of environmental and social sustainability. The Indigenous African fabrics and production methods are rooted in sustainability that preserves the environment and nourishes the social and cultural well-being of its people (Matasha 2025).



Figure 7: Passing on intergenerational knowledge (Anne Mastamet-Mason)



Figure 8: Natural indigo-dye process (Anne Mastamet-Mason)

4.2. Cultural Sustainability and Community Ethos

Cultural sustainability aims to address historical injustices by recognising the importance of multiculturalism, inclusive participation, advocacy for visibility, and respect for all cultures and their distinct material culture (Brown & Vacca 2022). Material culture is made up of processes, methodologies, and procedures produced by artisans of a specific culture (Woodward 2013). Moreover, cultural sustainability seeks to ensure accurate representation of the artisanship involved in showcasing Indigenous cultures and their heritage (Brown & Vacca 2022). Cultural capital plays a vital role in shaping educational systems, development strategies, and sustainability efforts within any social context. In the African context, the connection between cultural capital and sustainability was displaced by colonialism (Awuah-Nyamekye & Mawere 2015; River-and-Mara 2024).

Textile crafts in Africa are more than aesthetic expressions. Textile crafts are custodians of collective memory and community values (Modupe 2020; Matasha 2025). The production of *adire, kente, kikoi,* and *tagelmust* from North Africa represents fabrics that reflect communal values (Afriklens 2024). Ethiopian ecclesiastical textiles (Figure 9) often feature symbolic motifs and natural pigments and play a role in religious rituals and spiritual life. Leather tanning in Kenya and Ethiopia follows traditional, organic methods that avoid harmful chemicals common in industrial processes (Gebremichael 2016; Paukwa 2025). Moreover, *adire, kente*, and *aso-oke* fabrics are used in marriages, festivals,

funerals, and chieftaincy celebrations, highlighting their enduring social relevance and their role in promoting community cohesion. These practices reflect a respect for the environment and are often linked to cultural rituals and intergenerational skills transmission (Afriklens 2024; River-and-Mara 2024). The cultural and spiritual values attached to the garments position these African attires in Western slow fashion, and design for emotional durability categories of fashion sustainability. The purpose of designing for emotional durability is to decrease the "consumption and waste" of fabrics and garments by improving the durability of the connection between the garments and the customers (Chapman 2014). However, cultural legacies are facing difficulties because of unsustainable practices, which have decreased the visibility of multiple and distinct material cultures (Brown & Vacca 2022). Eurocentric sustainability frameworks have excluded African culture, which encompasses sustainable practices in the making of its fabric. If African material cultures, such as those previously mentioned, are accurately and fairly documented within global fashion sustainability frameworks, this will not only support the preservation of cultural sustainability but also contribute to the development of more effective strategies for addressing unsustainable practices in the fashion industry globally.



Figure 9: Aso-oke wedding attire (https://ph.pinterest.com/pin/111604897009384521)

4.3. Marginalisation in Global Sustainability Frameworks

Poorly made fast fashion clothes have dominated global retail stores, including African retail stores (Sumo *et al* 2023). For generations, African countries did not rely on mass production but instead focused on small-scale production (Ahmed 2021) that emphasised quality, cultural meaning, and environmental sustainability. In colonial times, the Indigenous production of *aso-oke* was restrained and interfered with (River-and-Mara 2024). Consequently, the production and documentation of African fabrics using IKSs remain limited, as IKSs have been historically repressed by Western knowledge systems through colonisation and modern institutions (Mandillah & Ekosse, 2018).

In addition to widespread fast fashion clothes in the retail environment, second-hand or mitumba clothes have permeated African wardrobes and overshadowed clothes made from sustainable African fabrics (Gachara 2025; Matasha 2025). Fast fashion has resulted in the reduction and abandonment of the age-old African practice of slow consumption and reuse amongst consumers (Gachara 2025). Despite growing awareness of the environmental and social harms associated with fast fashion, African sustainable textiles and traditional production methods remain largely excluded from global sustainability frameworks (Gachara 2025). For example, the hand-spun nature of *kiondo*, the symbolism-laden patterns of *kente*, and the indigo dyeing of *adire* are rarely recognised in lifecycle assessments or supply chain audits dominated by Western techno-scientific metrics.

These omissions of African IKSs reveal a colonial hangover in fashion sustainability discourse, where value is measured through speed, scale, and certification rather than community impact, historical depth, or ecological mindfulness. Various authors and international organisations call for Africa to be empowered in sustainable fashion practices. African IKSs, which have long promoted sustainability through traditional fabrics and production processes, are increasingly threatened and overlooked in global sustainability discussions, despite their potential to support sustainable production for generations to come (Mandillah & Ekosse, 2018; Ahmed 2021). While global

sustainability frameworks continue to evolve, it is imperative for African scholars and activists to document the IKSs used in clothing production and actively present these frameworks on international platforms. Equally important is the creation of spaces—both physical and digital—where these IKS skills can be transferred to younger African generations and shared globally, thereby countering the persistent marginalisation of African IKSs in dominant sustainability frameworks.

4.4. Reclaiming African Fashion Narratives

In southern Africa, fabrics such as *shweshwe* (Figure 10), Basotho blanket (Figure 11), and *umbhaco* (Figure 12) integrate modern silhouettes while preserving their unique cultural appeal (Mnqubeni 2024a).



Figure 10: *Shweshwe* fabric (https://www.ismailsfabrics.co.za/shweshwe.php)



Figure 11: Basotho blanket (https://url-shortener.me/DAOA)



Figure 12: *Umbhaco* fabric (https://umbhaco.co.za)

West African fabrics such as *kente*, *adire*, *aso-oke*, *bògòlanfini*, and *pagne baoulé* blend with modern silhouettes (Mnqubeni 2024b). Fashion designers in Central and East Africa are combining Western silhouettes and fabric techniques for

their clothing ranges. Imane Ayissi, a fashion designer from Cameroon, incorporates African Indigenous art with Paris haute couture, while Katungulu Mwendwa from Kenya merges traditional and modern fabric methods for her casual wear clothing range (Allison n.d.). Other African fashion designers continue to showcase their work rooted in African traditional attire on a global scale (Adesina 2024). The fashion designers behind the fabric and clothing transformation are creating new expressions that exist in Bhabha's Third Space, neither entirely traditional nor fully Western. These acts of cultural re-signification counter fashion's orientalist gaze and establish African fashion as a site of innovation, resistance, and identity assertion. These findings highlight the need for a paradigm shift in global fashion sustainability debates, one that moves from homogenisation to heterogeneity, and from exclusion to meaningful inclusion of African narratives and practices.

As fashion designers and entrepreneurs strive to build enduring legacies by promoting their distinctive sustainable cultural attire both locally and globally, it is equally vital for African journalists, academics, and policymakers to actively and consistently spotlight the sustainable practices that have long safeguarded the continent's environment, culture, and society—through the development of inclusive frameworks, critical discourse, and platforms that amplify Indigenous knowledge and homegrown innovations.

5. Conclusion and Recommendations

The African fashion industry, rooted in heritage, ecological harmony, and community-based ethics, offers profound insights into sustainability that are often overlooked in global debates. It is the responsibility of African scholars, African sustainable fashion designers, and activists to continue promoting Indigenous African sustainable fashion practices to increase worldwide recognition in global sustainability discourse and practices. Traditional textile techniques and Indigenous practices present models of circular economies, minimal waste, and social cohesion that challenge the hegemony of Western sustainability paradigms. This chapter argues for a decolonised and inclusive approach to sustainable

fashion, one that embraces African epistemologies, validates local innovations, and acknowledges the continent's contributions to the global fashion landscape. Several credible African sources document sustainable textile and fabric practices in Africa, but there is limited visibility of these methods on a global scale. Future research should focus on integrating African perspectives into sustainability education, policy frameworks, and global fashion platforms.

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Authors' Biographies

Prof Anne Mastamet-Mason is a researcher who focuses on garment sizing and fit and the socio-environmental aspects of the garment and textile industry. Her passion also extends to decolonising the fashion and textile design curriculum. She has effectively mentored numerous Doctoral and Master's students and boasts a remarkable range of published research in articles, book chapters, and conference proceedings. Prof Mastamet-Mason is the chair of the research niche area, supervising eight Master's and three Doctoral students. In recognition of her research contributions to the field, she earned an NRF C rating in November 2021.

Beyond her academic endeavours, Prof Mastamet-Mason is the Ready-Made Garments Technical Committee chair at the Kenya Bureau of Standards (KEBS). She also actively participates in the South African Bureau of Standards Technical Committee for ready-to-wear clothing. Her engagement in the academic community is extensive, as she is an esteemed member of prominent associations such as the International Textile and Apparel Association (ITAA), the South African Association of Family Ecology and Consumer Sciences (SAAFECS), and the Design Education Forum of South Africa (DEFSA).

Furthermore, Prof Mastamet-Mason generously shares her expertise as a valuable editorial board member for the *Journal for Consumer Studies*. She is also recognised for her commitment to peer review, having assessed numerous scholarly manuscripts for various textile and fashion design journals.

Dr Nailejileji Mollel-Matodzi holds a Doctorate in Fashion. She previously served as a Postdoctoral Research Fellow at Tshwane University of Technology. With over a decade of experience in fashion education, she has been actively engaged in lecturing, supervising Master's and Doctoral students, and contributing to curriculum development in Fashion Design at undergraduate and postgraduate level.

Her expertise encompasses both quantitative and qualitative research methodologies, teaching theoretical frameworks, and guiding creative and practical coursework. She has contributed to the field through publications in academic journals, conference proceedings, and book chapters, and serves as a peer reviewer for academic journals.

Her primary research interests focus on sustainability in the fashion and textile industries, with a particular emphasis on sustainability challenges and opportunities in African fashion systems. Additionally, her work explores consumer clothing behaviour, as well as challenges related to garment sizing and fit.

Chapter Three

Sustainable Fashion Adoption in South Africa: Consumer Awareness and Education

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Abstract

Fashion remains one of the extensions that Africa uses for self-expression. Therefore, the importance of 21st–century consumers' awareness, education, and understanding of sustainable fashion has never been more vital than today. Therefore, there is a critical need to intentionally and mindfully equip consumers with the proper knowledge that can help to protect and promote the Indigenous fashion landscape. For this to occur, a greater consciousness must be present when creating, selling, and consuming fashion commodities. Moreover, the digital connection has brought consumers from multiple nationalities closer to one another, where influence dominates individual perception. To a certain degree, this influence may overshadow good fashion practice from production to consumption if not intentionally set. This chapter addresses the significance of sustainable fashion within the South African context. It aims to provide readers with the necessary information to make informed purchasing decisions about sustainability. Narrative synthesis was used to provide a descriptive summary of evidence, highlighting both similarities and differences

between studies, and exploring relationships within the data found. There is a gradual increase in the number of consumers taking note of the product's manufacturing processes and the sustainable practices considered. South Africa has an enormous number of creatives in the fashion industry; therefore, finding innovative and creative methods to produce fashion can be an exciting opportunity for these creatives to demonstrate their vast adaptability and innovativeness.

Keywords: Conscious consumption, education, South Africa, sustainable fashion

1. Introduction

South Africa is known as a country that consumes many products. For this reason, it has become easy to introduce new products into the market, given consumers' generally positive attitudes and behaviours regarding consumption (Brooks 2019). Today, consumption is not only perceived as an independent act to acquire a product but, more critically, a reflection of consumers' priorities regarding mindfulness towards individuals, communities, and the broader society, as well as how buying decisions affect these role players. The priority that consumers are increasingly taking note of is the concept of conscious consumption, better known as the sustainability of products and their effects after use (Madinga, Aspeling & Dlamini 2024). Consumers play a significant role in influencing the sustainability outcome. This means that whenever consumers are faced with an opportunity to buy a product, a dedicated amount of focus is given to the overall benefit (on a personal and impersonal level) derived from such a decision.

While often overlooked in broader discussions, consumer choices significantly impact communities, the environment, and national economies. When consumers prioritise sustainable products, entrepreneurs are incentivised to adopt environmentally conscious production practices, focusing on environmental protection and promotion. This symbiotic relationship between buyer and seller is crucial for achieving a sustainable future (Mollel-Matodzi, Mastamet-Mason & Moodley-Diar 2022).

South African consumers lack knowledge of sustainable fashion and its impact on social and economic development. This

is not by default, as ordinary citizens are less likely to be educated on the impact and value of their decision-making power. Consequently, local consumers require guidance on their crucial influence on shaping the fashion industry, both in production and consumption.

This chapter examines the importance of conscious consumption and sustainable fashion in South Africa by equipping consumers with the relevant knowledge to help them to make better buying decisions.

2. Research Objectives or Questions

1. To investigate the significance of consumers' awareness and adoption towards sustainable fashion practice.
2. To examine the educational barriers limiting knowledge dissemination towards consumers in shaping their decision-making processes.

3. Literature Review and Theories

3.1. Role of Consumers in Driving Sustainability

To be sustainable means maintaining ecological and socio-economic systems in a way that fulfils today's requirements without jeopardising the well-being or resources of future populations (Thomas 2020). This may include (but is not limited to) reservations about natural resources, protecting the environment, and encouraging social and economic impartiality and equity (Islam, Perry & Gill 2021).

When consumers are well informed about sustainability and its importance in everyday lives, they are encouraged to make different decisions about what is being consumed and, perhaps, how such commodities are being used. Commodity use is a crucial phenomenon to be considered as part of sustainability, which is how products are used to cause less interference with the environment (for example, what happens to clothes that consumers no longer want or wear). By and large, consumers' most significant contribution towards sustainability is found in their buying decision-making (Mandarić, Hunjet & Vuković 2022). Here, consumers can make their voices heard by insisting

on supporting products whose production process reflects clear mindfulness of the collective benefit. Therefore, consumers demand sustainable production of goods and encourage businesses to shift towards more sustainable practices (Khandual & Pradhan 2019).

In a South African context, consumers are gradually seeking clothing that communicates longevity and practicality more than other aspects of the fashion industry. According to Saricam and Okur (2019), consumers are gradually seeking clothing that can endure time and trends by offering a value that cannot be easily imitated and undermined. For example, an authentic story supporting the brand can help to enhance the connection between the consumer and the product. Another example is recycling waste to assemble a new masterpiece, which can strengthen the connection between the consumer and the product. In addition, the functionality of a simple garment (i.e., multifunctional) can influence the connection between the consumer and the product. Therefore, buying decisions have been extended to meet the current need to wear, and to wear consciously. This new expansion has given rise to some of the significant themes which authors continuously investigate within the fashion landscape: conscious, circular, ethical, and slow fashion.

3.2. Conscious Fashion Consumption

Conscious consumption is essential in supporting sustainability. Consumers choose well-known brands such as Woolworths for responsible production (Zulu 2020). Woolworths is an archetypal brand committed to using sustainable materials to produce clothing. Woolworths continues to demonstrate social responsibility by being accountable for the product and to society that consumes its products (Zulu 2020). According to Woolworths Holdings Limited (n.d.), the organisation stated that its "environmental protection initiatives go beyond manufacturing and retail". Woolworths Holdings Limited (n.d.) conducted research on their customers' laundry practices, and the life cycle of several of their clothes. Thereafter, Woolworths published guidelines on sustainable laundry practices through wash care labels (Woolworths Holdings Limited n.d.).

The standard set by the brand mentioned above has, in turn, inspired many small and well-established brands to incorporate responsible production processes as an approach to cultivating the brand, customers and the environment. It is vital to point out that the decision to adopt eco-friendly practices towards business production directly affects the broader market. According to Drzewiecka and Patki (2024), businesses that consider sustainable production are, by default, set to adapt to many internal and external changes surrounding the business environment. Thus, such businesses are more resilient in maintaining brand equity even during local and/or global economic instabilities. When consumers demand that brands adopt a sustainable business approach, entrepreneurs put more effort into turning such a limitation into an opportunity. Promoting conscious consumption shifts the demand towards sustainable and ethically produced clothing, ultimately incentivising brands to adopt eco-friendly practices. For example, Fashion Revolution is an international initiative that raises public awareness about the fashion sector's environmental and social consequences and motivates consumers to question the origins of their clothing by asking #WhoMadeMyClothes (Street 2024). Consequently, such initiatives reinforce a broader paradigm shift in which sustained consumer activism and transparent industry practices collectively advance a more accountable and socially responsible fashion system.

The global second-hand fashion market has grown significantly in recent years, mainly driven by eco-conscious consumers seeking more affordable and unique clothing options. This movement has recently gained traction in South Africa. The South African textile and clothing industry is addressing sustainability early (Machado, Almeida, Bollick & Bragagnolo 2019). Efforts to raise awareness about lowering carbon emissions and reducing pollution within South Africa's fashion sector are visible in the country's emerging slow-fashion movement, which remains small but continues to expand. Moreover, the South African Fashion Week (SAFW), which took place in April 2023, aimed to attract new and sustainable interest with a contemporary and appealing slow fashion contribution to the United Nations Sustainable Development Goals for Responsible Consumption and

Production. This aims to create conscious consumers who want to preserve the Earth by purchasing environmentally friendly clothes (Press 2023).

However, although some efforts are made to promote sustainable living, South Africa has not yet demonstrated the intentional willingness to fully embrace the new path that the fashion industry is taking. Fashion in South Africa is yet to cross the bounds of creating for consumption versus creating for longevity and wholesome purpose. As a result, more fast fashion trends aim to make immediate sales, rather than promote collective welfare. Moreover, many fashion designers in South Africa do not engage in advanced production processes because of a lack of resources and infrastructure to support sustainable clothing. With only 13% of South African brands currently recognised for their sustainability efforts, there is a significant opportunity for growth and improvement (KLA 2024). Supporting ethical brands aligns with consumers' values and ensures a competitive advantage and long-term success in the marketplace.

From the above discussion, it is evident that the fashion industry in the Global South must re-focus on the role that fashion plays in the economy and the environmental effects on the land and its constituents. This refocus of purpose can be a foundational tool (or starting point) to provide consumers with the right knowledge to assist decision-making.

3.3. Circular Fashion

Circular fashion is an approach that applies circular economy principles to the fashion industry, focusing on extending the life cycle of clothing and textiles. The principle is set as a model to reduce or minimise waste whilst increasing alternative methods to re-create and reuse the same products that would have been quickly disposed of without further purpose (Rathinamoorthy 2019). Circular fashion is distinctive from the traditional methods of the linear economy, which follows a limited or dead-end and promotes a "take-make-dispose" approach. The traditional fashion orientation emphasises production and sales output, which is the opposite of the now-improved circular fashion approach. The new or modern approach of circular fashion

emphasises the opportunity to create garments designed for longevity whilst using procedures that support eco-friendly practices to sustain the brand and society (Rathinamoorthy 2019). Supporters of sustainable fashion argue that transitioning from fast fashion—cheap, mass-produced clothing—to a circular fashion ecosystem (focused on reuse, reduction, and recycling) offers both retailers and consumers environmental benefits and economic opportunities. To highlight briefly, the following are some of the benefits of circular fashion (Dissanayake & Weerasinghe 2022): reduced waste, resource efficiency, environmental impact and economic opportunities.

Although circular fashion yields positive potentialities, the South African market may face challenges with transitioning to a circular economy when the country's economy stands in an unstable and ambiguous legal and political position. Therefore, it is vital to understand the practical barriers to implementation that have already been overlooked and the implications that may threaten to destabilise the fashion industry further. From another perspective, it is vital to comprehend that changing consumer behaviour, like any human behaviour, may require significant time for consumers to change their attitudes and perceptions towards circular fashion.

Pal, Shen and Sandberg (2019) state that "circular fashion aims to achieve a carbon–neutral fashion industry constructed on equality, social justice, animal welfare, and ecological integrity while producing ethical and ecologically friendly garments". For example, upcycling creates new products from discarded materials and second-hand platforms, facilitating clothing resale through online platforms.

Surjit, Shanruthi, Tarunvalavan and Sruthi (2024) state that sustainable fashion has five Rs: refuse, reduce, reuse, repurpose, and recycle. Consumers can significantly reduce waste by buying fewer high-quality items and reusing or recycling them.

In a rapidly changing fashion landscape, circular fashion is a prime example of the growth that emerges from sustainability. The phenomenon of circular fashion indicates the advanced way in which sustainability is brought forth in people's everyday lives and the importance of making sound buying decisions that reflect

a collective benefit rather than an individual one (Rathinamoorthy 2019). Therefore, more consumers need to be well informed of the power of the buying decision and how that power is integral to preserving the environment (Matodzi *et al* 2022).

According to this study's research problem, the mindful consumers' impact is that the benefits of an industry such as fashion are highlighted not only in monetary values but, equally importantly, through an improved social standard of living. The environment is a crucial component of living a sustainable life. This sustainability must be demonstrated in the decisions to improve the overall quality of life.

3.4. Ethical Fashion

Choosing to buy eco-friendly products and ethical brands is essential. Ethical brands adhere to the standards set for environmental consideration and ensure that such brands add value to long-term ecological order. According to Dehosse (2020), ethical brands in fashion represent brands that engage in ethical sourcing, ensuring that the materials used in the production process are not harmful to for example, animals, or any living object or individual (Cerchia & Piccolo 2019). Furthermore, these brands do not exploit labour but strive for fair trade and direct or indirect influence on communities' social and economic conditions. The ethical consideration in fashion goes beyond the raw material sourced to create a final garment. Perry, Osburg, Huq and Diallo (2024) mention that, equally importantly, ethics in fashion extend to other pressing matters such as worker exploitation, low salaries, and poor working conditions, to name a few. In South Africa, the fashion revolution has set the pace for participation in ethical practices within the organisation.

The fashion industry can remain challenged to provide ethical considerations in its production process. This is because of the nature of non-renewable natural resources that the industry relies on in producing some of its offerings. For example, the challenge of a significant amount of clothing made in South Africa adds a drawback regarding land, water, and fossil fuels currently used in production. To add to the predicament, fashion is fighting a long-standing battle regarding animal cruelty, and fashion is

subjected to indignity in the name of making a fashion statement. Fast fashion creates increased consumerism and waste. Therefore, designers and consumers must be aware of the importance of making decisions that demonstrate sustainability to communities (small or broad) and all that is part of the environment.

It is worth noting that, without proper education designed for consumers on identifying and supporting sustainable and ethical fashion brands, the progress anticipated from the Fashion Revolution movement would be too gradual. Most consumers do not comprehend the significance or credibility of business certificates, important labels that brands should embed, and many other initiatives that show brands' transparency in their production process or any other relevant factor that suggests promoting ethical practices. Therefore, there is a dire need for educational programmes that can help consumers to identify brands that adhere to the regulations set in place by ethical business forums.

According to Perkins (2021), consumers must seek sustainable brands from companies prioritising sustainability, transparency, and ethical practices. By choosing sustainable brands, consumers encourage the industry to adopt eco-friendly practices on a larger scale. This demand, in turn, motivates fashion brands to become more transparent about their operations. Transparency encompasses a range of practices, including disclosing the supply chain, the interconnected system of organisations and the processes involved in creating and distributing a product or service to consumers (Perkins 2021).

As it has already been highlighted that consumers lack the knowledge of sustainable fashion practice, it is apparent that part of attempting to create sustainable buying and selling approaches will be to make knowledge available and accessible to consumers in influencing and/or exercising their buying power.

3.5. Slow Fashion

Slow fashion is another concept to note based on its significance to conscious consumption and the promotion of sustainability. Slow fashion is more than the opposite of fast fashion. The concept rests on applying all senses to consume clothes. That is, beyond the

capability to buy, slow fashion removes the focus from affordability and into responsibility. The phenomenon uses its difference to add value to sustainability as it brings to the forefront consideration of needs versus wants, essentials versus non-essentials, rational versus impulse, and so on. The dichotomy of slow fashion aims to bring consumers into a state of awareness of the choices that they make and how those choices have a long-term impact on the individual themselves (i.e., unhealthy spending patterns that may cause future financial disorders) and their communities or immediate environment (brutality towards certain animals or objects, unauthorised dumping sites, unwanted clutter, and so on).

Slow fashion encourages the creator to thrive and create sustainable products that are both functional and durable. Nonetheless, consumers remain the most compelling force that influences and demands such organic and purposeful products to be designed for their consumption. Therefore, consumers' participation in sustainable brands will encourage more brands to carry ethical considerations as part of their production processes. According to Moodly, Christie and Strydom (2023), it is time for consumers to demand high-quality products that can withstand fleeting trends and changing preferences. For this reason, slow fashion has already embarked on various ways to embody the concept in consumers' daily lives. For example, slow fashion encourages consumers to make a difference by choosing (Alzaydi 2024) quality over quantity, timeless designs, reduced consumption, awareness of ethical production, and demand for environmental sustainability.

From the above-mentioned benefits of slow fashion, it is evident that the fashion industry can make a genuine positive impact in consumers' lives by allowing or providing opportunities for people to become mindful consumers, highlighting essentials over non-essentials, purpose over frivolity and many other beneficial contrasts representing quality over quantity – which is another practical example of sustainable fashion practice.

3.6. Theory Applied: Theory of Planned Behaviour

The theory of planned behaviour (TPB) is a widely used social cognitive theory that explains and predicts human behaviour.

The TPB is a social psychological theory that explains how people decide about their behaviour. People's intention to act is influenced by their attitudes, beliefs about what others think, and their sense of control over the behaviour. This intention, in turn, predicts their actual behaviour.

The TPB provides a robust framework for understanding and ultimately influencing consumer behavioural change, which is particularly crucial in sectors like fashion. Empirical research consistently demonstrates the TPB's predictive power in elucidating the interplay of attitudes, subjective norms, and perceived behavioural control in shaping consumer choices. The TPB offers a structured trail for consumer involvement, enabling targeted strategies to promote pro-environmental consumer behaviour. The initial themes explored in this chapter suggest practical applications for raising consumer awareness, empowering them with the knowledge and agency to demand ethical production practices that prioritise the well-being of impacted communities and preclude environmental degradation.

This aligns directly with the established need for accessible information and guidance within the fashion industry, facilitating more sustainable consumer decisions. Existing research emphasises the significant role of the fashion industry in disseminating crucial information to empower consumers to make purchasing choices that support ethical and environmentally conscious production and distribution. The TPB offers a mechanism for translating this knowledge into tangible behavioural shifts, enabling a move towards more sustainable consumption patterns, potentially reducing the adverse impacts on vulnerable communities associated with unsustainable practices, such as those witnessed in many poorly regulated supply chains.

Furthermore, examining the effectiveness of various communication strategies within the context of the TPB, particularly concerning the role of perceived behavioural control in overcoming potential barriers, is crucial for maximising the impact of these interventions.

3.7. Consumer Education Towards Conscious Fashion Consumption

The need to educate consumers about conscious fashion consumption is vital, as education can be set as a parameter to provide foundational knowledge on what consumers must look for or demand in the marketplace. This knowledge can also serve as a baseline for introducing sustainable mindsets, which can translate into sustainable lifestyles (Glover 2024). The objective of teaching conscious consumption is to yield more individualistic and collective benefits with a ripple effect influencing other facets of consumers' lives. For example, conscious buying can also enhance a consumer's ability to save resources and create a habit of saving and investing significant resources rather than overspending in response to marketing stimuli or impulsive buying. Conscious consumption in fashion would enhance consumers' mindset to consume products that have long-term sustainability and, therefore, spend resources, including time, on addressing crucial matters. Marketing can play a vital role in helping to shift consumers' mindsets into a mindset that can identify the essentials and eliminate the rest.

The fashion industry consists of various complex local and global dynamics. The dynamics are, consequently, the responsibility of consumer education to demystify the complex processes of the fashion industry, revealing the hidden environmental and social consequences associated with unsustainable practices (Jamaludin & Zabidi 2024). Although consumers may not be entirely equipped with the intricacies of production, from the supply chain channels of sourcing raw materials to the final garment in a boutique, there are fundamentals about which consumers need to be educated.

According to Manochithra (2020), within sustainability, education denotes providing information and skills development to enable individuals to make judicious consumption choices. By understanding these impacts, consumers can make more informed purchasing decisions that align with their values. Education also empowers consumers to recognise and avoid greenwashing tactics.

3.7.1. Role of Technology

Technology plays a significant role in advancing consumer education and transparency in fashion. Technology can empower consumers with access to information about brands and sustainability initiatives, but critical evaluation is essential (Mesjar, Cross, Jiang & Steed 2023). Digital platforms, such as websites, apps, and social media, can give consumers access to a wealth of information about brands, products, and sustainability initiatives. These tools can facilitate communication and collaboration between consumers, brands, and other stakeholders. Blockchain technology, for instance, provides a means to monitor and authenticate products at every stage of the supply chain, providing consumers with greater visibility into the origins and impacts of their clothing (Guo, Sun & Lam 2020). Similarly, data analytics can be used to assess brands' environmental and social performance and identify areas for improvement. However, it is important to critically evaluate the information provided through these technologies and ensure that the information is accurate, reliable, and unbiased.

3.7.2. Challenges in Consumer Education and Strategies for Effective Education

Despite its importance, consumer education faces several challenges. One major obstacle is the sheer volume of information available, which can be overwhelming and challenging. Consumers may struggle to distinguish between credible sources and misleading marketing claims. Another challenge is the lack of standardised metrics and reporting frameworks, which makes it difficult to compare the sustainability performance of the various brands (Wubs, Lavanga, Darpy, Depeyre, Segreto & Popowska 2020). Furthermore, consumer education efforts often fail to reach marginalised communities and workers most affected by the fashion industry's negative impacts. It is essential to ensure that education initiatives are inclusive and accessible to all, regardless of socio-economic background or geographic location (Bedor, Kamis, Shafie, Puad, Jamaluddin & Rahim 2021). This requires tailoring educational materials to different audiences and using culturally appropriate communication strategies.

To overcome these challenges, consumer education initiatives should adopt a multifaceted approach that combines different strategies and channels. According to authors such as Bertola and Colombi (2022) and Bedor *et al* (2021), a multifaceted approach to consumer education includes: collaboration, interactive tools, storytelling, community engagement, policy advocacy, transparency, and accountability.

4. Materials and Methods

This study used a narrative synthesis. When a statistical overview of multiple studies is not possible, methodical reviews can use a narrative synthesis approach. This means combining the findings from various studies into a comprehensive story, supported by tables and charts, to present the results. A narrative synthesis helps to compare studies with differing methodologies, populations, or data, or when examining the broader meaning and reliability of the results. According to Munn, Pollock, Khalil, Alexander, McInerney, Godfrey, Peters and Tricco (2022), narrative synthesis research fosters a deeper understanding of a subject, informing evidence-based practices and driving new research and innovation. This study, therefore, consulted a database of recent, relevant, and credible data sets and sources such as the *Journal of Fashion Theory, Journal of Fashion Marketing and Management, Fast Fashion, Fashion Brands and Sustainable Consumption, Consumer Behaviour and Sustainable Fashion Consumption and Circular Economy and Sustainability*, to name a few. The key terms used to consolidate the research were "sustainable fashion", "consumer awareness", "consumer education", and "conscious consumption".

To this end, the guiding methodology adopted in this study was conceptual in nature. Consequently, the narrative synthesis consists of secondary limitations, such as the possibility of potential subjectivity for interpreting results.

5. Results and Discussion

From a primary perspective of the literature review conducted above, the dynamics of the fashion industry, in both proposed

production processes and consumption behaviour, are slowly but surely changing. A recent study conducted by YourView towards 787 South African consumers to measure how sustainability affects shopping habits revealed the following (KLA 2024):

Table 1: Sustainability impact on consumer shopping habits

Figure	Description
20%	Avoid products containing harmful chemicals or pollutants
14%	Prioritise products certified as organic or sustainable by reputable organisations
13%	Opt for locally sourced products
11%	Support brands with transparent and ethical supply chains
10%	Choose items made from recycled materials
7%	Buy products with minimal packaging
7%	Shop for products that have a 'vegan/green' sign on
6%	Embrace second-hand shopping and thrift stores
4%	Participate in clothing swaps or rental services

Source:KLA(2024).https://kla.co.za/blogs/how-south-african-consumers-can-make-sustainable-choices/

Consumers are gradually becoming mindful of how the production processes of final products have a direct impact on their lives. The 20% of consumers who avoid harmful chemicals in their products is clear evidence that there is a gradual awareness shift in the impact of the final product on consumers, particularly when assessed through an eco-friendly perspective. However, in a relatively gradual change, a few consumers take note of products manufactured from recycled materials (10%) when buying. Table 1 highlights that most South African consumers still need to be educated on the importance of choosing sustainable brands and products that have the

potential to create a long-term benefit not only for individual consumers but for the community and the economy of South Africa. Therefore, there is a need to increase awareness regarding the significance of production and consumption in protecting society's social and economic conditions.

On a broader scale, the ethical fashion segment in the global fashion market is experiencing a notable transformation. The growth seen in 2022, when sustainable clothing reached 4.3% of the market, marks a notable rise from 2.83% in 2017. This steady growth reflects increasing consumer awareness and a rising demand for environmentally responsible fashion options (Falk 2023). Furthermore, the ethical fashion market has witnessed remarkable growth, achieving a substantial value of nearly USD7.5 billion in 2022, driven by a steady compounded annual growth rate (CAGR) of 6.5% since 2017. Projections suggest that the sustainable fashion market will continue to expand, with a projected value of USD11.2 billion by 2027, growing at a notable rate of 8.1%.

From the above data, it is imperative in South Africa to commence education on ethical fashion rather than mere production for sales purposes only. The world has already shifted into conscious production and procedures to demonstrate the effort to protect and maintain resources.

A few implications that policymakers must take into consideration are as follows:

- Targeted education and awareness campaigns: Policymakers must focus on the "why" consumers must want to choose sustainable products by highlighting such benefits for consumers.
- Different approaches are needed to reach different segments. The 20% avoiding harmful chemicals likely responds to health concerns, while the 10% interested in recycled materials responds to environmental concerns. Targeted marketing campaigns that directly address these specific concerns will be more effective.
- Partnership: Collaborations with NGOs, educational institutions, and influencers could significantly amplify the reach and impact of awareness campaigns.

6. Conclusion and Recommendation

The South African fashion industry is becoming mindful of the impact of sustainable production and consumption. Attributable to brands such as Woolworths, many consumers are gradually choosing ethically produced products with long-term benefits in mind. It is also worth noting that South Africa has more opportunities to educate consumers on what they should expect from entrepreneurs, but equally significantly, how such demands can benefit them and their communities. This, in turn, will encourage fashion designers to expand their focus when creating garments and aim to produce quality over quantity.

One of the key findings highlighted a gradual growth of consumers who seek products that resemble or carry sustainable practices in the production process (however, in a relatively gradual change, a few consumers take note of products manufactured from recycled materials (10%) when buying). This challenge remains crucial as the global fashion industry projections reflect the opposite image of the South African fashion landscape. Further key findings revealed that, as of 2022, sustainable clothing items have claimed a modest share of 4.3% in the market, increasing from 2.83% in 2017. This upward trend indicates a growing awareness and demand for eco-friendly fashion choices.

These findings continue to emphasise the significance of education towards consumers on sustainable practices and their benefits. Moreover, South Africa has an enormous number of creatives in the fashion industry. Therefore, finding innovative and creative methods to produce fashion can be an exciting opportunity for these creatives to demonstrate their vast adaptability and innovativeness.

The recommendation is that local entrepreneurs must have short learning programmes (SLPs) explicitly tailored to incorporate sustainable fashion from raw material sourcing and production, and messages tailored to attract consumers' attention. Furthermore, consumers must be equally educated from an academic and an individual perspective (private capacity or paid workshops) on advocating for consumer rights and protection. The Internet is suggested as a starting point, not to

discriminate but to encourage and promote businesses or brands that have intentionally put effort into practising ethical fashion. Authenticity is magnetic.

7. Limitation of the Sources

A few of the sources used were non-academic. However, the sources contained insight that could only be retrieved from the sources, as the sought content had not yet been specifically surveyed in the current terms and as updated or found in these sources. For example, Woolworths' original website page was used to access the organisation's recent sustainability plans. This information was not readily available from individual researchers conducting a recent Woolworths study.

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Chapter Four

African Fashion: Innovations in Circularity Through Recycling and Upcycling

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Abstract

The environmental impact of the fashion industry has become one of the significant drivers of global sustainability concerns and action. While African nations contribute minimally to global textile waste, their consumption is rapidly increasing, necessitating an urgent transition from a linear to a circular economy. This shift, particularly within African fashion, addresses environmental imperatives while promoting ethical and inclusive practices. While fibre recycling is a primary approach for end-of-life garments, upcycling offers a complementary strategy by transforming used clothing into higher-value products. At its core, sustainability aims to create resilient, regenerative systems that prioritise people, planet, and prosperity, fundamentally transforming the traditional fast-fashion model. This study aims to explore circular fashion practices in Africa that address environmental challenges and promote sustainability. It examines how designers and initiatives are driven by the need to tackle environmental challenges and advance sustainability. Findings indicate that by making use of local resources and traditional techniques, African designers and entrepreneurs are creating high-fashion pieces from waste, celebrating local

artisanship, and fostering economic opportunities. In conclusion, recycling and upcycling are indispensable for a sustainable fashion future, with African innovation establishing a global benchmark for circularity. This study recommends continued support to scale these impactful efforts and integrate them across the industry.

Keywords: African fashion industry, circular economy, innovation, recycling, sustainability, upcycling

1. Introduction

The African fashion industry is rapidly emerging as a significant global player, projected to reach a market volume of $10.12 billion by 2027 (Yamama 2021). This remarkable ascent, highlighted by a 90% increase in African cotton fibre production between 2019 and 2020 (UNESCO 2023), positions the continent as a vibrant hub for creativity and design. However, this expansion simultaneously necessitates a critical engagement with sustainability and circularity, concepts that have become imperative in global fashion discourse (Oladapo 2024).

While many African brands champion eco-friendly materials and ethical production, the industry faces significant challenges from the influx of inexpensive garments from Asia and the West (Berman-Jacob 2020). This foreign competition impacts not only local industries but also fosters fast fashion consumption patterns amongst African consumers (Nkatha 2023), leading to increased textile waste and pollution from low-quality, rapidly discarded clothing, and non-biodegradable synthetic fibres (Font & Font 2025; Rathinamoorthy 2019; Egan & Salmon 2022). Compounding this issue is the pervasive second-hand clothing industry. Despite providing affordable fashion and creating employment for hundreds of thousands of people across the continent, with over 80% of the African population reportedly consuming second-hand clothing (Emefa, Selase, Joana & Selorm 2015; Katende-Magezi 2022), this influx paradoxically results in millions of tonnes of textile waste accumulating in African landfills because of limited local recycling infrastructure (Brooks 2015; Sumo 2024). This composite challenge, arising from fast fashion and second-hand clothing imports, exerts significant environmental and social pressure, impacting drainage systems and generating emissions from transport and incineration (Sumo 2024).

In light of these pressing environmental concerns, prioritising sustainability and circularity in the fashion industry is paramount (Ban 2020). Despite its significant growth and creative potential, the African fashion industry faces a mounting problem of textile waste and pollution, exacerbated by the factors described above. African fashion designers are increasingly recognising these risks and developing innovative solutions by embracing textile reuse and recycling, transforming waste into valuable resources. This approach aligns with core sustainability principles: creating resilient systems that benefit people, the planet, and economic prosperity for future generations (Abdelmeguid, Afy-Shararah & Salonitis, 2023; Ellen MacArthur Foundation 2023).

This study aims to explore circular fashion practices in Africa that address environmental challenges and promote sustainability.

The objectives are as follows:

- To analyse and synthesise existing literature on recycling and upcycling models within the African fashion industry.
- To identify current innovative recycling and upcycling practices in the African fashion industry.
- To identify both fabric and non-fabric recycling and upcycling practices across the continent.

2. Literature Review and Theories

The literature review addresses the *linear fashion* framework, and its consequences, both globally and in Africa. The circular economy framework is presented with a focus on recycling and upcycling.

2.1. Linear Economy Framework

The prevailing production and consumption of textile products traditionally adhere to a linear model, characterised by a "take, make, use, and discard" sequence. In this model, raw fibres are initially processed into yarn, which is then knitted or woven into fabric. This fabric is subsequently utilised to produce textile products for various end-use applications (Figure 1). Geissdoerfer, Savaget, Bocken & Hultink (2017) assert that the fashion industrial system predominantly follows this linear economic model, where

end products are ultimately disposed of, leading to detrimental environmental consequences.

2.1.1. Manifestations of the Linear Economy in African Fashion

The linear economy is also prevalent in Africa. The vulnerabilities and external pressures of the linear economy on the African fashion industry are outlined below.

- Reliance on imported inputs: Despite the continent's rich cultural heritage and textile traditions, many African designers are compelled to rely on imported raw materials, including fabrics, dyes, and finishing accessories. This dependency largely stems from the underdevelopment of industrial-scale textile manufacturing and processing in many African countries (Osei & Ademtsu 2024). For instance, vibrant design communities in countries like Nigeria and Ghana lack integrated value chains for textile production, forcing dependence on imports from Asia, particularly China and India (UNESCO 2023; UNECA 2021). This reliance exposes African fashion businesses to volatile global supply chains, encompassing fluctuating prices, long lead times, significant shipping costs, and carbon-intensive transport. Crucially, it diminishes the potential for building self-reliant, circular local economies that sustainably utilise Indigenous materials.
- Impact of second-hand clothing imports (*mitumba, salaula, kaunjika*): One of the most visible consequences of the global linear fashion system in Africa is the influx of second-hand clothing (SHC) from the Global North that are known by various names such as *mitumba* in Kenya and Tanzania, *salaula* in Zambia, and *kaunjika* in Malawi. These imports serve economic and environmental functions but come with profound trade-offs. The availability of ultra-cheap second-hand clothing significantly reduces market demand for locally made garments, making it difficult for African designers, tailors, and textile producers to thrive (Mensah 2023). Brooks (2015) indicates that in countries like Ghana and Uganda, local textile industries have sharply declined since the 1990s attributable, in part, to SHC imports. Furthermore, while these garments enter under the appearance of reuse, a large percentage is unsellable because of poor quality or condition, ending up as waste (Mensah 2023). This exacerbates the already strained waste management systems in many African cities,

leading to overflowing landfills, environmental degradation, and health hazards for communities residing near dumpsites (Sumo 2024; Bick, Halse & Ekenga 2018). The Global North's fashion waste is often exported and disposed of in Africa.

- Limited end-of-life infrastructure: Unfortunately, the end-of-life pathway for locally produced African garments remains linear. Africa generally lacks adequate textile recycling plants, waste-to-energy facilities, or formal take-back schemes (Massa & Archodoulaki 2024). Consequently, clothes are discarded into municipal solid waste streams or burned in open dumpsites, resulting in resource loss, soil and air pollution, and greenhouse gas emissions (Massa & Archodoulaki 2024). The absence of a systemic approach to fashion waste management reflects broader infrastructural and regulatory gaps that hinder circularity (UNEP 2020).
- Emulating Western fast fashion trends: As disposable incomes increase and urbanisation accelerates, Africa is witnessing a growing shift towards Western-style fast fashion consumption, especially amongst youth populations (Shaik 2023). Global brands and local retailers increasingly offer cheap, mass-produced clothing, often imported, which encourages short-term use and rapid disposal. Without intervention, this behavioural shift risks locking African economies into the same unsustainable consumption model that has burdened Western nations with massive textile waste (Remy, Speelman & Swartz 2016).
- Resource depletion risks from linear production: A domestic expansion of fashion production under a linear model also poses significant environmental risks. Textile manufacturing is inherently water-intensive and chemical-intensive. For example, cotton production, one of Africa's major textile crops, demands large quantities of water and pesticides. If scaled unsustainably, it can contribute to water scarcity, biodiversity loss, and land degradation, particularly in already climate-vulnerable regions like the Sahel or southern Africa (WWF 2020).

Viewing African fashion through the lens of the linear economy emphasises the urgent need for a paradigm shift. The African fashion sector is rich in creativity, cultural capital, and youth engagement. However, its current alignment with global linear systems significantly limits its sustainability. Recognising these

dynamics is essential to guiding policy, investment, and innovation towards circular, locally-rooted models that preserve resources, empower local industries, and mitigate environmental harm.

2.2. Circular Economy Framework

The circular economy framework offers a viable solution to the inefficient use of resources by emphasising designing out waste, extending product lifecycles, and regenerating natural systems (Ellen MacArthur Foundation n.d.). Unlike the linear approach, this framework advocates for closing the material loop to enhance sustainability and minimise waste. It achieves this by focusing on designing products with inherent longevity and by promoting strategies like reducing, reusing, and recycling materials throughout a product's entire lifecycle (Morseletto 2020; Niinimäki, Peters, Dahlbo, Perry, Rissanen & Gwilt 2020). The concept of the circular fashion economy framework is grounded in four foundational strategies, namely resource efficiency, circular design, product life extension, and end-of-life circularity (Dissanayake & Weerasinghe 2021).

1. Resource efficiency involves the responsible and optimised use of materials and processes throughout the fashion value chain. Such use includes sourcing renewable and sustainable raw materials, minimising production waste, and reducing water and energy consumption. The sustainability of fashion products is significantly influenced by the type of fibre used and the chemicals employed in dyeing and finishing processes, which can have profound environmental impacts (Dainelli, Daddi & Marrucci 2024; Kumar, Kamil, Ahmad, Naqvi, Deitch, Amjad, Kumar, Basheer, Arshad & Sassanelli 2022).
2. Circular design plays a crucial role in enabling circularity, as it determines more than 80% of a product's environmental footprint at the conceptual stage (Dan, Ciortea & Mayer 2023). This approach emphasises designing garments for durability, ease of repair, disassembly, and recyclability, thereby facilitating longer product lifecycles and reducing post-consumer waste (Saccani, Bressanelli & Visintin 2023).
3. Product life extension focuses on maximising the functional lifespan of garments. Strategies include repair, resale, rental, and repurposing, all of which contribute to reducing the frequency of disposal and the demand for virgin resources (Abdelmeguid, Afy-Shararah & Salonitis, 2023).

4. End-of-life circularity seeks to close the loop by redirecting garments from landfills and reintroducing them into the production cycle. This can be achieved through recycling, upcycling, composting (for biodegradable materials), or take-back schemes. Integrating these end-of-life solutions into the fashion value chain supports continuous material circulation and significantly reduces environmental burdens (Degenstein *et al.*, 2023).

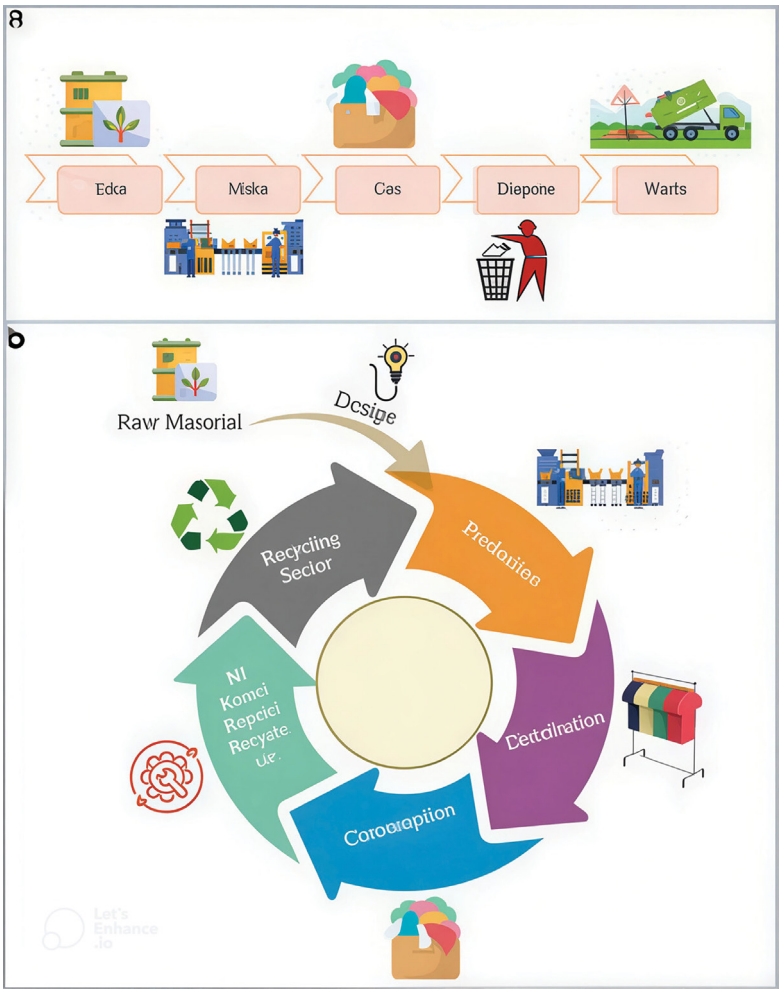


Figure 1: Schematic representation of a linear model (a) and a circular model (b) (Batool, Ahmad, Nawab & Hussain 2023:4)

The circular economy framework offers more than just a corrective to the environmental and social harms of linear systems. The framework also reveals Africa's long-standing alignment with sustainable practices rooted in tradition and innovation. Rather than positioning African fashion as a passive recipient of global fashion waste, the circular model elevates it as a potential leader in regenerative, inclusive, and culturally grounded fashion systems. Embracing this approach presents a transformative pathway for addressing the fashion industry's most pressing challenges, including climate change, pollution, and resource depletion. Moreover, the circular economy facilitates the continuous reuse and repurposing of materials, reducing dependency on virgin resources and minimising environmental impact. Key to this approach are practices such as recycling and upcycling, which are crucial mechanisms for achieving material circulation. This paradigm shift not only encourages more responsible growth but also creates space for innovative business models and fosters a culture of sustainability amongst producers and consumers alike.

2.3. Recycling in the Fashion Industry

Recycling has emerged as a crucial strategy for the fashion industry to lessen its environmental footprint and transition towards a circular economy. This process involves repurposing discarded clothing, textiles, and production waste into new materials or products (Batool *et al* 2023). A core principle of effective recycling is designing for recyclability, meaning that products are created with materials that can be easily disassembled and reprocessed at the end of their life cycle (Fletcher & Grose 2012). This approach prioritises materials with minimal environmental impact that can be efficiently recycled or reused. Therefore, the incorporation of recycled content should be initiated by product development and design teams and executed through the sourcing of certified recycled fibres, yarns, and fabrics (Swiss Recycle 2023). Ultimately, this might help to combat environmental challenges posed by fast fashion, reduce textile waste, and conserve valuable resources like water and energy.

2.3.1. Challenges to Textile Recycling

Despite its benefits, textile recycling faces significant hurdles. A primary obstacle is its high cost compared to using new materials (Kirchherr, Piscicelli, Bour, Kostense-Smit, Muller, Huibrechtse-Truijens & Hekkert 2018). Consequently, less than 1% of the fibre used to produce clothing is recycled into new garments (Ellen MacArthur Foundation 2023). Most recycled garments are downcycled, which means that they are transformed into cheaper items, such as insulation, mattress stuffing, or industrial wipes, that are eventually thrown away (Sustainable Fashion Forum 2021).

Operational challenges further compound these difficulties. The reliance on manual sorting systems because of insufficient equipment for material identification and sorting leads to costly labour (Sustainability Directory 2025a). Moreover, recycling textiles is complicated by the wide variety of components, colours, and finishes found in garments (Sustainability Directory 2025a). Furthermore, most garments contain materials like elastic, which are notoriously difficult to remove and recover during the recycling process (Beavers 2023). The lack of advanced technology, scalability issues, and economic feasibility also hinder the industry's progress towards circularity (Pedersen, Earley & Andersen 2019). Despite these challenges, various recycling approaches such as open-loop (downcycling), closed-loop, and upcycling play a vital role in sustaining the circulation of resources within the economy.

2.4. Upcycling in the Fashion Industry

Upcycling, the creative practice of giving used items new life, has gained significant traction in the fashion industry. Unlike textile recycling, upcycling transforms discarded textiles into higher-value products through creative repurposing (Ellen MacArthur Foundation 2012).

2.4.1. Origins of Upcycling

The term "upcycling" was first coined in 1994 by German engineer Reiner Pilz. In an interview with Salvo magazine, Pilz critiqued traditional recycling, stating, "Recycling…I call it down-cycling.

They smash bricks, they smash everything. What we need is upcycling, where old products are given more value, not less" (Vadicherla, Saravanan, Muthu Ram & Suganya 2017). This comment directly responded to the European Union's Demolition Waste Streams Directive, which encouraged the breakdown of construction materials for reuse in lower-value applications, such as road construction (European Commission n.d.).

In the book *Upsizing* (originally titled *Upcycling*), German economist Pauli (1998) further developed the upcycling concept. Pauli (1998) elaborated on strategies to achieve zero-emission production, emphasising industrial and societal measures, including the reuse of products at the end of their lifespan to create new items.

However, the true pioneers in industrial upcycling are widely considered to be William McDonough and Michael Braungart. In their seminal work, *Cradle to Cradle: Remaking the Way We Make Things*,McDonough and Braungart (2002) articulated the principle that "everything is a resource for something else". They advocated for reusing materials at the end of their life cycle, effectively giving them a "rebirth" or a "new cradle" rather than allowing them to decay (McDonough n.d.).

2.4.2. Role of Upcycling in Fashion

Following the establishment of these foundational concepts, the practice of upcycling has steadily grown in popularity in the fashion industry. In fashion, upcycling is a creative process that transforms existing garments into fashionable new pieces without altering their original material composition, unlike recycling, which breaks textiles down into raw materials (Vadicherla *et al* 2017). This involves performing value-added activities on pre-existing materials or disassembled garments to create a product of higher quality or value than the original (Ellen MacArthur Foundation 2012).

The upcycling process typically begins with a design concept and may necessitate a complete manufacturing cycle, similar to new product development. While the timeframe for upcycling can be extensive, allowing for sourcing, disassembly, and reconstitution, the ultimate aim is to create products that are truly sustainable, affordable, creative, and innovative.

2.5. Importance of Recycling and Upcycling

Recycling contributes significantly to waste reduction by diverting materials and finished garments from landfills (Sustainability Directory 2025b). Recycling also aids in environmental conservation by decreasing landfill volume, mitigating pollution, and preserving natural resources like water and virgin fibres, thereby reducing the environmental burden of textile production (Geissdoerfer *et al* 2017). Furthermore, recycling provides economic stimulus and employment opportunities. As the market shifts towards circular practices, innovation in recycling technologies can create new jobs in collection, processing, and manufacturing, especially in regions with high unemployment or declining traditional textile industries (Sustainability Directory 2025a). A continuous supply of recycled materials also supports upcycling initiatives, which often begin early in the material development process.

Upcycling inherently supports other sustainable activities, including designing for reuse, significantly reducing carbon emissions, and reducing the production of new synthetic materials (Calboli 2023). The pressing demand for sustainable solutions in the textile industry necessitates innovative approaches to address these growing environmental and social challenges. Both recycling and upcycling play vital roles in fulfilling sustainability criteria across economic, environmental, and social dimensions (Ellen MacArthur Foundation 2019).

3. Materials and Methods

This section outlines the research design, as well as the methods used for data collection and analysis in this study.

3.1. Research Design

This study employed a qualitative research design, primarily utilising a comprehensive literature review. This approach was selected to thoroughly analyse and explore innovative recycling and upcycling practices within the African fashion industry. A qualitative methodology is particularly appropriate for this enquiry as it facilitates an in-depth, comprehensive, and nuanced

understanding of complex phenomena. It enables researchers to delve into the underlying why and how of human experiences and social realities within their natural contexts (Mohajan 2018; Korstjens & Moser 2018). This approach is especially valuable for investigating intricate processes, such as the implementation of sustainable practices within the textile industry, where subjective experiences, motivations, and contextual factors are crucial to a holistic understanding.

3.2. Data Collection

The primary data collection method involved an extensive and systematic review of relevant academic and industry literature. Sources included peer-reviewed journal articles, reputable industry reports, governmental publications, and credible online resources. The literature search was conducted using a combination of keywords and phrases, including but not limited to: "textile recycling", "upcycling", "environmental sustainability", "linear economy", "circular economy", "African fashion industry", "innovations for sustainable fashion Africa", and "textile waste management Africa". The aim was to gather diverse perspectives and empirical evidence pertaining to fashion recycling and upcycling initiatives and innovations, specifically within the African fashion industry.

3.3. Data Analysis

The collected data from the literature review were systematically analysed using thematic analysis. This method, as described by Braun and Clarke (2006), allows for the identification, analysis, and reporting of patterns (themes) within the data. The process involved familiarisation with the data, initial coding, searching for themes, reviewing themes, defining and naming themes, and finally, producing the report. This rigorous approach enabled the identification and exploration of recurring themes related to circularity, the practices and significance of recycling and upcycling, and specific innovations within the African fashion industry context. The thematic analysis facilitated a structured interpretation of the literature, allowing for the synthesis of key insights and the fulfilment of the study's objectives.

4. Results and Discussions

Within the context of African fashion, the circular economy framework illuminates a rich interplay of traditional knowledge, cultural practices, and contemporary innovations that inherently align with circularity principles. Historically and presently, African fashion demonstrates deep compatibility with circular economy principles through its inherent resilience, creativity, and community-based solutions. Section 4.1 presents results and discussions based on the first objective, which seeks to analyse and synthesise existing literature on recycling and upcycling models within the African fashion industry. Sections 4.2 to 4.2.2 present results and discussions based on the second objective, which focuses on identifying current innovative recycling and upcycling practices in the African fashion industry. Section 4.3 presents results and discussions based on the third objective, which identified both fabric and non-fabric recycling and upcycling practices across the continent.

4.1. Traditional Practices as Circular Pioneers

Many African fashion traditions predate the formal concept of circular economy, yet they embody its principles through longstanding cultural values of stewardship, continuity, and communal responsibility (Cabanos 2024). In numerous African communities, garments were designed and crafted for durability and multifunctionality (Harambee Africa 2024). Clothing was not considered disposable but rather a long-term investment. Historically, African clothes were also made from locally available natural fibres like cotton, raffia, flax, or bark cloth, and dyed using plant-based pigments and minerals (Tribal Now 2021). These clothes were passed down through generations, repaired when needed, and repurposed in various forms (Honoré 2024). These practices demonstrate an extended clothing lifecycle approach long before sustainability entered the global discourse.

The prevalence of bespoke tailoring is another cornerstone of African fashion. Local tailors are integral to every community through the production of custom-fit garments (Honoré 2024; Vilarinho & Christiaans 2020). Custom-fit garments are sustainable because they reduce overproduction and fabric

waste and have a long life cycle (Shah 2025). These practices naturally resist mass production and fast fashion trends, fostering a more demand-driven and adaptive production process. Tailors also play a crucial secondary role in altering, repairing, and refashioning existing garments, extending their usefulness and reducing the need for new purchases (Vilarinho 2013). African societies have a history of reusing and recycling their old clothes before discarding them (Kalina, Ngcoya, Nkhoma & Tilley 2022; Collacott 2023; Honoré 2024). In Malawi, old clothes are recycled into cleaning rags and woven into mats (Kalina *et al* 2022). These practices not only reduced environmental impact but also fostered self-sustaining value chains that supported farmers, dyers, weavers, and artisans. Such ecological integration aligns closely with the regenerative principles of circular design.

4.2. Innovations in Recycling and Upcycling within the African Fashion Industry

Innovation in sustainable fashion is flourishing within the African context, particularly through upcycling and zero-waste design techniques. African designers are employing innovative material-reuse practices and adopting circular fashion strategies to reduce overall waste generation (Fibre2Fashion 2024), thereby challenging the prevalent throwaway culture of the global fashion industry. This movement transcends being a mere trend, offering a path towards a more sustainable and culturally responsible industry. Through their ingenuity, African designers are not only reshaping the narrative around fashion waste but also celebrating African identity and artisanship. Sections 4.2.1 and 4.2.2 present current innovative recycling and upcycling practices in the African fashion industry.

4.2.1. Creative Repurposing of Textiles

Many African designers demonstrate remarkable skill in transforming discarded textiles and materials into high-fashion items. These designers use reclaimed fabrics to create textile-based art that narrates cultural stories or reimagines traditional patterns.

In West Africa, Orange Culture from Nigeria, a contemporary brand, utilises leftover fabrics and combines upcycled material to produce new garments (NU Design Spaces n.d.). Through these practices, Orange Culture embodies a circular fashion model. Similarly, other West African fashion designers are known to revive African culture by integrating leftover *ankara*, *kente*, and *aso-oke* fabric pieces into vibrant patchwork jackets, skirts, and handbags. Discarded or damaged *aso-oke*, for example, is often meticulously repaired and reimagined into modern bridal or festive attire. Prominent brands like NKWO in Nigeria specialise in "waste-not" design, innovatively using upcycled denim and Ankara scraps for their collections, and also transforming strips of *kente* or *adire* into statement necklaces, earrings, and bangles (NKWO Design Studio n.d.).

In South Africa, UBEYOU, a Cape Town-based brand, repurposes leftover fabrics and upcycled and second-hand clothing into vibrant, gender-neutral designs (Beaton 2022; Nwachukwu 2021). UBEYOU, with their limited-production model, inherently minimises waste and promotes slow fashion. Similarly, South African designer Alexa Schempers' Rethread specialises in upcycling vintage garments into modern, essential clothing items, thereby redefining the aesthetics of sustainability (Rethread Store n.d.; Beaton 2022). Rewoven collects textile waste and transforms it into new woven fabrics, creating closed-loop production systems that tackle textile waste while generating new value and aesthetic appeal (Mohlatlole 2020).

Furthermore, fashion brands from East Africa also incorporate unwanted clothes and fabric leftovers to create new garments. Maisha by Nisria from Kenya utilises unwanted fabrics from flea markets, landfills and recycling companies to create new garments (Kimeu 2025). Anyango Mpinga from Kenya utilises upcycled and recycled materials to produce new garments (Anyango Mpinga n.d.) Similarly, Bone Koboyi is a brand by Jean Maurice Niyigena from Rwanda that produces streetwear from recycled fabrics (Kimeu 2025). In Mozambique, Powa Clothing, a brand by Chinenye Macuacua, upcycles clothing waste and leftover fabric into new garments (Lioness of Africa 2023). These fashion designers exemplify how African fashion designers

are creatively transforming fabric waste into culturally rich, high-quality garments. Their innovative use of leftover fabric waste not only preserves heritage but also advances a circular fashion economy across the continent.

4.2.2. Fostering a Circular Ecosystem: Initiatives and Collaborations

Numerous initiatives across Africa are actively fostering a more circular fashion ecosystem. Vivo in Kenya has launched a collection using recycled cotton and materials sourced from local artisans, creating job opportunities while minimising textile waste. Initiatives like the Twyg Awards and Swap&Mend in South Africa encourage community-based clothing swaps and repair workshops, fostering a culture of reuse and extending garment life cycles (Beaton 2022). Africa Collects Textiles is an initiative operating in Kenya and Nigeria. Africa Collects Textiles promotes circular fashion through used textile and footwear collection points. Once the used textile is sorted into various categories, it is then recycled into homeware items such as carpets and pillows (Africa Collects Textiles n.d.). Africa Collects Textiles addresses environmental challenges caused by the fashion industry and creates jobs for underprivileged communities.

In Ghana, the Revival Earth Organisation is a community engagement organisation that addresses the social and environmental challenges caused by second-hand clothing (The Revival n.d.). The RevivalTex brick is made from a combination of second-hand clothing waste, shredded plastic waste and binding agent. The RevivalTex Brick is a joint effort by The Revival Circularity Lab and plastic recyclers (The Revival n.d.). This initiative promotes recycling, upcycling, creates employment, and reduces environmental burden caused by poor quality second-hand clothes and plastic waste.

4.3. Innovating with Textile and Non-Textile Waste

This section addresses both fabric and non-fabric recycling and upcycling practices across the continent. Beyond fabrics, some African designers are working with diverse waste materials like plastic, rubber, and glass to create unique fashion pieces.

South Africa's The Joinery, for example, produces luxurious accessories from recycled plastic bottles and fabric waste (The Joinery n.d.). The Joinery has developed a fabric called FutureTex, which consists of recycled plastic bottles and fabric waste (The Joinery n.d.). Lara Klawikowski, from South Africa, produces garments from fabric leftovers, upcycled rubber and recycled plastic (Twyg n.d.). In Ethiopia, Sole Rebel, a footwear company, utilises materials such as discarded fabric and rubber to produce comfortable shoes (Africa 2019). Similarly, in Ghana, Eco-shoes produces footwear from rubber and unwanted fabric (Africa 2019). Boie and Bill from Ghana combine African print fabrics and other fabrics with upcycled plastic bags from dumpsites into wearable garments (News Central TV 2021). These examples reflect a growing movement amongst African fashion designers to embrace unconventional waste materials as valuable fashion resources, circular fashion practices that tackle environmental challenges and advance sustainability, showcasing circular innovation.

5. Conclusion

By viewing African fashion through both linear and circular economy lenses, analysts and stakeholders can better understand its current entanglements and its future potential. While the linear model highlights external pressures and structural challenges, the circular framework illuminates local ingenuity, sustainable traditions, and community-driven models that offer resilient, regenerative alternatives to conventional production systems. This dual perspective reveals not only the constraints but also the untapped capacities within African fashion to lead in the global shift towards more equitable and circular futures.

This study affirms that the African fashion industry stands as a dynamic and increasingly influential global player, uniquely positioned at the forefront of sustainable transformation. By deeply integrating its rich cultural heritage with innovative practices, African designers and initiatives offer compelling models for a more circular economy. While global textile waste presents a significant challenge, exacerbated by rising consumption in Africa, the continent's fashion sector is actively charting a path beyond the conventional linear model.

The comprehensive review revealed that African innovators are not merely adopting sustainability; they are redefining it through diverse and impactful approaches. From creatively repurposing textile waste and transforming non-textile discarded materials into high-fashion pieces to embracing Indigenous materials and natural dyes, these efforts showcase ingenuity and resourcefulness. Furthermore, the proliferation of collaborative initiatives and circular ecosystem-building emphasises a collective commitment to ethical production, local artisanship, and economic empowerment. These innovations collectively reduce environmental impact, generate new value, and powerfully celebrate African identity and narratives.

Ultimately, the strategies employed by African fashion designers, blending cultural celebration with robust recycling and upcycling principles, are setting a new benchmark for sustainable fashion globally. This vibrant movement demonstrates immense potential to reshape the international industry, offering tangible solutions to pressing environmental and social challenges. By fostering a circular future, African fashion is not just participating in the global sustainability dialogue; it is leading it with creativity, cultural identity, and a profound commitment to planetary and human well-being.

6. Recommendations

To significantly accelerate the adoption and impact of recycling and upcycling within the African fashion industry, a holistic approach is essential. This requires strategic investment in advanced recycling infrastructure and technology, coupled with robust policy support to overcome material sorting complexities and reduce cost disparities. Simultaneously, it is crucial to promote design for circularity by integrating industry standards and educating future designers on multi-lifecycle product creation.

Furthermore, we must foster and scale African innovation through dedicated funding, incubation programmes, and expanded market access for sustainable fashion ventures, while empowering consumers through educational campaigns and support for circular consumption models like repair and resale.

Ultimately, strengthening cross-sectoral collaboration across the entire fashion value chain, from producers to consumers, will enable the industry to transform its challenges into opportunities, leading to a more sustainable, economically viable, and culturally rich future for African fashion.

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Author Biography

Dr Josephine Kasambala holds a doctorate in Consumer Science from the University of South Africa, with a specialised focus in consumer behaviour, fashion marketing, and purchasing decisions. Her research broadly encompasses consumer behaviour, fashion marketing, decision-making, garment sizing and fit, sustainable fashion design, and the environment, with a particular emphasis on advancing circular economy principles within the fashion industry. Currently, she serves as a Lecturer in Textile and Fashion Design Section at the Lilongwe University of Agriculture and Natural Resources (LUANAR) in Malawi in the Department of Agriculture and Food Systems. Through both her teaching and research, Kasambala is dedicated to fostering innovation and sustainability in fashion systems, especially within the context of sub-Saharan Africa.

Chapter Five

The Implementation of Sustainable Practices by Fashion Brands Across Africa

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Abstract

This chapter examines the under-documented sustainable practices amongst African fashion brands amid environmental degradation, high carbon emissions, and unsustainable resource use by the fashion industry globally. The dominance of fast fashion and the lack of comprehensive documentation, certification, and eco-labelling have limited the visibility and credibility of African brands' sustainability efforts. This gap undermines consumer trust and hampers the broader adoption of sustainable practices within the industry. The study explores the sustainable practices employed by African fashion brands, their alignment with the economic, social, and environmental pillars of sustainability, their connection to the United Nations Sustainable Development Goals (SDGs), and how brands verify their sustainability claims. The qualitative research approach was employed to collect data from 54 purposively selected brands from the East, West, North, and southern African regions through a desktop survey. Findings reveal common sustainable practices rooted in local materials, sustainable manufacturing, circular economy principles, and

social responsibility. These efforts reduce environmental impact, empower communities, and preserve cultural heritage. Collectively, they address relevant SDGs and the three sustainability pillars: economic growth, social equity through fair labour and community empowerment, and ecological conservation. However, challenges persist, as few brands have sustainability certification. While brands increasingly pursue international certifications, there are accessibility barriers, particularly for smaller brands. African fashion brands are vital in advancing sustainability regionally and globally, but greater efforts are needed to harmonise certification schemes, enhance transparency, and support smaller enterprises. It is recommended to invest more in documentation for more brand visibility and consumer awareness, streamlined certification processes, targeted educational campaigns, and policy support to foster the growth and global recognition of Africa's sustainable fashion. Further research could utilise other data sources apart from the Internet and interactive data collection methods to ensure a representative sample for the generalisability of findings and verification of sustainability claims.

Keywords: Africa, ethical practices, fashion brands, slow fashion, sustainable fashion, sustainability

1. Introduction

The global textile and fashion industries significantly contribute to environmental degradation, characterised by high energy consumption and reliance on non-biodegradable synthetic materials (Niinimäki, Peters, Dahlbo, Perry, Rissanen & Gwilt 2020). The textile and fashion industries are responsible for approximately 10% of global carbon emissions, are the second-largest consumer of water, and textile dyeing processes alone account for 20% of industrial wastewater pollution (Maiti 2024). In response to these concerns, a sustainable fashion movement has emerged, emphasising the creation of clothing and accessories that prioritise environmental stewardship and social responsibility (Fletcher 2014).

On the African continent, sustainable practices include the utilisation of natural fibres alongside traditional techniques that minimise ecological impact. However, colonialism and the rise

of fast fashion resulted in a decline in these practices as cheaper synthetic alternatives became prevalent (Gardetti & Torres 2017). There has been a resurgence in awareness of the environmental consequences of textile waste being dumped in Africa. Designers across the continent are reviving traditional sustainable raw materials and production processes to counter these challenges. Traditional processes reduce environmental impact, empower local artisans, and preserve cultural heritage through practices such as hand weaving and natural dyeing (Ajayi & Steele 2019).

Today, numerous African fashion brands are gaining recognition for their commitment to sustainability. These brands exemplify ethical production methods and innovative uses of materials, such as upcycling discarded textiles into fashionable garments. African fashion brands are collaborating with international organisations through local platforms to enhance the visibility of African designers on the global stage (Rovine 2015). Despite facing challenges like limited resources and competition from fast fashion brands, African designers are transforming these obstacles into opportunities for innovation. By prioritising sustainability as a norm rather than an exception, African fashion contributes to the global movement towards responsible fashion but also fosters economic development within local communities.

The African fashion industry faces significant challenges in documenting sustainable practices amidst the global fast-fashion dominance. Despite growing efforts by African designers to implement eco-friendly and ethical production methods, a lack of comprehensive documentation, certification, and eco-labelling undermines their credibility and visibility. This gap limits consumer trust and hinders the broader adoption of sustainability within the industry. Furthermore, while global studies extensively explore and document sustainable fashion practices, limited research focuses on African fashion brands' unique contributions to sustainability. Moreover, Africa's environmental stewardship of the continent's rich natural resources, cultural heritage, and local artisanship is underexplored. Therefore, this study addresses this gap by documenting case studies of African brands implementing sustainability by exploring uniquely African practices and ecologically friendly materials utilised by fashion brands.

The purpose of this study is to explore the sustainable practices of various fashion brands across the African continent, and was guided by the following research questions:

- RQ1. What are the sustainable practices implemented by fashion brands across Africa?
- RQ2. How do sustainable practices in Africa address the economic, social, and environmental pillars of sustainability?
- RQ3. How do the sustainable practices of African fashion brands comply with the SDGs relevant to the fashion industry?
- RQ4. How do fashion brands in Africa authenticate their sustainability claims?

2. Literature Review and Theories

This section synthesises literature on sustainable fashion, exploring the integration of environmental, social, and economic dimensions throughout the fashion product life cycle. It highlights key elements of sustainable fashion and Sustainable Development Goals (SDGs), particularly those promoting the fashion industry's potential to contribute to global sustainability targets. Furthermore, sustainability theories and frameworks provide conceptual foundations that guide fashion brands for embedding sustainable practices within their business models. Together, these scholarly insights form a comprehensive basis for understanding how sustainable fashion can evolve with global sustainability.

2.1. Elements of Sustainable Fashion

- **Slow fashion:** This is a concept of manufacturing durable textile products as an alternative to fast fashion, focusing on the impact of products on the environment, workers, and communities rather than opposing fast fashion directly (Fletcher 2008; Jung & Jin 2016). Slow fashion also advocates for consumers to have a limited number of fashion products over a longer period, as well as small batch production, which promotes the production of apparel and textile products on demand, made-to-order, and in small quantities. Slow fashion minimises the environmental hazard caused by overconsumption and cuts excess inventory. Small batch production

enables rapid trend response and meets the demand for unique products (Global Textile Times 2025; Deloitte 2024). Slow fashion supports local economies and better labour conditions but faces higher per-unit costs and scaling challenges, which technology like 3D printing and artificial intelligence (AI) aids in addressing by enabling more efficient and transparent production. Other key features include originality, timeless design, hand artisanship, and use of local, eco-friendly materials, and social responsibility (Antanavičiūtė & Dobilaitė 2015). Producing durable, quality items lowers the need for constant production, reducing clothing waste and landfill overflow (Oliveira, Santos & Gonçalves 2022). Effective adoption of slow fashion can significantly reduce the environmental impact caused by mass production.

- **Eco-design:** Minimises environmental harm across a product's life cycle (Kong, Wang, Li, Tian, Li, Cai, Zhou & Fu 2022; Gwilt 2020). Efforts to use facilities that consume low energy and are chemical-free can also be classified under eco-designs. In fashion, eco-design integrates ethical responsibility in design, production, distribution, and consumption. It uses organic, natural, and recycled materials with sustainable methods (Cimatti, Campana & Carluccio 2017), reducing carbon footprints and waste, as well as promoting fair labour practices. Despite challenges in scalability and access, eco-design offers a strong sustainability vision. However, many designers focus mainly on materials and production, neglecting other sustainable design aspects like durability, recycling, zero waste, and disassembly (Claxton & Kent 2020).
- **Handcraft:** Most textile production is performed on a large scale using mechanised technologies that are heavy energy consumers, a key contributor to greenhouse gases (Rissanen & McQuillan 2016), as well as high water consumption. Handcrafting emphasises hand production that has zero emissions compared to machinery, produces superior and durable quality products, and preserves communities' heritage and history. Handcrafting supports eco-friendly production, preserves traditions, and often uses local biodegradable fabrics and plant dyes, reducing environmental damage. Consumers increasingly prefer unique, durable handcrafted

items (Xue, Zhang & Wang 2022). Socially, handcrafting sustains local economies and traditional knowledge, empowering women and marginalised groups through fair jobs, and fostering cultural and economic resilience (Malema & Naidoo 2017).

- **Recycling and repurposing:** Most textiles and apparel are discarded for reasons that can be rectified to elongate product life (Sandin & Peters 2018), e.g., consumers' desire for new, fashionable clothes. This results in large quantities of clothing being discarded and ending up in landfills. The second-hand clothing market encourages the re-use of clothes instead of discarding them. Repairs and repurposing may also give the clothes new life. Also, worn-out clothes and fabric waste may be converted into raw materials for making new clothes or other textile products.
- **Sustainable packaging:** Fashion packaging mainly uses petroleum-based, single-use plastics that cause pollution and landfill waste. Plastics degrade slowly into microplastics, threatening ecosystems (Lamichhane, Acharya, Marahatha, Modi, Paudel, Adhikari, Raut, Aryal & Parajuli 2023). Plastic packaging production consumes fossil fuels and water, increasing emissions and resource depletion. Industry demands have driven a shift to sustainable packaging like recycled and biobased materials (Jestratijevic & Vrabič-Brodnjak 2022). The 7Rs framework: reduce, reuse, recycle, refuse, repurpose, rot, and rethink guides reducing packaging's environmental impact (Surjit *et al* 2025).
- **Zero waste:** Garment pattern-cutting wastes about 15% of the fabric, which ends up in landfills and adversely impacts the environment. Zero-waste design aims to eliminate fabric waste by using all fabric or minimising leftovers through creative cutting (Nursari & Djamal 2019). Digital pattern software and 3D visualisation help to optimise fabric use, reducing waste significantly (Younus 2025). Other zero-waste techniques include planned chaos, geo-cutting, subtraction cutting, jigsaw cutting, cutting and draping, and reusing scraps of fabric and yarn (Gupta & Saini 2020). Waste production, if not well managed, can be of major concern to the environment. Most solid textile waste has limited applications and

ends up in landfills. Sustainable fashion minimises waste generation and/or utilises all waste produced through advanced technologies.

- **Social responsibility:** These include fair labour practices, taking into consideration workers' welfare and other human rights aspects (Kozlowski, Searcy & Bardecki 2019). The workers need to be paid decent salaries and work in good conditions, which include good sanitation, no child or forced labour, gazetted working hours, and food provision, amongst others. Corporate social responsibility (CSR) includes company initiatives that support the empowerment and development of local communities. CSR in fashion increasingly aligns with SDGs, focusing on eco-friendly products, worker safety, and supply chain innovation. H&M's compliance with United Nations' standards is an example, though critics warn of greenwashing. The micro-meso-macro CSR framework shows impacts at the brand, supply chain, and societal levels, but fragmented ethical approaches complicate consistent implementation (ElAlfy, Palaschuk, El-Bassiouny, Wilson & Weber 2020; Aguinis & Glavas 2017).
- **Sustainable material sourcing:** Ensures sourcing of environmentally friendly materials and requires collaboration between suppliers and manufacturers to ensure that all materials used meet the requirements for the product to meet sustainable status. Sustainable materials include organic and natural fibres, for example, organic cotton and hemp. The growth of these fibres uses minimal pesticides, as well as low water consumption, but faces cost challenges. The Global Organic Textile Standard (GOTS) certification enforces ecological and social standards, but organic fibres remain just 1% of global cotton production (Jones & Patel 2024). Recycled materials like recycled polyester and biobased materials like mushroom leather are other examples of sustainable materials. However, these sustainable materials face challenges like poor durability and consumer acceptance (Garcia, Takahashi & Vink 2023).
- **Local manufacturing:** Reduces emissions, supports economies, and improves labour oversight (Fairly Made 2025). This financially empowers locals and eliminates the need for transportation that would otherwise increase the carbon footprint of apparel and textile products.

- **Use of renewable energy sources:** Sustainable companies strive to utilise alternative renewable energy sources that have no or minimal environmental impact, e.g., solar-powered plants. Switching to renewables is key to reducing fashion's carbon footprint. Brands use life cycle analysis (LCA) to track impacts, and renewable-powered factories are becoming common, aligning with consumer eco-expectations (Fairly Made 2025; Sustainability 2022).

2.2. Authentication Measures for Sustainability Claims

Sustainability certifications are vital in fashion for validating environmental and social claims, enhancing supply chain transparency, and meeting regulatory and consumer demands (OECD 2025; SustainYourStyle 2024). The GOTS has seen a 154% increase in certified facilities from 2018 to 2023, though certified materials remain a minority globally (27% of cotton, 39% of leather) (OECD 2025). Certifications are categorised into due diligence certifications (e.g., Green Button, Oeko-Tex Responsible Business), targeted risk certifications (e.g., Better Cotton Initiative, Fairtrade Cotton, Cradle to Cradle, GOTS), and certificates of origin or chain of custody (e.g., Better Cotton Traceability, GOTS transaction certificates) (OECD 2025; SustainYourStyle 2024).

Brands and retailers adopt certifications mainly for risk identification, product tracing, and regulatory compliance, with larger companies more likely to mandate them. Suppliers seek market access and reputational benefits. Certifications help to exclude high-risk sourcing regions and substantiate ethical claims like recycled content (OECD 2025). The SANE Standard offers a holistic approach addressing environmental impact, workers' rights, and consumer health aligned with European Union regulations, while GOTS remains widely recognised for organic fibre integrity and social responsibility (Marchi 2021; SustainYourStyle 2024). Other certifications like SA8000 and WRAP focus on social accountability and lawful manufacturing but face critiques on wage standards (SustainYourStyle 2024; OECD 2025).

Despite benefits, over 100 textile certifications create complexity and consumer confusion, indicating a need for clearer communication and harmonisation to improve effectiveness and

accessibility (Koszewska 2021; Turunen, Halme & Numminen 2021; Changing Markets Foundation 2018). Overall, certifications are essential tools for transparency, ethical practices, and regulatory compliance in fashion, requiring ongoing evolution and integration into due diligence frameworks to address complex sustainability challenges (OECD 2025; SustainYourStyle 2024). Future research should focus on improving accessibility for smaller brands and understanding the link between certifications and consumer behaviour to encourage wider adoption (Laidlaw Scholars Network 2025).

2.3. Sustainable Development Goals (SDGs) Relevant to the Fashion Industry

The SDGs were introduced by the United Nations in 2015 as a universal and integrated call to action aimed in part to address environmental, economic, and social challenges globally. The sustainability of the fashion industry hinges on the adoption of sustainable production and consumption practices that reduce environmental harm. These can be achieved by aligning and enforcing the relevant SDGs, such as SDG 7, SDG 8, SDG 9, SDG 12, SDG 14, and SDG 15 (Thakker & Sun 2023). It is, however, important to note a strong interrelation between the SDGs, as the achievement or failure of one SDG has a direct influence on the success of other SDGs. The links between these SDGs and the fashion industry are as follows:

2.3.1. SDG 7: Clean Energy

The fashion industry accounts for about 10% of global carbon emissions, releasing 1.2 billion tonnes of CO_2 annually (Shukla 2022). To reduce its environmental impact, the industry is increasingly adopting renewable energy sources like solar power, which can replace fossil fuels traditionally used across the fashion value chain (Ukoba, Adewuyi & Olorunfemi 2024). Brands such as H&M and Nike have integrated solar energy at production sites, committing to 100% renewable energy by 2030 and 2040, respectively (Tanim 2025). Utilising solar energy helps factories to cut greenhouse gas emissions and decrease reliance on non-renewable energy. This transition also meets rising consumer demand for ethical and environmentally responsible fashion.

2.3.2. SDG 8: Decent Work and Economic Growth

The fashion industry employs more than 300 million people globally and is a huge contributor to economic development in many economies (Gazzola, Pavione, Pezzetti & Grechi 2020). However, according to Brown (2021), the fashion industry is dominated by women and girls and is plagued by unfair labour practices, i.e., indecent working conditions, long hours, and lower wages, hindering the efforts to achieve SDG 8. Sustainable fashion practices strongly advocate for decent working conditions and foster economic growth through fair labour practices.

2.3.3. SDG 9: Industry, Innovation, and Infrastructure

The fashion industry is marked by old and unsustainable technologies. Therefore, there is a need for the industry to come up with modern innovative solutions to all processes along its value chain. This will allow for environmentally friendly and more resource-efficient production processes (Provin, Regina de Aguiar Dutra, Machado & Vieira Cubas 2021). Furthermore, the adoption of the latest technologies like AI and the Internet of Things (IoT) to build intelligent infrastructures that will allow the industry to become sustainable (Akram, Malik, Singh, Gehlot, Juyal, Ghafoor & Shrestha 2022). Most sustainable fashion practices are also innovative.

2.3.4. SDG 12: Responsible Consumption and Production

Responsible consumption and production are vital for a sustainable fashion industry. Fast fashion encourages excessive buying, resulting in significant waste as 80 billion garments are produced annually, with 85% ending up in landfills (Vijeyarasa & Liu 2022). Achieving SDG 12 requires the adoption of a circular model, which focuses on reducing waste through the reuse and recycling of garments and using environmentally friendly materials (Provin *et al* 2021). This approach addresses the negative environmental impacts of continuous consumption and production, such as waste, carbon emissions, and resource depletion. Implementing these circular practices can drive the fashion industry towards greater sustainability.

2.3.5. SDGs 14 and 15: Life below Water and on Land

The fashion industry's pollution is directly linked to SDGs 14 and 15, which address the health of aquatic and terrestrial ecosystems. Synthetic materials, especially polyester, break down into microfibres, causing microplastic pollution in water bodies and harming aquatic life (Seidu *et al* 2024). Two-thirds of textile fibres are synthetic, with half being polyester, and their production increases carbon emissions, contributing to global warming (Palacios-Mateo, Van der Meer & Seide 2021; Rathinamoorthy & Raja Balasaraswathi 2022). To address these issues, the industry must shift to renewable materials, phase out fossil fuels in fibre production, and adopt cleaner processes (Palacios-Mateo *et al* 2021).

The fashion industry's alignment with these SDGs could be strengthened through sustainability frameworks such as design for sustainability, collaborative consumption, and extended producer responsibility, which collectively promote responsible production, innovation, environmental stewardship, and social equity across the value chain.

2.4. Sustainability Theories and Frameworks Relevant to the Fashion Industry

The urgency of sustainability challenges has driven a rethinking of design, production, and consumption in global industries. Three frameworks are vital for transformation in the fashion and textiles sector: design for sustainability (DfS), collaborative consumption (CC), and extended producer responsibility (EPR) (Ceschin & Gaziulusoy 2016; Ellen MacArthur Foundation 2021; African Development Bank 2022).

2.4.1. Design for Sustainability (DfS) African Fashion Brands

Design for sustainability (DfS) has evolved from product-centric eco-design to systemic interventions addressing environmental, social, and economic dimensions (Barbero & Fassio 2011; Bistagnino 2009; Ceschin & Gaziulusoy 2016). Early DfS focused on material selection, energy efficiency, and end-of-life considerations (Vezzoli & Manzini 2008). Of particular relevance to fashion are the product innovation and spatio-social/

socio-technical levels. The former targets material and energy efficiency, while the latter integrates social innovation with technology, aiming for closed-loop systems and circularity (Barbero & Fassio 2011; Bistagnino 2009). Key criteria for DfS tools include life cycle thinking, stakeholder engagement, and adaptability (Faludi, Bayley, Bhogal & Iribarne 2020; Hallstedt, Thompson & Lindahl 2010). The field increasingly balances the triple bottom line and supports decision-making across the product life cycle (Faludi *et al* 2020; Gaziulusoy & Boyle 2013).

African brands make use of traditional artisanship, local sourcing, and eco-friendly materials to minimise impact. South African designers use natural dyes, hand weaving, and upcycling, reducing waste and preserving Indigenous knowledge (Fashionomics Africa 2022). A design-driven approach is fundamental for holistic sustainability, allowing designers to embed sustainable values throughout the system (Van der Merwe 2019).

2.4.2. Collaborative Consumption and African Fashion Brands

Collaborative consumption (CC) involves sharing, exchanging, or renting products, reducing the need for individual ownership (Leismann, Schmitt, Rohn & Baedeker 2013; Ellen MacArthur Foundation 2021). Digital platforms enable CC, promoting resource efficiency and community engagement. CC benefits include reduced resource use, cost savings, and strengthened social capital (Ellen MacArthur Foundation 2021; African Development Bank 2022; Djossouvi, Mensah & Tchamitchian 2023).

CC in African fashion is growing as brands address overproduction and waste. Models such as renting, swapping, and on-demand production promote access over ownership and limit excess stock (Fashionomics Africa 2022; CIAFE 2023). Examples include Autumn Adeigbo's on-demand production and Lemlem's small-batch approach, both reducing waste and supporting traditional weavers. Clothing sharing has deep roots in African societies, now scaled by digital platforms, fostering resource efficiency and social connection. Brand collaborations, such as Mantsho and H&M or Panafrica and Ghanaian workshops, expand access and promote shared cultural narratives, aligning with the CC ethos (Fashionomics Africa 2022).

2.4.3. Extended Producer Responsibility and African Fashion Brands

Extended producer responsibility (EPR) assigns producers responsibility for the lifecycle of their products, incentivising eco-design and circularity (OECD 2016; UNIDO 2023). Key mechanisms include take-back schemes, eco-modulated fees, and recycling targets (OECD 2016). EPR drives better design, increases recycling, and reduces landfill waste, complementing DfS and CC by promoting reuse and shared responsibility (UNIDO 2023; Ellen MacArthur Foundation 2021).

Formal EPR regulations for textiles are emerging in Africa. In South Africa, discussions are under way to extend EPR to textiles, with major brands cited as potential participants (The Fashion Law 2022). In Ghana, the Or Foundation advocates for EPR to address second-hand clothing waste (Fibershed 2023). Kenya's Africa Collect Textiles is building EPR-like systems for collection and recycling. African brands focus on collection and recycling initiatives and policy advocacy to ensure producer responsibility, especially for imported second-hand clothing (Fibershed 2023). While EPR is not yet widespread, foundations are being laid through advocacy and pilot projects, despite challenges such as limited regulation and infrastructure (OECD 2024).

Design for sustainability, collaborative consumption, and extended producer responsibility are interrelated frameworks central to advancing sustainable development. DfS provides the methodological foundation for sustainable innovation, CC redefines consumption patterns, and EPR embeds lifecycle responsibility into production systems.

3. Methodology

A desktop survey was used to gather information on each brand's sustainability efforts using online resources, e.g., brand websites, industry reports, articles, and social media platforms, i.e., posts showcasing sustainable initiatives. The purposive sampling technique, based on publicly available data on sustainability practices, was used to select countries and fashion brands. The African continent was segmented into four regions, and

a sub-sample of three countries per region (n = 12 countries) was obtained, from which a total of 54 fashion brands were sampled, i.e., East (n = 14), West (n = 12), North (n = 13) and southern (n = 15) brands. The inclusion criteria of fashion brands were based on those with electronically documented claims of sustainable practices. Validity of data was assured as follows: credibility: by comparing desktop survey results with theoretical frameworks to reduce researcher bias; conformability: by maintaining logs of search terms, inclusion and exclusion criteria, and coding schema adjustments during desktop analysis; and dependability: by continued data collection until no new themes emerge, ensuring comprehensive coverage of the research topic (Van Duzer 2012). Data collection involved identifying sustainable practices from the sampled brands. The data was then systematically coded using thematic analysis, which involves reading through the data and identifying recurring themes related to sustainable practices. Thereafter, similar practices were grouped into broader themes that capture key aspects of how fashion brands implement sustainability. The themes were then compared across the four African regions to identify similarities and differences in sustainable practices.

4. Results and Discussion

4.1. Emerging Themes on Sustainable Practices Implemented Across Africa

The sustainable practices identified across the 54 fashion brands from East, West, North, and southern Africa can be summarised under six emerging themes that collectively define the continent's commitment to ethical and environmentally responsible fashion. These themes include sustainable material use, emphasising eco-friendly, organic, and locally sourced fibres that reduce environmental impact (Niinimäki *et al* 2020); sustainable manufacturing, involving green production processes and waste minimisation (UNEP 2023); environmental consciousness, reflecting brands' efforts to reduce their carbon footprint and promote eco-awareness (Bobie 2024). Circular economy principles focus on designing for longevity, recyclability, and waste reduction through reuse and recycling initiatives (Sandin & Peters 2018). Social responsibility encompasses community development, education, fair labour conditions, cultural

preservation, and artisanal artisanship that empower local communities (McKinsey & Company 2022). Lastly, sustainability recognition involves certifications and collaborations that validate and promote sustainable efforts, positioning African fashion as a leader in the global ethical fashion movement (Abdelkader & Mansouri 2022). Together, these themes illustrate a holistic approach that integrates tradition, innovation, and social equity to drive Africa's sustainable fashion revolution.

4.2. Sustainable Practices of Fashion Brands Across the African Regions

4.2.1. Type of Sustainable Materials

Across Africa, sustainable fashion brands emphasise ecologically natural and organic fibres such as cotton, linen, silk, organic cotton, and hemp, reflecting a shared continental preference for materials that are both environmentally friendly and culturally significant (Niinimäki *et al* 2020; Bobie 2024). Many brands prioritise locally sourced materials to reduce transportation emissions and support local economies, reinforcing their sustainability commitments while preserving traditional artisanship and empowering artisans (McKinsey & Company 2022). Upcycling and recycling are widespread strategies, with brands creatively repurposing textile waste, deadstock, recycled paper, denim, and plastics into new products, thereby minimising waste and promoting circularity (Ellen MacArthur Foundation 2017). Regional variations are evident: North African brands like Reform Studio and UpFuse focus on transforming plastic waste into accessories (Abdelkader & Mansouri 2022); southern Africa leads in the use of hemp (HempLove SA), recycled plastics (The Journey), and plant-based textiles, while East and West African designers emphasise traditional fibres, hand-woven textiles, and innovations such as Nkwo's proprietary recycled Dakala™ Cloth (Nkwo 2022). West African brands also incorporate Indigenous dyeing and weaving techniques and upcycle unconventional materials like jute sacks and car tyres, as exemplified by J'Karta (Bobie 2024).

This synergy between environmental responsibility and cultural heritage preservation positions African sustainable fashion uniquely on the global stage, offering authentic, high-quality, and culturally rich products that challenge fast

fashion norms. The growing global demand for sustainable and ethical fashion, combined with Africa's artisanal strengths and increasing digital access to international markets, presents significant opportunities for growth. Ultimately, African sustainable fashion advances environmental goals and fosters economic empowerment, cultural preservation, and social equity, setting a powerful example for the global fashion industry.

The focus on natural fibres and local sourcing in African sustainable fashion reduces environmental impact while strengthening local economies, thereby promoting sustainable development across the continent (UNEP 2023). Innovations in upcycling and recycling further contribute to waste reduction and support circular economy principles, providing models that could be adopted by other regions seeking sustainable solutions (Ellen MacArthur Foundation 2017). Regional specialisations reflect Africa's rich cultural and ecological diversity, allowing brands to differentiate themselves in the global market with unique products rooted in local heritage. However, dependency on imported fabrics is a significant obstacle that requires coordinated industrial policies and targeted investment to fully unlock the sector's potential.

4.2.2. Sustainable Manufacturing Practices

Sustainable manufacturing practices across African regions commonly support artisanal, handmade production, which preserves traditional skills and provides local employment opportunities (McKinsey & Company 2022). Many brands adopt small-batch and made-to-order production to avoid overproduction and minimise waste. Zero-waste approaches are also common, including zero-waste pattern making and repurposing off-cuts (Niinimäki *et al* 2020). Regionally, southern Africa practices slow fashion, zero-waste patterns, and made-to-order models, led by brands like SELFI and Shoko Bespoke. North Africa focuses on reviving and modernising traditional artisanship and heritage garments, whereas East and West Africa prioritise traditional dyeing, weaving, and hand-embellishment techniques (Abdelkader & Mansouri 2022). West African brands, such as Osei-Duro, are particularly noted for manually cutting and individually dyeing each garment, emphasising a commitment to quality and sustainability (Bobie 2024). These practices reduce environmental impact by limiting waste and

overproduction, preserving cultural heritage, and providing meaningful employment, aligning closely with circular economy principles (Sandin & Peters 2018). Ultimately, Africa's sustainable manufacturing approach exemplifies how traditional artisanship and modern sustainability can coexist, positioning the continent as a contributor to ethical, culturally rich, and environmentally responsible fashion production (UNEP 2023). The focus on artisanal, small-batch, and zero-waste manufacturing strengthens local economies by creating jobs and preserving Indigenous skills while reducing environmental harm through minimised waste and overproduction. Regional specialisations reflect Africa's diverse cultural heritage and ecological contexts, enabling brands to differentiate themselves globally (Claxton & Kent 2020).

4.2.3. Environmentally Conscious Practices

Environmental consciousness is a core focus across African fashion regions, with widespread efforts to reduce waste through upcycling, recycling, and repurposing, alongside the use of natural, plant-based dyes to minimise chemical pollution (Niinimäki *et al* 2020). Resource efficiency, including water conservation, renewable energy, and carbon footprint reduction, is emphasised continent-wide (UNEP 2023). Southern Africa leads with innovations such as solar-powered workshops (Mayamiko), rain irrigation for fibre crops (SELFI), and environmental monitoring (Sama Sama). North Africa prioritises upcycling plastics and deadstock materials while promoting durable, timeless collections to combat fast fashion, exemplified by Hind Berrached's limited, slow fashion lines that also ensure fair wages (Abdelkader & Mansouri 2022). East and West Africa focus on minimising overproduction and optimising local supply chains to reduce emissions, with brands like ACT in East Africa recycling textiles and Hertunba in West Africa upcycling materials (Bobie 2024).

These integrated environmental, social, and economic efforts root Africa's sustainable fashion sector in cultural heritage, community empowerment, and environmental stewardship, creating a unique global value proposition. The widespread use of natural fibres and artisanal artisanship supports local economies and preserves Indigenous knowledge, offering a competitive advantage internationally. Circular economy and zero-waste manufacturing models reduce environmental impact

and build economic resilience. However, regional disparities such as North Africa's focus on plastic upcycling versus southern Africa's advanced circular business models highlight the need for cross-regional collaboration to share best practices and scale innovations. Addressing challenges like fabric import dependency and consumer education is critical to sustaining growth. Strong ethical and CSR commitments position African brands to meet rising global demand for transparency and social responsibility. To fully realise this potential, investments in infrastructure, capacity-building, and supportive policy frameworks are essential, while sustainability recognition through awards and certifications can enhance brand visibility and market access, encouraging wider adoption of sustainable practices.

4.2.4. Circular Economy

Circular economy principles are embraced continent-wide, with all regions engaging in upcycling and repurposing textile waste and other materials into handcrafted interior décor like rugs, throws, cushions, and accessories, thereby fostering sustainability (Ellen MacArthur Foundation 2017). Repair, rental, and resale services are increasingly offered by many brands to extend the lifecycle of garments. Southern Africa is involved in advanced circular models that include rental, leasing, swapping, and resale services, as demonstrated by brands such as Lioness of Africa and Glo Ray. North Africa stands out for its strong focus on upcycling both textile and non-textile waste (such as plastics and burlap), with brands like Reform Studio and UpFuse transforming plastic waste, while others like Asma Mokhtari and Green Fashion focus on textile dead-stock and factory offcuts (Abdelkader & Mansouri 2022). East Africa is notable for its robust textile collection and recycling systems, as seen with ACT, and for its creative upcycling of unconventional materials by brands like Njola Impressions. The use of fabric scraps and end-of-line materials is also prominent, with designers like José Hendo and Fozia Endrias ensuring that production waste is reintegrated into new products (Bobie, 2024). West Africa demonstrates advanced circularity through upcycling textile waste into new fabrics (as with Nkwo), creative patchwork and garment revival (This Is Us™), and extensive conversion of waste into new products (Hertunba), while limiting

overproduction and maximising the use of every material input (Sandin & Peters 2018).

These practices reveal that circularity is reducing reliance on virgin materials and lowering environmental impact, but is also creating new economic opportunities (Fletcher 2014), particularly for women and marginalised groups who are often trained in upcycling and recycling techniques. The integration of traditional artisanship into circular models ensures that heritage techniques are preserved and revitalised through sustainable innovation. These circular practices directly address the global fashion industry's waste problem, foster resource efficiency, and provide replicable models for other regions and industries. They also demonstrate that circularity can drive both environmental stewardship and social empowerment, positioning African brands as leaders in the global shift towards a circular fashion economy.

4.2.5. Social Responsibility

Ethical practices form the cornerstone of Africa's sustainable fashion industry, with all regions prioritising fair wages, safe working conditions, and respect for workers' rights (McKinsey & Company 2022). Community empowerment is central, as brands actively support local artisans and marginalised groups, particularly women and the youth, fostering social equity and inclusion (Abdelkader & Mansouri 2022). Southern Africa emphasises gender equality, social equity, and further education for employees, as reported by Sama Sama. North Africa highlights community solidarity, economic independence, and the preservation of cultural heritage. In addition, North African brands tend to emphasise the empowerment of local artisans and fair wages, as central to their social responsibility and ethical practices. Brands like Asma Mokhtari and Reform Studio illustrate this approach. East and West Africa concentrate on empowering women through skills training and employment opportunities, alongside safeguarding traditional crafts.

CSR is robust continent-wide, encompassing community engagement, artisan education, and charitable activities. For instance, southern African brands such as Mayamiko and Chanasa provide skills training and donate sanitary products to

marginalised groups, while North African CSR efforts promote economic independence for women artisans and support local economies (Abdelkader & Mansouri 2022). East and West African programmes include adult education, community development, and job creation for vulnerable populations. These ethical commitments improve livelihoods and reinforce cultural identity and social cohesion, positioning African sustainable fashion as a model of inclusive and responsible industry development (Chiesa & Przychodzen 2020; Busalim, Fox & Lynn 2022).

East African brands are notable for their holistic approach, combining fair labour, community empowerment, and ethical sourcing with broader social initiatives such as poverty alleviation and education, as seen with brands like Lilabare, ACT, and Sabahar. West African brands, meanwhile, excel in women's empowerment, community development, and CSR, with brands such as Nkwo, Cynthia Abila, and Hertunba leading initiatives that provide training, sustainable incomes, and educational opportunities for disadvantaged groups.

The widespread adoption of social responsibility and ethical practices across African fashion brands has far-reaching implications. These practices improve working conditions and livelihoods for artisans and workers and contribute to poverty reduction, gender equality, and community resilience. The focus on fair wages, training, and education empowers marginalised groups, especially women, and fosters inclusive economic growth. Furthermore, these practices help to preserve cultural heritage and traditional skills, ensuring their transmission to future generations. For the global fashion industry, African brands offer compelling models of how social responsibility and ethical production can be integrated into business strategies, enhancing brand reputation and consumer trust.

4.3. Sustainability Practices Addressing the Pillars of Sustainability Across African Regions

This study further explores how the identified practices address the three sustainability pillars. Findings indicate that African fashion brands are holistically embracing the three pillars of sustainability: social, economic, and environmental across all regions (Table 1).

Table 1: Summary of how the practices address sustainability across African regions.

Region	Social impact	Economic impact	Environmental impact
North Africa	• Empowerment of local artisans and women • Fair wages and safe working conditions • Community solidarity • Cultural heritage preservation	• Support for local economies • Artisan incubation and training • Economic resilience through traditional skills	• Use of eco-friendly, up-cycled, and dead-stock fabrics • Zero-waste and slow fashion • Reduced textile waste • Local sourcing to lower the carbon footprint
East Africa	• Artisan training and empowerment • Fair wages and working conditions • Community and youth engagement • Preservation of Indigenous crafts	• Job creation through recycling and upcycling • Support for local textile production • Circular economy initiatives	• Use of natural fibres and organic materials • Recycling/up-cycling waste (textiles, plastics, tires) • Reduced water and chemical use • Circular fashion models

(*Continued*)

Table 1: Summary of how the practices address sustainability across African regions. (*Continued*)

Region	Social impact	Economic impact	Environmental impact
West Africa	• Women empowerment • Community development • Fair labour practices • Preservation of traditional skills	• Income generation for artisans • Training in hand weaving and dyeing • Support for local supply chains	• Textile waste reuse and upcycling • Limited production to avoid overproduction • Use of natural dyes and fibres • Slow fashion principles
Southern Africa	• Worker wellness, gender equality, and fair wages • Skills training for youth • Empowerment of marginalised groups and girls • Community engagement and artisan employment • CSR initiatives (education, hygiene, donations)	• Local job creation through artisan employment and skills transfer • Economic viability through circularity, rental, and resale models • Support for local supply chains and fair trade	• Use of natural, organic, and recycled fibres (hemp, cotton, plastics, denim) • Zero-waste and up-cycling practices • Circularity from design to recycling • Solar-powered workshops • Production on demand to avoid overproduction • Biodegradable packaging

4.3.1. Social Pillar

Across all regions, African fashion brands implement social sustainability, particularly through community empowerment, fair labour, and skills development. In southern Africa, brands like Shoko Bespoke, SELFI, and Mayamiko prioritise ethical labour, fair wages, gender equity, and safe working conditions, while also investing in the education and upskilling of employees and artisans. Brands such as Lioness of Africa and Chanasa Malawi go further by supporting marginalised groups, empowering women and girls, and providing job opportunities and skills training for youth. Similarly, in East and West Africa, brands like Nkwo, Cynthia Abila, and Studio 189 focus on empowering women, preserving traditional crafts, and supporting local artisans through training and fair employment. North African brands, including Raja Ben Ayad and Reform Studio, also emphasise artisan empowerment, fair wages, and economic independence, particularly for women, while reviving traditional artisanship and fostering community solidarity. Collectively, these efforts strengthen social cohesion, preserve cultural heritage, and foster inclusive growth across the continent (Akinwumi 2021; McKinsey & Company 2022; Okafor, Eze & Nwankwo 2023).

Socially, there is a continent-wide commitment to community empowerment, fair labour practices, gender equity, and skills development. Brands like Shoko Bespoke, SELFI, and Mayamiko in southern Africa, and Nkwo and Cynthia Abila in West Africa, champion ethical labour practices, fair wages, and the empowerment of women and marginalised groups, often supporting artisans through education and training. This is mirrored in North Africa by brands such as Raja Ben Ayad and Reform Studio, who also focus on artisan empowerment and community solidarity (Nash 2022; Okafor *et al* 2023).

4.3.2. Economic Pillar

Economically, African fashion brands in all regions drive local development by sourcing materials locally, supporting artisans' livelihoods, and creating job opportunities. In southern Africa, brands such as Sama Sama, HempLove SA, and The Journey stimulate local economies by employing local artisans, sourcing

raw materials within the region, and supporting fair trade practices. Many southern African brands also encourage economic resilience through circular business models such as repair, rental, resale, and upcycling, which create additional value streams and reduce dependency on virgin resources. In East and West Africa, brands like Osei-Duro and CroChel contribute to economic sustainability by promoting small-batch, made-to-order production and by fostering entrepreneurship amongst artisans and women. North African brands, including Reform Studio and UpFuse, similarly generate economic value by transforming waste into marketable products, supporting local production, and participating in fair trade networks. These practices collectively enhance economic viability, support small businesses, and contribute to the sustainable growth of the fashion sector in each region (Akinwumi 2021; McKinsey & Company 2022).

Economically, African brands are driving local development by sourcing materials regionally, supporting artisan livelihoods, and fostering entrepreneurship. Southern African brands like Sama Sama and HempLove SA stimulate local economies by employing local artisans and supporting fair trade, while also utilising innovative circular business models (repair, rental, upcycling) to diversify income streams and reduce reliance on virgin resources. Similar strategies are seen in East and West Africa, where brands like Osei-Duro and CroChel promote small-batch, made-to-order production, and in North Africa, where Reform Studio and UpFuse transform waste into marketable products, supporting local production and fair-trade networks (Nash 2022; Okafor *et al* 2023).

4.3.3. Environmental Pillar

Environmental sustainability is a core focus for African fashion brands, with all regions implementing eco-friendly practices to reduce their ecological footprint. In southern Africa, brands such as SELFI, Mayamiko, and Glo Ray lead with innovative approaches, including zero-waste pattern-making, the use of organic and recycled materials, solar-powered workshops, rain irrigation for fibre crops, and compostable packaging. Upcycling, recycling, and adaptive design are also prevalent, minimising waste and extending product lifecycles. East and West African brands, like Nkwo and Studio 189, emphasise the use of natural dyes, upcycled

textiles, and traditional low-impact production methods, while also promoting local sourcing to reduce transportation emissions. In North Africa, brands like Reform Studio and UpFuse are notable for their large-scale upcycling of plastic waste and dead-stock materials, as well as for producing durable, timeless collections that combat fast fashion's environmental toll. Across all regions, these environmental initiatives reflect a commitment to responsible consumption, resource efficiency, and the protection of natural ecosystems (Akinwumi 2021; Nash 2022; Okafor *et al* 2023).

Environmentally, African brands are actively involved in eco-friendly innovation, implementing practices such as zero-waste pattern-making, the use of organic and recycled materials, solar-powered workshops, and compostable packaging. Southern African brands like SELFI and Mayamiko excel in adaptive design, upcycling, and renewable energy use, while East and West African brands emphasise natural dyes, upcycled textiles, and traditional low-impact methods. North African brands like Reform Studio and UpFuse are notable for large-scale upcycling of plastic and dead stock, and for producing durable, timeless collections that challenge fast fashion (McKinsey & Company 2022; Okafor *et al* 2023).

These integrated sustainability practices have significant implications for the continent and beyond. Socially, they foster inclusive growth, preserve cultural heritage, and strengthen community resilience. Economically, they build local capacity, support small businesses, and create sustainable livelihoods, reducing poverty and dependence on imports. Environmentally, these practices reduce waste, conserve resources, and minimise carbon footprints, positioning African brands as innovators in responsible consumption and production. For the global fashion industry, Africa's model demonstrates that sustainability can be deeply rooted in local culture and community needs, offering replicable solutions for ethical and sustainable development. The continent's focus on circularity and social empowerment provides a blueprint for balancing profit with purpose (Akinwumi 2021; Nash 2022).

The strong social focus across African fashion brands implies that sustainability in the region is deeply rooted in community development and empowerment, which can drive

inclusive economic growth and cultural preservation. The economic practices highlight the potential of fashion to support local livelihoods and foster resilience through circular models, and indicate the need for broader adoption of such models outside southern Africa. Environmental initiatives show promising innovation but reveal disparities in technology adoption and scale, suggesting opportunities for knowledge-sharing and investment to accelerate green practices continent-wide. The regional differences highlight the importance of tailored policy frameworks and support systems that address specific local challenges and make use of unique strengths. Enhancing collaboration between regions could foster the diffusion of best practices in circularity, renewable energy, and social empowerment. Furthermore, the integration of traditional artisanship with modern sustainability approaches positions African fashion as a potential global leader in ethical and eco-friendly fashion, offering a competitive advantage in international markets increasingly demanding transparency and responsibility (Akinwumi 2021; Okafor *et al* 2023).

4.4. Compliance of Sustainability Practices with Relevant SDGs

The compliance of the African fashion brands with SDGs relevant to fashion was explored, and the following findings show varying forms of compliance.

4.4.1. SDG 7: Affordable and Clean Energy

Fashion brands across Africa's four regions address SDG 7 (Affordable and clean energy) through a range of energy-conscious and resource-efficient practices, with varying levels of compliance. In East Africa, brands such as Lilabare (Kenya) and Nakisanze (Uganda) use rain-fed cotton, hand-loom weaving, and natural dyes, which minimise energy use by avoiding industrial processes, while Africa Collect Textiles (Kenya) reduces energy-intensive waste through large-scale textile recycling. This aligns with findings that artisanal and traditional methods in African fashion significantly lower energy consumption compared to industrialised processes (Nash 2022; Abimbola & Kelechi 2023). West African brands like Nkwo and This Is Us™ (Nigeria)

focus on hand weaving, upcycling, and local sourcing, all of which reduce energy consumption compared to mass production (Brydges, Hanlon & Laverty 2022). In North Africa, brands such as Reform Studio (Egypt) and Marrakshi Life (Morocco) emphasise zero-waste, upcycling, and handcrafting, which lower their carbon footprint, but there is less evidence of direct renewable energy adoption (UNEP 2021). Southern Africa demonstrates some of the highest compliance with SDG 7. Brands like Mayamiko operate solar-powered workshops, while South African brands such as Sama Sama, HempLove SA, and SELFI use locally sourced natural fibres, rain irrigation, and manual production, reducing energy use and emissions (Mayamiko 2022; Textile Exchange 2021). The Journey (South Africa) and Lioness of Africa (Malawi) further promote upcycling and circularity, extending product lifecycles and reducing the need for new resource extraction. Overall, southern Africa leads in direct clean energy adoption and resource efficiency, followed by East and West Africa with strong traditional and low-energy production methods, while North Africa shows moderate compliance mainly through upcycling and local production but with fewer explicit clean energy initiatives (Brydges *et al* 2022; UNEP 2021).

4.4.2. SDG 8: Decent Work and Economic Growth

In East and West Africa, sustainable fashion empowers women and local artisans through fair wages, skills training, and employment creation, supported by community development and adult education programmes (e.g., Nkwo, Cynthia Abila, Studio 189, CroChel). These practices are consistent with scholarly findings that highlight the sector's role in poverty alleviation and gender empowerment (Crane, Matten, Glozer & Spence 2019; UNCTAD 2020). North African brands such as Raja Ben Ayad and Asma Mokhtari focus on fair wages, stable employment, and artisan empowerment, with particular attention to women's economic independence and upskilling initiatives like UpFuse and Green Fashion in Egypt (ILO 2022). Southern Africa also prioritises fair pay, good working conditions, gender equality, and social equity, with brands like Sama Sama and Terry-made offering skills training for youth and marginalised groups (Brydges *et al* 2022).

4.4.3. SDG 9: Industry, Innovation, and Infrastructure

East and West Africa showcase innovation through upcycling (Nkwo's Dakala™ Cloth, J'Karta's use of jute sacks and tires) and the preservation and modernisation of traditional crafts supported by local hand-weaving and dyeing infrastructure (Abimbola & Kelechi 2023). North Africa leads in upcycling plastic waste into fashion (Reform Studio, UpFuse) and reviving traditional techniques, with brands like José Boutique engaged in global fair trade networks (UNEP 2021). Southern Africa adopts advanced circular economy models, including rental, resale, and repair services (Lioness of Africa, Glo Ray), solar-powered workshops (Mayamiko), rain irrigation systems (SELFI), and zero-waste pattern making (Shoko Bespoke) (Textile Exchange 2021).

4.4.4. SDG 12: Responsible Consumption and Production

East and West African brands implement upcycling of textile waste, made-to-order production, repair, and recycling programmes (CroChel, Desiree Iyama), alongside local sourcing to minimise transport emissions (Brydges *et al* 2022). North African designers focus on upcycling dead-stock and plastics, zero-waste production, slow fashion, and eco-conscious packaging (Hind Berrached, Reform Studio) (UNEP 2021). Southern Africa practices zero-waste and slow fashion principles, offering upcycling, repair, rental, and resale services, complemented by eco-friendly packaging and resource efficiency (SELFI, Shoko Bespoke) (Textile Exchange 2021).

4.4.5. SDGs 14 and 15: Life below Water and on Land

East and West African practices involve organic, locally sourced fibres and natural dyes, preserving traditional low-impact production methods (Nash 2022). North African brands use eco-friendly and organic materials, upcycling, and reduce chemical use (Marrakshi Life, Raja Ben Ayad) (UNEP 2021). Southern Africa promotes hemp and organic fibres, rain irrigation, minimal pesticide use, and compostable packaging with seed tags (HempLove SA, SELFI, Shoko Bespoke) (Textile Exchange 2021). Southern Africa is the most compliant region with the SDGs because of its integrated and advanced approach to sustainability across social, environmental, and economic

dimensions. East and West Africa closely follow, with strong social and production practices, but slightly less environmental technology adoption. North Africa is compliant but less advanced in circular and environmental innovation compared to the other regions (Brydges *et al* 2022; UNEP 2021).

The findings from the sustainable fashion practices across African regions reveal an alignment with the relevant SDGs, highlighting both opportunities and challenges with significant implications. First, the implementation of fair wages, skills development, and local employment (SDG 8) emphasises fashion's potential as a driver of inclusive economic growth and poverty reduction, especially by empowering women and marginalised groups. This counters the exploitative labour conditions prevalent in global fast fashion, which often undermine decent work and perpetuate poverty cycles. The adoption of innovative materials and circular economy models (SDG 9) across regions demonstrates Africa's leadership in sustainable industry development, employing traditional crafts and modern technologies to build resilient local infrastructures and reduce reliance on global supply chains. Responsible consumption and production practices (SDG 12), such as upcycling, zero-waste design, and eco-friendly packaging, position African fashion as a model for reducing textile waste and environmental impact, addressing a critical global challenge posed by fast fashion's wastefulness. Climate action efforts (SDG 13), including renewable energy use and emission reduction through local sourcing, further enhance the environmental benefits of these practices, contributing to broader climate mitigation goals. Lastly, the focus on sustainable sourcing and biodiversity protection (SDG 15) through organic fibres, natural dyes, and reduced chemical use supports ecosystem health and aligns with global conservation efforts.

The implications are multifaceted: African sustainable fashion advances environmental and social SDGs and offers a competitive advantage in the growing global market for ethical fashion, potentially driving significant economic growth. However, challenges such as limited infrastructure, financing, and regulatory frameworks must be addressed to scale these successes and ensure equitable benefits. Initiatives like Eco Fashion Week Africa represent how community engagement,

education, and collaboration can amplify impact and foster a sustainable fashion culture. Overall, the findings imply that with strategic investments, policy support, and international partnerships, African fashion can become a global leader in sustainability, driving systemic change while preserving cultural heritage and promoting economic empowerment.

4.5. Fashion Brands' Sustainability Recognition

Fashion brands should have certification or recognition for their sustainable practices to establish clear, verified standards for environmental and social responsibility, enhancing transparency and building consumer trust while differentiating brands in a competitive market and encouraging continuous improvement in ethical sourcing, production, and labour practices.

Sustainability recognition is evident amongst fashion brands across the African regions, with brands acknowledged for their leadership in sustainability and ethics. East and West African brands, such as Nkwo and Studio 189 have won international sustainability awards. In North Africa, recognition comes through memberships in organisations like the World Fair Trade Organization (e.g., José Boutique) and government support for sustainable startups, particularly in Morocco. Southern Africa's recognition is more implicit, based on the adoption of best practices and positive community impact rather than specific awards.

East and West Africa have gained notable international acclaim through awards and recognitions. Brands such as Nkwo and Studio 189 have won sustainability awards, highlighting their leadership in ethical fashion practices and innovation. This recognition elevates the brands and showcases African creativity on global platforms like Copenhagen Fashion Week. In North Africa, sustainability recognition is more institutional and organisational. Brands like José Boutique have gained membership in the World Fair Trade Organization, signalling adherence to fair trade principles and sustainable production standards. Additionally, government support, particularly in Morocco, fosters sustainable startups, creating an enabling environment for eco-conscious entrepreneurship.

The variety of recognition forms, from international awards to organisational memberships and community impact, reflects the multifaceted nature of sustainability in African fashion. This diversity allows for inclusive growth, accommodating brands of different sizes and focus areas.

5. Conclusion

The analysis of sustainable practices amongst African fashion brands reveals a vibrant, rapidly evolving sector that is uniquely positioned at the intersection of environmental stewardship, social empowerment, and economic innovation. Across the continent, fashion brands are responding to global sustainability imperatives and utilising Africa's rich cultural heritage, artisanal artisanship, and community-centric values to redefine what ethical fashion means in the 21st century.

Six themes are at the core of Africa's sustainable fashion movement: sustainable material use, sustainable manufacturing, environmental consciousness, circular economy, social responsibility, and sustainability recognition. The study found that across the continent, there were similarities in the sustainable practices used by fashion brands across the four regions. Brands are increasingly prioritising natural, organic, and locally sourced materials, which reduce environmental impact and strengthen local economies and preserve traditional knowledge. The widespread adoption of upcycling and recycling, alongside innovations in zero-waste manufacturing and small-batch production, demonstrates a continent-wide commitment to minimising waste and maximising resource efficiency.

Regionally, each part of Africa brings its strengths and specialisations. North Africa excels in upcycling plastics and deadstock, Southern Africa leads in advanced circular business models and renewable energy adoption, while East and West Africa are distinguished by their preservation of traditional weaving, dyeing, and handcrafting techniques. This regional diversity allows African brands to differentiate themselves in the global market with authentic, high-quality, and culturally rich products.

In addressing the three sustainability pillars, social responsibility is deeply embedded in the sector, with brands championing fair wages, safe working conditions, gender equity, and community empowerment. The focus on training, education, and the inclusion of marginalised groups, especially women and the youth, has improved livelihoods and fostered social cohesion and resilience. These efforts are further amplified by strong corporate social responsibility initiatives and, in some cases, formal recognition through awards and certifications.

Economically, the emphasis on local sourcing, artisan employment, and circular business models has created new income streams, supported entrepreneurship, and reduced dependency on imports. Environmentally, the sector's practices, from the use of natural and organic fibres and dyes to the adoption of renewable energy and compostable packaging, are reducing carbon footprints, conserving resources, and positioning African brands as key players in responsible production and consumption.

Despite this positive trajectory, significant challenges remain. The sector is still hampered by limited infrastructure, a reliance on imported fabrics, insufficient access to finance, and gaps in policy support. The lack of widespread, verifiable certification and eco-labelling also undermine the credibility of sustainability claims, potentially limiting market access and consumer trust.

Moreover, disparities in technological adoption and circularity practices between regions highlight the need for greater cross-regional collaboration and knowledge-sharing. The alignment of African fashion brands with the relevant United Nations Sustainable Development Goals, notably SDGs 7, 8, 9, 12, 14, and 15, demonstrates the sector's potential to drive inclusive economic growth, reduce poverty, empower women, and protect the environment. It can, therefore, be concluded that African fashion brands are making strides towards aligning themselves with the relevant SDGs.

In terms of certification, this study revealed that a few fashion brands have been certified by international and local bodies, validating the brands' sustainability and ethical claims. It was, however, noted that while most of these fashion brands

claim to be following sustainable practices, neither certification nor documentation substantiates such claims. Without proof, these brands lack credibility. Moreover, none of them indicated adopting eco-labelling to communicate to consumers that they follow sustainable practices.

6. Recommendation

6.1. Recommendation for Action

Regardless of the positive direction that African fashion is taking towards sustainable and ethical practices, there are still many areas that need to be improved. Realising this potential at scale will require concerted efforts from governments, industry stakeholders, and international partners.

It is, therefore, recommended that there is a need to:

1. Strengthen certification and eco-labelling: Encourage brands to pursue recognised sustainability certifications and adopt eco-labelling to enhance transparency, build consumer trust, and facilitate access to international markets.
2. Invest in infrastructure and technology: Governments and development partners should prioritise investment in local textile production, recycling facilities, and renewable energy infrastructure to reduce reliance on imports and accelerate the adoption of green technologies.
3. Promote cross-regional collaboration: Facilitate knowledge-sharing and partnerships between regions to scale best practices in circularity, renewable energy, and social empowerment, ensuring that innovations are diffused across the continent.
4. Support capacity-building and education: Expand training programmes for artisans, women, and youth to build skills in sustainable production, business management, and digital marketing, thereby enhancing employability and entrepreneurship.
5. Enhance access to finance: Develop targeted funding mechanisms, grants, and impact investment opportunities to support sustainable fashion startups and SMEs, particularly those led by women and marginalised groups.

6. Policy and regulatory support: Policymakers should create enabling environments through supportive regulations, incentives for sustainable practices, and the integration of sustainability criteria into public procurement and trade agreements.
7. Increase consumer awareness and market visibility: Invest in marketing and public education campaigns to raise awareness and improve the visibility of African sustainable fashion, both locally and globally, highlighting the unique value proposition of ethical, culturally rich products.
8. Foster community engagement and social impact: Continue to prioritise community development, fair labour, and inclusive business models, ensuring that the benefits of sustainable fashion are widely shared and contribute to broader social and economic resilience.

6.2. Recommendations for Further Research

This study was limited to the Internet visibility of fashion brands; yet, there could be other brands that may be following sustainable practices that have no Internet presence. It is recommended, therefore, that other data sources could be explored in the future. Furthermore, the purposively selected sample could not give a representative sample, and, therefore, findings cannot be generalised to the whole of Africa. There was also reliance on sustainable claims made by the fashion brands without a way to verify authenticity. It is, therefore, recommended that further research includes a larger and more representative sample and further, devise interactive data collection methods that will allow verification of brands' sustainability claims. These may result in the generalisation of findings that also present a clear picture of sustainable practices in Africa.

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"Conceptualisation; methodology; formal analysis; writing—original draft preparation: Introduction: M.L.; W.L.M.; M.S.; and M.B.P.; North African brands: M.L.; East Africa, W.L.M.; West Africa, M.S.; Southern Africa, M.B.P.; Conclusion and recommendations; writing—review and editing, M.L.; W.L.M.; M.S.; and M.B.P."

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Chapter Six

Refashion Lab: Discard Studies in Cape Town

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Abstract

This chapter shares findings from Refashion Lab's three interrelated discard studies in Cape Town, aimed at reimagining fashion and textile waste as a regenerative resource and catalyst for social, environmental, and economic justice. Framed by literature on the linear, waste-generating nature of the current fashion system. The paper argues for more circular, locally grounded approaches to textile waste. The three studies included: (1) a material analysis of 450 kg of fashion and textile waste redirected from landfills; (2) a desktop analysis of fabric composition in online fashion retail; and (3) a micro-sorting project conducted at a social justice hub in central Cape Town. Using a practice-led, qualitative methodology, the studies examined local capacities, limitations, costs, skills gaps, and opportunities for redirecting both pre- and post-consumer waste from landfills and environmental pollution. Five key objectives guided the research: exploring whether textile waste can support circular local industries, promote social and environmental

justice, influence municipal and industry policy, generate green jobs, and stimulate entrepreneurial innovation. Discard Study One revealed the complexities of textile waste as a business case. Discard Study Two highlighted opportunities for emotional repair and social justice through waste-led community projects. Discard Study Three analysed consumer garment composition, linking fibre content to environmental impact. Collectively, these insights provide a foundation for future skills development, entrepreneurial pathways, and policy reform. The findings point to the need for targeted research funding contextualised in local waste realities and demonstrate a strong, measurable business case that addresses intersecting social, environmental, and economic goals. The study concludes that fashion and textile waste, if properly redefined and redirected, holds untapped potential to build circular, inclusive, and regenerative local economies.

Keywords: Cape Town, circular systems change, green job creation, social justice, the Refashion Lab, waste flows

1. Introduction

> *Too much clothing. Not enough justice. Too often a consumer. So rarely a human. Time for reckoning, recovery and reparations* (*The Or Foundation, n.d*).

The unchecked growth in the industry has serious risks. The fashion industry is a major contributor to global greenhouse gas emissions, responsible for 10% of total emissions, a figure projected to increase to 26% by 2050 without intervention (Dottle & Gu 2022; The Or Foundation 2023). The industry also contributes to the transgression of planetary boundaries, with impacts on climate, biodiversity, land use, and water systems (Steffen, Rockström, Richardson, Lenton, Folke, Liverman, Summerhayes, Barnosky, Cornell, Crucifix, Donges, Fetzer, Lade, Scheffer, Winkelmann & Schellnhuber 2018). Decarbonising the fashion supply chain through energy efficiency, circularity, renewable resources, and sustainable farming practices is crucial for reducing these emissions (Berg, Magnus, Kappelmark, Granskog, Lee, Sawers, Polgampola, Lehmann, Syrett & Arici 2020).

The global fashion and textile sector is based on a wasteful linear production and consumption model that contributes to ongoing environmental degradation, deepening social and economic inequality, and worsening climate change (Notten 2020). The sector is also known to be heavily implicated in the exploitation of communities (England, Ikpe & Communian 2024). The South African fashion industry has broadly followed this same model.

The research, framed as the Refashion Lab project, was led by two key questions: "What is being done about the problem of fashion and textile waste in Cape Town?" and "What (more) can we do about this?" Through interdisciplinary, participatory research, we explored what happens when fashion and textile waste is diverted and reused, repaired, resold, renewed, or recycled, rather than being discarded. In this chapter, we share a range of challenges, statistics, opportunities, and possibilities.

To address the two key questions, the Refashion Lab project set out to interrogate how a circular economy approach could create new jobs; how the reduction and redirection of fashion and textile waste can prevent (further) environmental pollution and promote social justice; how a critical analysis of waste can inform our policy recommendations for job creation and skills training; and how Cape Town's creative industries can lead in redirecting their waste and contribute to an awareness and uptake of recycled and upcycled goods. While this project supports the global Sustainable Development Goals (United Nations 2012) and South Africa's National Development Plan for 2030 (South Africa Government 2012) to reduce unemployment, it also supports the transition to a *sufficiency-based circular economy* which seeks to prioritise quality of life in work, education, and leisure, without needlessly striving to satisfy infinite human material wants (Bocken, Niessen & Short 2022).

The Refashion Lab's key mission is to redefine and reframe the South African fashion and textile system's waste flows for more sustainable and circular habits, practices, and bylaws in the future. Our research is premised on a conviction that all South African economic activity needs "to correct the enduring legacy of apartheid, colonialism and other legislated injustices and structural inefficiencies in line with the Constitutional [sic] promise and sustainable development principles" (Moleko & Swilling 2022:4).

Considering that the fashion and textile sector is one of the most environmentally impactful activities at a global level (Notten 2020), this research is crucial for local solutions. The global fashion and textile sectors currently consume 6–9 billion litres of water and use 6 million tonnes of chemicals (Tedesco & Montacchini 2020:2). Fashion is responsible for between 4% and 8% of total global carbon emissions (Berg *et al* 2020; Dottle & Gu 2022). In addition, the industry remains steadfastly linear, and billions of pieces of clothing are simply discarded when unsold or at the end of their useful lives, ending up in landfills, the natural environment, or incinerators (Cornbleet, Hoffman, Janmark & Magnu 2023).

Five key objectives guided the Refashion Lab. We aimed to contribute to

(1) shaping context-relevant circular systems in local fashion, textile and other related industries;
(2) generating material and economic pathways for social and environmental healing and justice;
(3) informing industry, and local municipal policy revision in terms of production and landfill bylaws;
(4) investigating new, green job creation and economies that are context-relevant; and,
(5) building a business case for entrepreneurial workshops, collaborations, practices, and innovation hubs.

By understanding the waste produced by the fashion and textile sector in Cape Town (both pre- and post-consumption), we can better comprehend the challenges of circularity in the fashion and textile industry and develop solutions to mitigate its far-reaching impacts. This research also considers the role of the fashion and textile industry in the transition towards a more just, equal, and sustainable society in South Africa, which is a post-apartheid, post-colonial country with a 33,5% unemployment rate in the second quarter of 2024 (Statistics South Africa 2024). Additionally, this approach should facilitate climate-resilient development and allow locally appropriate, socially acceptable solutions. A fashion system that adopts principles of a sufficiency-based circular economy-longevity, elimination of built-in obsolescence, keeping products in use through repair and refurbishment, and social and

environmental sustainability will help to achieve a just, equal, and sustainable society (Brocken, Niessen & Short 2022).

2. Literature and Theories

The literature review presents the global environmental impact of the fashion and textile industry caused by fast fashion production and disposal practices. A sufficiency-based circular economy concept guides this study and will be discussed in this section.

The global fashion industry is driven by cheap synthetic materials, exponential growth, and rapid consumption cycles, largely influenced by fast fashion companies like Zara and Shein (Dottle & Gu 2022; Ellison 2023; Moazzem, Crossin, Daver & Wang 2021). This has led to the doubling of global fibre production from 58 million tonnes in 2000 to 109 million tonnes in 2020, with a further expected increase to 146 million tonnes by 2030 (Dottle & Gu 2022). The fashion system not only poses an environmental threat, but a cultural crisis too, particularly in the Global South. Western fashion systems have historically undermined local textile traditions, replacing Indigenous practices with cheap, mass-produced clothing (Niessen 2020). This undermining is exemplified by Zimbabwe's "re-worn fashion nation" label, where traditional clothing has been replaced by second-hand imports (May 2024). Local designers across Africa are, however, reclaiming their fashion identities, such as the Zimbabwean fashion project, I Wear My Clothes (May 2024). I Wear My Clothes promotes slow, artisanal fashion grounded in sustainable practices. Many African designers are now globally recognised for their innovation and creativity (Bobie 2024). Many of them use second-hand clothing imported from the Global North to create new garments, thus supporting a circular economy (Bobie 2024).

2.1. Sufficiency-Based Circular Economy

Global bodies like the Ellen Macarthur Foundation (2020) and others are calling for a transition to circular economies, which aim to keep materials in circulation by promoting recycling, reuse, and innovative business models. Circular economies could lead to new green jobs, not only in waste management but also in design, retail, and material recovery. The circular model seeks to reduce

the need for virgin materials while offering pathways for lower carbon emissions, better labour conditions, and environmental sustainability (Crowe Pettersson 2023).

Along with the circular economy, this research supports the development of a sufficiency-based circular economy, which aims to create the structural change needed for societies to consume less overall while ensuring well-being for *everyone*, not just the affluent (Brocken, Niessen & Short 2022; Ness 2024). This model encourages consumers to live with fewer material goods, reducing the need for overproduction and waste generation. In the context of South Africa, where economic inequality is rampant, sufficiency does not imply deprivation but focuses on providing everyone with enough resources to meet their essential needs while limiting excess consumption (Bocken, Niessen & Short 2022).

Finally, Fletcher and Tham (2019) propose "the simple but radical idea of putting the health and survival of our planet Earth and consequently the future security and health of all species, including humans, before industry, business and economic growth". Organisations around the world are applying the principles of circularity, sufficiency, and protection of nature to find solutions to the fashion and textile waste flows.

2.2. Global Research in Fashion and Textiles Waste Flow

Fashion and textile waste research with a focus on its impacts, actions and new directions from leaders in the field, such as Fashion Takes Action in Canada, Seamless in Australia, the Waste and Resources Action Programme in the United Kingdom, the multinational organisation Changing Markets, the Dutch Circular Textile Valley in Netherlands, and the Centre for a Waste Free World and other initiatives has recently intensified. These organisations offer examples, ideas, and experiences in driving change in the industry. For instance, Seamless Australia (2024) has developed a road map to achieve clothing circularity by 2030, Fashion Takes Action offers open-source guides to circular solutions, and the Dutch Circular Textile Valley has documented circular entrepreneurs. In Ghana, the The Or Foundation (2024) is calling for transparency about the volume of clothes produced

globally, as it argues that without data and policies, solutions for the industry cannot be designed. The Or Foundation (2024) is also calling for an extended producer responsibility (EPR) that raises finance in the Global North to support grassroots circular solutions in the Global South communities. South African circular fashion and textile organisations – Taking Care of Business and Clothes to Good – are showing how fashion and textile waste flows can be harnessed for social and environmental good.

To date, much of this research is situated in the Global North. Important recent research that investigates textile waste streams, innovations, and developments in the Global South includes studies in Ghana, India, and Australia, which aligns more closely with the South African fashion and textiles challenges and practices. In its *Threading the Loop: Textile recycling and fibre recovery* report, Green Cape (2023) states that South Africa lacks meaningful textile waste-related data.

Fashion and textile waste is a significant, yet poorly quantified, problem in South Africa. The industry's waste is referred to as "problematic" as it lacks proper management strategies and policy frameworks and has poor value for the private sector (City of Cape Town 2024). A 2020 report identified South African fashion and textile waste as "non-recyclable" (Green Cape 2020). Yet, the City of Cape Town (2024) acknowledges that the cost of not accounting for waste in municipal services is more costly down the line when cleaning up illegal dumping. This illegal dumping will be exacerbated by the expected increase in production and consumption of fashion in Africa (England *et al* 2024). Informal practices like burning textiles add to pollution (Sokhuthu 2022), while over 6% of Cape Town's landfills are filled with fashion waste (Green Cape 2022; Oberholzer 2022). When in a landfill, fashion and textile waste produce harmful ammonia and methane during the decomposition process (Moazzem *et al* 2021). The rise of synthetic, fossil fuel-based fabrics such as polyester, which now comprise over 60% of clothing, contributes to plastic pollution (Notten 2022).

There is currently no EPR in South Africa for fashion and textile waste, despite EPR frameworks existing for the packaging industry. Despite the complexities of working with fashion and textile waste, Green Cape (2020) recognises its potential for circular economies through reuse and recycling, offering low-skill

employment opportunities and environmental benefits (City of Cape Town 2024; Green Cape 2020).

Current South African policies encourage waste minimisation. As there is no formal regulation on managing fashion waste, this is left to retailers, consumers, and private organisations (Department of Environment, Forestry and Fisheries 2020). There are increasing calls locally to expand the current national EPR framework to include fashion and textiles and to foster collaboration between government, industry, and civil society to develop infrastructure and strategies for sustainable waste management (Green Cape 2020).

In order for South Africa to develop localised solutions that prioritise the well-being of its people and both regional and national ecosystems, further exploration and understanding is required in terms of the broader economic, social, and environmental factors related to fashion and textile waste, and the potential solutions appropriate for South Africa whilst simultaneously integrating global sustainability strategies. These solutions will support the global Sustainable Development Goals (United Nations 2022) and South Africa's National Development Plan 2030 (South African Government 2012).

3. Materials and Methods

In developing a set of mixed methods for our research, we were guided by not only the economic or business-case models of fashion but also by questions of social justice and environmental well-being. We drew on our collective, intersectional positionalities and lived experiences to develop a framework that included questions of cultural sustainability in relation to fashion, circularity and circular models-thinking, and a broad-based, green creative economy model. The multiple methods research approach was necessary to address the complexity of the fashion and textiles ecosystem.

We present three discard studies conducted over 36 months as observations of the skills, costs, needs, challenges, and opportunities that would promote more circular, local fashion and textile ecosystems and lead to less waste in landfills and the environment, whilst simultaneously addressing skills and

employment pathways. Two field research projects (referred to as Discard Study 1 and 2), stakeholder interviews, online research (referred to as Discard Study 3), and case study interviews.[1] We secured partners and focus groups for the case studies and the interviews through consultative invitation with the diverse, long-standing cross-sector relationships that we have established (built on trust and respect) in our work for sustainability within the industry for over twenty years.[2] We understand and respect the need for both confidentiality and collaboration in our industry, if new solutions are to be explored. As researchers, we are limited by our positionalities to understand the range of life-worlds that this research impacts,[3] as well as by our available time to dedicate to more in-depth research. Limited funds also impacted our capacity to expand research scope.

The in-depth studies of waste composition, sorting and diversion challenges were informed by the two practice-led research studies, at a waste depot in Retreat, and an integrated waste and maker space in Gardens, both in Cape Town, South Africa. Participants in the waste depot project worked closely with one of the authors in her own upcycling business in Khayelitsha. Participants in the waste and maker space in Gardens were beneficiaries of a community project aimed at rehousing and reintegrating homeless people through an ongoing upliftment programme in collaboration with the city of Cape Town. Participants were mostly women, with a few men in the programme, and their ages ranged from early twenties to mid-sixties.

The fibre analysis desktop study was executed by interns, students, and colleagues[4] who collated data about the fibre

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1 This research is a microcosm of a much larger network of industries, stakeholders, creative and economic solutions, and publications.

2 We would like to thank all our colleagues at Twyg and the African Fashion Research Institute and all the participants, contributors, designers, and activists working collectively to bring about much-needed awareness and change.

3 Throughout the project we ensured that our feedback, input, and research processes were guided by principles of inclusivity and diversity, and co-created wherever possible.

4 Stella Hertantyo, Kathryn Chao, Nobanzi Sokhuthu, Sian Bianca, and Stephanie Baker.

compositions of garments (excluding underwear) that were on sale on 14 South African retailers' online shopping platforms and available to purchase during the autumn and winter of 2021. As trends dictate new colours, shapes and looks, many (or some) of these items would be replaced the following winter season (or two), and the fashion items purchased in 2021 would enter the waste stream (through donations, second-hand shops, resale spaces, general municipal dustbins, or burning) in the following months and years.

4. Results and Discussions

The results and discussions of this study are presented based on Discard Study 1 (Section 4.1), Discard Study 2 (Section 4.2), and Discard Study 3 (Section 4.3).

4.1. Discard Study 1

The first of our discard studies addressed the challenges and opportunities of fashion and textile waste at the endpoint in its linear life cycle. Understanding what controls or happens at the moment before and when fashion and textile waste "goes to landfills" is crucial when determining a whole range of micro and macro impacts. This study represents the tip of an iceberg. It aimed to closely interrogate a small waste stream sample as a means to identify patterns, costs, and potential new waste flows and skills in preparation for a much larger survey and impact assessment project.

Research was conducted in two phases, with the first phase focusing on the collection and sorting of fashion and textile waste destined for landfills, and the second phase exploring the potential routes and related practices and values of the waste. We were interested in gathering data on the condition and composition of the so-called waste and the skills, tools, and logistics related to the sorting, assessing, and recording the linked data of the waste, as well as redistribution logistics required to extract the resource and redistribute the material back into circulation via technology and innovation, through the hands of makers, or managed through alternate retail and resale models.



Figure 1: A truck delivers 405 kg of diverted fashion and textile waste (Erica de Greef).

A truckload of fashion and textile waste destined for landfills arrived at CurbCycle, a recycling warehouse in Retreat, Cape Town, on Saturday, 13 November 2021, following discussions with Lee Luddit, owner of CurbCycle and the Woodstock Waste Drop-off depot.[5] A small team of three research interns[6] led by Luleka Zepe worked through 405 kg of pre- and post-consumer waste that included a mixed assortment of factory off-cuts and waste, and shoes, apparel, home textiles, and other randomly related items such as coat hangers. The limitations of space and the knowledge that whatever arrived on site for this study would also need to be redirected to alternative endpoints, or ultimately to landfills, limited the collection of waste for this research to approximately 200 kg

[5] CurbCycle specialises in paper, plastics, glass, and tin waste streams servicing business and domestic clients with recycling services. A key component of the work of CurbCycle is the identification and sorting for various buy-back companies. Occasionally, textiles and/or fashion items would be included in the mixed recycling received at the site. However, a wider awareness of the trash landscape means that CurbCycle are noting the ongoing (and increasing) scale of textile waste at landfills, dumps, and with their clients. This textile waste includes home décor and fashion items, as well as pre-production or manufacturing offcuts.

[6] Vuyeka Mahlati, Zimkhita Manyamalala, and Lihle Mara.

of post-consumer waste and 200 kg of pre-consumer waste. Our study set out to identify what and how much we could divert, and at what cost. Almost 25% of the load of post-consumer waste consisted of shoes[7] (46.5 kg), with the balance made up of mixed clothing and homeware (157.5 kg).

A preliminary overview of the mix of fashion and textiles revealed that this was almost exclusively casual wear across a mix of men's, women's, and children's wear. There were many single socks, some underwear, a significant number of t-shirts, little denim clothing, and no formalwear, i.e., tailored suits, wedding dresses, or party outfits. There were a few workwear items, some fancy-dress or costume items, and a fair amount of homeware textiles, including many textile furnishing swatches, curtains, pillows, and tablecloths. Almost all the clothing showed signs of wear and tear. In order for us to assess the items more effectively, we preselected about one-third of the clothing items to be laundered as a costing, value-assessment, and aesthetic exercise.

CurbCycle had collected pre-consumer textile waste from two of their existing clients in a collaborative feasibility exercise in terms of volumes, logistics, and related economies. This pre-consumer waste consisted of 174 kg of factory floor offcuts and 27 kg of manufacturing waste in the form of product rejects, including labels, linings and zips, and a large consignment of semi-finished and completed-but-rejected purses. The offcuts and rejects arrived as large, separate entities, which meant that the sorting did not need specialist skills, time, and space to sort the different fabrics, i.e., in terms of fibre compositions.[8] All the pre-consumer waste was identified in terms of composition with 120 kg of nylon offcuts, 21.5 kg of cotton offcuts and 10.5 kg of polyester offcuts.

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[7] Almost all the shoes were well-worn. Many of these were single shoes. Some pairs were identified and we assessed these for potential resale, such as slippers, flip flops, gumboots, and a pair of sneakers.

[8] A single burn test for each type of fabric offcut bundle would suffice for fibre identification and classification.



Figure 2: Discarded shoes made up 44 kg of the waste sent to landfills (Erica de Greef).

The post-consumer waste stream consisted of a wide range of textiles, fashion, and other related items, making it more complicated to sort and requiring more time and specialist knowledge. We sorted the 204 kg into five categories of items, which included 44 kg of shoes (Figure 2.); 21 kg of all non-clothing items (fabric swatches, scarves, crochet blankets, hangers, gloves, ribbons, and hats); 3.5 kg of socks; 1.5 kg of underwear; and 46 kg of clothing that for the purpose of our study was laundered, and 85.5 kg of clothing that remained unwashed. The items were machine laundered and folded at R15/kg, at a total cost of R700. With almost 280 garments washed, each item accrued a cost of R2.50 if equally distributed. However, technically, this should be distributed per weight of the garment, with some garments weighing more, and, therefore, absorbing higher laundry costs. We identified four potential waste routes that all of the waste would need to take: resale, repair, remake and recycle.

4.1.1. Diversions in Numbers

Almost two-thirds of the clothing items were identified as having potential for resale. The most common item for resale was t-shirts, totalling 54 of 106 items considered re-sellable.

Almost one-third of the non-fashion items that were destined for landfills (including curtains, pillows, tablecloths, etc.) was considered re-sellable. A wide range of repair needs were identified, including darning, re-hemming, re-stitching seams, covering stains, missing buttons, and broken zips. These were not separately recorded. A sample of repair times and tasks were recorded, including replacing buttons at 5 minutes each, darning holes by hand at 15 minutes or by machine 3–10 minutes, repairing side seams at 3 minutes each, and covering a stain on a dress at 10 minutes – 14 items were repaired in 131 minutes.

Factory offcuts and/or rejects can be used to make other products, as a product idea can be sampled once and reproduced effectively. Prototyping and testing for the remake market is possible, and time spent in research and development of cost-effective or in-demand products makes pre-consumer waste a creative economy worth investigating. School bags for children, washable sanitary towels and re-usable shoppers are some product ideas easily developed from pre-consumer waste.

Assessing items of clothing waste to be remade, however, requires time, design skills and knowledge of making, and where, for example, disassembly is needed, to be able to separate component parts for re-use, such as buttons, pockets, or zips (Figure 3).[9] The second, and highly crucial (and costly) factor regarding using post-consumer fashion items for remaking is the degree to which some (or total) disassembly is required to reuse the component parts. One pleather (mock leather) bomber jacket was totally perished on the outer body of the jacket, yet a range of component parts were considered reusable (Figure 3). It took 30 minutes to disassemble the jacket.

[9] Post-consumer waste is also much more complicated to streamline, yet it offers the potential for unique one-off designs, even when multiple items (for example t-shirts) are each made using a different quality, perhaps colour, and at a different stage of wear-and-tear. This means that whatever is designed, the raw material will be different.

The pleather outer was discarded (for recycling), and 12 reusable parts were created – 4 zips, 1 cotton striped lining, 1.5 m striped binding, 2 binding strips, 1.5 m string, 2 pocket flaps, and 1 small decorative tab. Similarly, a single brown suede shoe was disassembled in 15 minutes, and 6 reusable parts were created (Figure 3). We sorted through both pre- and post-consumer waste and prepared ideas towards possible remaking, such as bags, aprons, scatter cushion/s, crochet mats, small purses, patchwork baby blankets, etc. The potential to increase the value by design means that this category represents the most individual profit if there is a willing market. The risk, however, in this category is high, as the demand for remade goods is not guaranteed, and this process is difficult to scale up effectively.



Figure 3: Disassembled parts from boots, jackets and shoes (Erica de Greef).

As shown, a complex set of variables is at play when addressing post-consumer fashion and textile waste for redirection like for recycle, as garment compositions vary greatly, colours are mixed, and often, there are trims and labels which further complicate fibre-to-fibre recycling. The largest and simplest sorting process in the project was the bags of pre-production factory off-cuts.

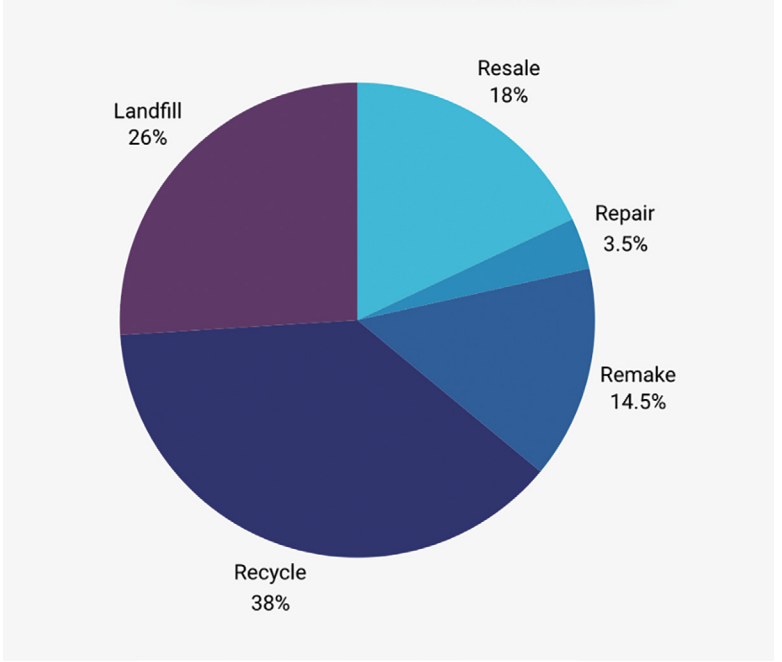


Figure 4: Diversion of waste
Source: Jackie May, Dr Erica de Greef, Luleka Zepe

Figure 4 shows that 74% of the waste in this study could be diverted. This included 71 kg to resale, 13 kg to repair, 58 kg to remake, and 152 kg to recycle. In addition, 106 kg was sent to landfills, with 44 kg of shoes and 62 kg of fashion and textile waste.

4.1.2. Business Case

As a business model, the labour, skills and logistic costs involved in processing fashion and textile waste need to be weighed up against the material product itself, the market, and the potential for financial returns. Across the four categories (resale, repair, recycle, remake) this would include sorting, laundering, and storage costs for resale; time and materials costs and sorting, laundering, and storage costs for repair; and sorting costs and transport costs for recycling. As a category, remake offers the greatest possible return on time because an entirely new product can be made from materials that are unique, available,

and that potentially cost a fraction of the original purchase and/or production price. However, costs are involved in customising styles and new product developments that would include the research, design, prototyping, testing, disassembly and reassembly costs and marketing costs, as well as sorting, laundering and storage costs.

It took eight days with four research participants to sort, assess, capture data, and prepare the diversion of 405 kg of fashion and textile waste, costing a total of R13,100 for the rental, petrol, participant fees, laundry, and other sundries.[10] The four participants took 8 days to process the 405 kg; each participant, therefore, processed about 100 kg in eight days, or 12.5 kg per day. If no sales or buy-back avenues were activated, each kilogram of waste would cost about R32 to research, sort, and divert.

The research demonstrated that the skills needed to identify textile and fashion recycling potentials are unique and would need dedicated research and training with different skill sets and sorting processes required for pre-consumer and post-consumer waste. The lack of waste management criteria for fashion and textiles further complicates the selection and diversion choices. There were 42 new types of green jobs that could be developed for an emerging circular fashion economy, and were identified across the broader fashion supply chain from the factory floor where recycling and reuse could begin; to retailers where collection bins could facilitate preliminary sorting across categories of resale repair, and recycle; textile waste collectors and drivers; to landfill and environment monitors; to entrepreneurs who prototype new recycling technologies and products; and finally to resellers across a wide range of refashioned products.

The waste was diverted across the four categories, and calculations were made by the researchers in terms of the potential return values for each item diverted. Income from

[10] The calculation is broken down as follows: rental = R2,400 (8 days @ R300/day); research participants = R9,400 (8 x R500 = R4,000; 6 x 3 x R300 = R5,400); laundry = R700; petrol and sundries = R600.

405 kg of textile waste that could come from resale = R1,570;[11] repair = R880;[12] remake = R11,535;[13] and landfill or buy-back savings = not recorded.[14] If the projected income calculations are calculated at 50% return on sales projections, then 405 kg of fashion and textile waste, when diverted across four income-generating categories, could earn approximately R7,000. Buy-back of 150 kg of sorted textile waste could generate a further income and savings on landfill charges. The introduction of the Extended Producer Responsibility Levy for fashion and textiles offers a glimmer of hope towards redirecting funds to the support and development of infrastructures, partners, much-needed research, and skills training. The question should no longer be, should textiles be diverted from landfills, but when will this be implemented at scale? The social and environmental benefits of diverting textiles from landfills are evident, and the potential of textile waste to be considered as a vital resource is clear. The cost and complexity of sorting, the cost of cleaning, and guaranteed access to market for resale, repair, or recycling

[11] The prices for resale were determined by the participant researchers with experience in the township economy – the team leader Luleka Zepe has her own thrifting business. The resale potential and related values assigned to the second-hand items ranged from budget (priced between R5 and R10 per item), to fair (at R20), with one or two items identified as high-value, such as a denim workwear jacket or long coat (at R50).

[12] Based on R50/hr for repair, and repairs completed both by hand and on machines that ranged from 5 minutes to an hour. The costs of set-up to create a repair station or studio were not factored in.

[13] Based on R100/hr for remake (additional skills and experience required), and calculated as one would to make a garment from the start, the only real saving is the materials cost. Set up costs and production, access to market, retailer commissions, etc., means that any sales profits will fluctuate depending on the product, the market, and the consumer uptake. In 150 minutes, 70 reusable parts were created from 17 items. This means that each new part took around 2 minutes to create, which represents a saving of resources, extending the potential use of the material, but also a savings in the cost of raw materials. In terms of creative possibilities, the repurposed parts also present original, unique, and often useful component parts, from buttons and buckles to trims, accessories, and ready-made straps or ties.

[14] Potential saving from landfill fees and from buy-back companies could not be calculated at this point. However, CurbCycle did investigate the financial viabilities of the various waste flow streams and found that the transport costs that were made collecting and sorting waste not a viable stream to include in their business.

are all factors that currently prevent the uptake of textile waste flows in the circular economy. The question of unlocking this shift in the value dynamics of fashion and textile waste lies in connecting the political, environmental, economic, and cultural stakeholders towards circular futures.

4.2. Discard Study 2

The second Refashion Lab, in collaboration with Streetscapes, a Cape Town-based non-profit organisation dedicated to ending homelessness, similarly addressed the challenges of diverting and redirecting second-hand clothes and corporate textile waste from landfills.[15] Bags of no-longer-wanted clothes, hospitality waste, and some manufacturing off-cuts are donated to Streetscapes by customers, neighbouring businesses, and concerned residents. An additional component to the research involved the study of co-creation with individuals and organisations through building symbiotic partnerships and leaning into the range of tacit knowledges that is latent in marginalised communities. Since November 2022, during weekly voluntary workshops with a small, committed group of Streetscape trainees, fashion and textile waste was sorted into streams that can be resold, repaired, remade, and recycled.

Relevant skills such as fixing holes, quilting, sewing buttons, knitting and, for instance, making a t-shirt or towelling yarn that can be woven or plaited into new clothes or home décor items, were shared by members across the group, inviting co-learning and peer-exchange (Figure 5). The on-site eco-laundromat offers a resource-efficient and sustainable way of cleaning and drying clothes, and the donated clothes are washed on site, ensuring a second circular ecosystem.

[15] Streetscapes is a Khulisa programme that provides a model for sustainable urban regeneration while simultaneously addressing the needs of homeless and vulnerable communities living in shelters. Key to the urban gardening programme is LaundReCycle, the first South African fully off-grid eco-3 that uses renewable energy and is a closed water cycle. We started working with Streetscapes in November 2022 and the collaboration is on-going.



Figure 5: Repair at Streetscapes included unpicking and hand sewing (Erica de Greef).

Items in good condition were prepared to be resold for the monthly Streetscapes market, where the workshop participants engage with the public in the resale of these clothes. Some of the clothes are selected for the trainees' own needs, and an in-house lay-bye system has been established to generate a welcoming environment for those most marginalised to access and invest in their chosen items. Luleka Zepe assisted with the processing and selling of the donated clothes. By having to sort, price and sell these items, the trainees engaged in a range of crucial skills, giving them the entrepreneurial tools to perhaps one day start their own business.

Streetscapes is the first small circular ecosystem of the project. The range of textiles that flow through Streetscapes demonstrates a small sample of the broader post-consumer and manufacturing textile waste flows of the city. Co-learning was key here, as many participants arrived with existing craft skills (Figure 6).

4.2.1. Co-Creating Circularity

Working with vulnerable communities through the lens and language of fashion did not reduce the complexity of their precarious situations but acted as a bridge and helped to create a

language of sharing, both in terms of dialogues and skills. Working with unhoused, homeless, and marginalised communities required careful attention to the dynamics of privilege and precarity that guided the weekly exchange. Using fashion (as a form of social repair), these crafting encounter workshops take place in contested terrain. For the trainees, participation was filled with hope, yet, despite our interventions, their world realities of survival and stability required more than the workshops could offer.

In addition, the social entrepreneurship model that is often presented as a possible pathway for vulnerable communities in terms of self-reliance, rehabilitation, and integration is a hugely challenging path. As a concept, social entrepreneurship spans the domains of sustainability and ethical practice, but it is also a business and market-driven ideology that is used in "development and aid" projects. Achieving success as a social entrepreneur from a position of precarity is perhaps asking too much.



Figure 6: An upcycled rug mat made from donated towels and hotel slippers (Tandekile Mkize).

The textile heritages of many marginalised communities have almost always been overridden by designers and project administrators (predominantly trained in Western business and

fashion models) with the assumption that they (outsiders) can bring their knowledge and expertise to solve others' (insiders') problems. Some of these inherent ideologies and methods can challenge the success of these kinds of co-created, socially driven projects. As the Refashion Lab aimed to create opportunities for Streetscape participants to enter into the circular fashion system with new in-demand skills, we were aware of the complexity of these scenarios. In order for these to translate to systemic change, a further level of collaboration and co-creation by business, policymakers, municipal structures, retailers, and manufacturers is required.

4.3. Discard Study 3

During July 2021, Twyg[16] conducted desktop research to understand the fibre content of clothes on the market in South Africa and to understand more clearly what types of textiles need to be recycled at the end of use. If we are selling clothes made from fibres and textiles that are impossible or difficult to recycle, we should not be introducing them to the market. The manufacturing of clothing should match recycling capacities for end-of-life and end-of-use management of fashion and textiles.

Three people[17] documented information on 1,178 garments for sale online at 14 retailers. Everything available for July 2021 was captured. Once the Twyg team had captured the data, it was sent to a professional data scientist[18] to organise in preparation for assessment and analysis of the data. No fibre tests were conducted, and the analysis draws on the garment information provided by the retailers online. We did two store visits to conduct randomised cross checks with the labels in store and the information made available online.[19]

Globally, less than one-fifth of textiles are made from preferred natural and recycled fibres. (Dottle & Gu 2022). The Textile Exchange (2024) shows that globally plant fibres (cotton, flax, hemp, etc) make up less than 25% of total fibre production;

[16] Stella Hertantyo, Kathryn Chao, Nobanzi Sokhuthu, Sian Bianca, and Stephanie Baker.
[17] Nobanzi Sokhuthu, Sian Bianca, and Stephanie Baker.
[18] Liam James.
[19] The information given online was no different to what was on the labels in store.

animal fibres (wool, silk, etc.) about 1%; man-made cellulosic fibres (viscose, lyocell, modal etc) about 6%; and synthetic fibres make up 67% of the total fibre production. More than 57% of the synthetic fibres are polyester. Fast fashion is heavily reliant on synthetics (Dottle & Gu 2022). Compared to global statistics, our research sample and micro study reflected less polyester than global averages. It also showed that 30% of the compositions were blends, which makes textile-to-textile recycling complicated in South Africa, which does not have the capacity to perform this kind of recycling.

During the month that we studied the online, local fashion retail, the selected 14 retailers were advertising 1,117 styles of garments, 61 of which had no fibre information in the description, and only 212 had special labels such as Better Cotton Initiative, Proudly South Africa, and Forest Steward Council. From the information available online about the items' fabric compositions, 44,5% of the garments were synthetic; 25% were plant fibres; 0,3% were animal fibres; and 30% were blended fabrics.

This kind of data captured would have to be captured at scale to plan and develop comprehensive national textile recycling and circularity strategies. Material inputs should match available recycling technologies and innovations.

5. Conclusion and Recommendations

Discard Study 1 showed the complexity of waste as a business case study, whilst Discard Study 2 demonstrated the capacity of a waste-led project for social justice and emotional repair opportunities. Discard Study 3 explored one of the sources of the waste stream with a deep analysis of the composition of garments available to consumers, which ultimately impacts the environment at the end of the clothing lifecycles.

Together, these observations can inform skills and policy recommendations; a needs and opportunities framework for future businesses; and directions for reframing consumer, industrial and entrepreneurial developments towards shaping more circular, local fashion, and textile ecosystems. In summary, we argue that more research funding is needed that is contextualised in the local waste streams; that there is potential to

scale policy and industry support; and that there is a measurable business case based on intersectional criteria that would include social, environmental, and economic benefits to the city and its broader communities, both present and future.

Based on the findings and limitations of the three discard studies, we propose five key recommendations:

5.1. Research and Partnerships

Research and partnerships are key to taking these findings forward. Further research on repair, remake or upcycle, and resale business models is needed to assess the potential for these redirection routes to reduce textile waste in landfills. In addition, it would be useful to track and gather more data in terms of fashion and textiles waste-flow inputs, namely local retail and manufacturing quantities and practices, and outputs regarding redirection opportunities and challenges. Further industry interviews and landfill audits (where possible) would enhance the understanding of the volume and composition of textile waste, to develop relevant textile recycling technologies as well as to create symbiotic partnerships between industries. We propose that a local multistakeholder textile diversion working group be established to support the development of a comprehensive and collaborative circular textile economy and a long list of training and skills in support of new green(er) economies. Current recyclers must be central to the conversations to assist in designing the locally situated solutions across the value chain.

5.2. Policy

A number of international and local developments in the field of extended producer responsibility (EPR) show promise in including fashion and textile production in the discussion and implementation process. Local leadership in the field would be crucial in terms of supporting and encouraging cross-industry collaborations with diverse stakeholders to both understand and implement EPR levies and policies. Policy can also be enacted through soft media measures that encourage the use of reclaimed fibres in fashion and other applications, as well as through incentives such as procurement and duties for products made from recycled fibres. We recommend that textile diversion

programmes be established in each province and that reporting textile waste data by municipalities should be mandatory.

5.3. Education and Training

Key to the development of the fashion and textile waste recycling would be the creation of a collection and sorting depot as a training and pilot business model. As part of this pilot, it is recommended that working with designers would assist in creating better awareness of the programme as well as the development of retail-ready, upcycled goods. In addition, working closely with industries that produce textile waste, such as hotels, advertising, film industries, and restaurants, would help to educate and upskill ambassadors, sorting and diversion managers, and upcycling or recycling designers. Partners such as Cape Peninsula University of Technology, V&A Waterfront, Harambee, Streetscapes, Rewoven, Taking Care of Business, and social enterprises could help in identifying and piloting new jobs and creating learning manuals for sustainable green fashion and textile jobs. Another opportunity lies with accessing secondary education with arts- and design-related curriculum for circular design.

5.4. Media and Public Programming

We recommend that projects like the Refashion Lab and Makers' Spaces that are public-facing, and media partners such as Twyg can generate and share content, media campaigns and events (for example, the Africa Textile Talks)[20] that amplify, explain and publicise the value and importance of a circular and sustainable fashion and textile eco-system. In addition, activist organisations like The Or Foundation, Taking Care of Business Fashion Revolution, and the African Fashion Research Institute (AFRI) can introduce educational content, convene panel discussions, and publicise research that supports the development of this ecosystem. In other words, partnerships are integral in promoting socio-environmental justice.

[20] Africa Textile Talks is an annual conference in Cape Town, South Africa hosted by Twyg (South Africa) and the Imiloa Collective (Mauritius). The programme of talks, panels, and discussions is focused on natural, sustainable, and innovative fibres produced on the African continent.

5.5. Funding

Funding is related across all the above areas, in terms of research, policy, education, and media to foster a textile recycling culture and establish diversion programmes at municipal levels. Implementing in-store take-back programmes as a form of EPR also requires investment. Further research in fashion and textile waste flows, opportunities, and volumes, as well as in creative product development also requires public and private investments that could be local, at a city-level or global, such as the Ellen Macarthur Foundation or H&M Sustainability initiatives.

Overall, with support and policy, the development of greener, more circular fashion and textile industries offers the potential of new jobs. Our results point to the need for urgent attention to be given to the current unsustainable waste flows of the fashion and textiles industry to refashion the system for the future. This refashioning of the system comes with its challenges: the perceptions of waste; the commercial viability of resale, repair, and remake; and the cost of laundering. This report points to the need for large-scale collaboration across diverse people, industries, and interests to create multiple big and small opportunities for new, more circular fashion and textile systems and a cleaner environment. The Refashion Lab will continue its grassroots research at Streetscapes, academic research, and stakeholder engagement.

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Author Contributions

The three authors each contributed to the research and these studies. We have each read and agreed to the published version of the manuscript.

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Authors Biography

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Jackie May is the founder and editor of Twyg, a magazine focused on supporting Sustainable Development Goal 12 (ensure sustainable consumption and production patterns). She is the co-founder of the Refashion Lab. May launched the annual Twyg Sustainable Fashion Awards and Africa Textile Talks events, and the regular Swap&Mend events. She curated the Confections x Collections fashion showcases in Cape Town in 2022, 2023, and 2024. Previously, she edited the South African edition of the international women's fashion magazine, *Marie Claire*, and was the Cape editor of the national newspaper, *The Times*. May holds a Master of Philosophy from the University of London and a Master of Philosophy in Sustainable Development from Stellenbosch's Centre of Sustainable Transitions.

Luleka Zepe is a Cape Town-based entrepreneur and community organiser. As the founder of Elamilima Creatives and Projects, she leads initiatives that foster sustainability and empower local communities. Zepe owns a second-hand clothing store in Site C, Khayelitsha. She plays a vital role in the Refashion Lab, an initiative that collaborates with Streetscapes to run sewing circles and a thrift store for vulnerable people. Her work is aimed at environmental stewardship, skills development, social reintegration, promoting circular fashion practices, and nurturing community resilience. Zepe has contributed to the After-school Creative Arts Cape Metro Community of Practice with the Moses Mabhida Library. She served four years with the Wolfgat Nature Reserve as chairperson of the Protected Area Advisory Committee.

Chapter Seven

The Role of Policy Framework and Government Initiatives in Promoting Sustainable Fashion in Africa

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Abstract

Policy frameworks and government initiatives play a crucial role in promoting sustainable fashion, a sector increasingly recognised for its environmental and social impact. As the fashion industry grows, so does its contribution to environmental degradation and ethical concerns. This study uses the preferred reporting items for systematic reviews and meta-analyses (PRISMA) to determine how policy frameworks and government action in the existing literature can steer the fashion industry towards sustainability. This study begins by defining sustainable fashion and providing a description of its importance. The study then examines various international and African policy frameworks that aim to promote sustainable practices in the fashion industry. A comparative analysis of government initiatives from five selected African countries illustrates the varied approaches to promoting sustainable fashion. Case studies from leading nations in the field of sustainability are examined as concrete examples of successful policies, including the European Union's Circular Economy Action Plan and Sweden's sustainable fashion initiatives.

In conclusion, the study discusses industry resistance, economic constraints, and the complexity of global supply chains that pose obstacles to implementing effective policies. The proposed policy strategies encourage governments, industries, and civil society to collaborate to overcome these hurdles and drive meaningful progress towards sustainable fashion.

Keywords: Compliance, innovation, sustainability education, sustainability fashion

1. Introduction

Over the years, the quest for sustainability in fashion design, popularly known as sustainable fashion, has gained attention amongst fashion stakeholders, who increasingly recognise the important role of governments in promoting fashion sustainability (Ki, Chong & Ha-Brookshire 2020). Initially, sustainable design mirrored only the environment. However, current conceptualisation of sustainable design also incorporates and embraces social issues. These social issues include, but are not limited to, the exploitation of resources, production, consumption, waste, and the working conditions of the many people involved in the fashion production chain (Abbate, Centobelli, Cerchione, Nadeem & Riccio 2024). Governments play a crucial role in the fashion industry, making or marring the debate about sustainable design (Mancebo 2023). Fashion sustains national and international trade, contributes to cultural prosperity, is a significant source of employment, and sustains creativity and the material culture of all societies (Poon 2020). Given the multifaceted roles of governments and the contemporary challenges confronting fashion design, it is indisputable that sustainable fashion has gained momentum and now presents as the future paradigm. Though significant cultural heritage and craft traditions exist within the African fashion industry, these stories are rarely told. The African fashion industry and individual designers are challenging the status quo and changing the fashion narrative through their creativity, innovation, and product and service offerings in emerging markets.

The preferred reporting items for systematic reviews and meta-analyses (PRISMA) methodology was used as it is a

systematic approach that allows for reviewing all the relevant available literature by categorising and synthesising information drawn from different sources. Filtering articles, reports, and case studies for selection started with formulating inclusion and exclusion criteria to identify the 67 articles that directly focused on sustainable fashion, the policy frameworks, and government involvement in sustainable fashion in Africa. An initial search of the databases aimed at identifying studies fitting these criteria was conducted. If promising articles were deemed relevant and of high quality, further detailed scrutiny was performed. These articles were then assessed based mainly on academic topics of interest, including policy and government initiatives concerning sustainable fashion. Adopting the PRISMA approach offered a systematic grid for evaluating the evidence, making relevant conclusions, and determining existing research papers' limitations, which guided the way to future policies and academic research in this field.

1.1. Background and Research Rationale

The role of the policy framework and government initiatives in promoting sustainable fashion in African countries is a crucial issue widely identified by various stakeholders. However, there is limited research on the importance of this dynamic issue – the focus is mainly on developed countries, and little attention is given to sustainable fashion in developing countries (Gazzola, Pavione, Pezzetti & Grechi 2020). This study addresses the gap by systematically reviewing the literature and identifying key research questions for future studies. Furthermore, this study examines how the policy frameworks and government initiatives in developing African countries can best assist the fashion industry towards sustainable fashion.

Moreover, this study aims to generate interest in sustainable fashion and stimulate research by government departments responsible for fashion, academics, practitioners, producers, and policymakers active in this sector. This review's context is policy development related to sustainable fashion. It asks the question of how the principles of sustainable fashion can inform relevant stakeholders; specifically, designers, small-scale enterprises,

and industry, to exploit environmental and social business opportunities while protecting against risks. The main argument guiding this literature review relates to nations transitioning towards creating and being part of circular and ecological fashion business models. To illustrate this, the literature review critically explores global examples of policy frameworks with strategies for sustainable design initiatives that ultimately contribute to business and environmental value in circular fashion principles.

Five African countries were selected because they have relatively large textile and clothing industries: Ethiopia, South Africa, Morocco, Kenya, and Nigeria. The relevant current information on these countries is situated in the broad context of the fashion and textiles industry. Despite growing awareness of the importance of sustainability in the fashion sector, African countries often struggle to meet international standards because of the economic costs (de Aguiar Hugo, de Nadae & da Silva Lima 2021). Companies in Western countries that may wish to consider sourcing from Africa to meet the demands for sustainable fashion find it challenging to deal with the complexities of the supply chain (Hofmann, Jacob & Pizsingrilli 2022). However, the opportunity that exists in the African textiles and fashion industry, with its relatively young and growing population and low-cost, eco-friendly processes, is behind the new trend of government and international organisations supporting developing countries' fashion value chains (Niinimäki, Peters, Dahlbo, Perry, Rissanen & Gwilt 2020).

The discussion emphasises the role of policy frameworks and government initiatives in creating an environment that enables the fashion sector to transition to a more sustainable model. Although an adequate regulatory framework must be implemented based on international standards, public-private initiatives to eliminate the constraints of additional costs undermine the sector's competitive status.

2. Literature Review and Theories

The fashion industry has transitioned over the years to recognise the crucial relationships between environmental, social, and

economic sustainability (Mishra, Jain & Malhotra 2021). This quest for harmonising business objectives with environmental protection and social justice has influenced new trends in the global fashion market (Martynyshyn, Khlystun, Antonivska & Krupa 2022). However, the expansion and globalisation of the fashion industry increase its exposure to activities that potentially degrade the natural resource base and exploit labour. Clothing production is mainly driven by the continued demand for cheap clothes that display seasonal characteristics, reduce durability and appeal, and are disposed of after being worn for some time. It has, therefore, become pertinent to address challenges such as textile waste at the end of life, resource extraction for textile production, and transboundary flows of textiles and clothing commodities through relevant, sustainable practices and strategies that promote sustainable economic development (Stenton, Kapsali, Blackburn & Houghton 2021). While many sustainability strategies have been implemented, some are yet to evolve, especially in Africa. Recognising sustainable fashion in policies, initiatives, and practices is still relatively fluid.

2.1. Definition and Principles

Sustainable fashion is a strategic approach towards fashion production, retailing, and consumption that seeks to optimise societal, environmental, and economic benefits while minimising harm (Mukendi, Davies, Glozer & McDonagh 2020). Sustainable initiatives in fashion seek to ensure that clothing and accessories are ethically produced, environmentally friendly, and socially responsible (Claxton & Kent 2020). Sustainable fashion initiatives aim to minimise or eliminate the use of toxins, excessive water consumption, and waste generation; localise and fairly compensate labour efforts; recycle resources; and educate consumers (Ray & Nayak 2023), as illustrated in Figure 1 and Figure 2. Furthermore, sustainable fashion promotes the purchase of second-hand clothing and accessories and the use of homemade alternatives. In recent years, numerous initiatives have emerged to transform the fast fashion industry into a more sustainable "slow fashion" model.

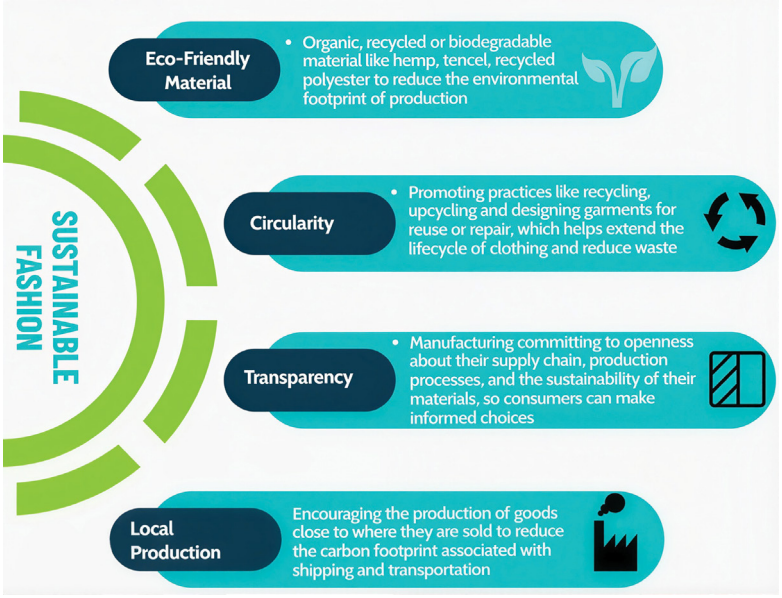


Figure 1: Sustainable fashion (Sindi Mokgopha)



Figure 2: Fast fashion vs slow fashion (Sindi Mokgopha)

Sustainable fashion is a complex and multifaceted concept characterised by many approaches, practices, and models. Initially applied to the textile and clothing industry, the idea has expanded

to include broader social and economic analyses. Initially, green concerns dominated sustainable fashion's social, political, and economic discourses. The main focus of initiatives and debates was reducing pollution and waste and shifting to more sustainable raw materials. Today, the social principles of sustainability, such as fair treatment of labour and support for small socio-economic communities, are considered equally important. Sustainable fashion is now approached as a systemic challenge involving industry transformation and paradigm change, instead of using sustainable fashion as a marketing strategy to differentiate from the competition.

Driven by several interrelated megatrends, changes in consumer behaviour, and environmental legislation, the need for fashion industry transformation is becoming more urgent. As a result of gross environmental overconsumption, climate change, and depletion of oil, water, and other natural resources, sustainability has become one of the most prominent global megatrends. The green movement and growing environmental awareness across the globe have been triggering improvements towards sustainability in industries, businesses, and production for decades. These megatrends have driven a demand for transparency in provenance and corporate social responsibility. Mitigating hunger, poverty, and inequality, as well as reducing energy and water consumption, waste generation, and greenhouse gas emissions, have become key issues on politicians' and companies' agendas.

2.2. Environmental and Social Impacts

The global production and distribution of fashion uses extensive natural resources and both renewable and non-renewable energy sources (Niinimäki *et al* 2020). The clothing production, consumption, and disposal result in environmental impacts ranging from air and water pollution to wasted resources, chemical use, and greenhouse gas emissions. Similarly, the social dimension of sustainability considers the ethical aspects of fashion production and consumption. While the development of Africa cannot be totally removed from the economic benefits derived from this production process, promoting sustainable

practices and policies towards the long-term resilience and viability of these textiles and clothing value chains embedded in the continent is necessary (Wolff 2021). Such discussions might help to advance the African continent's economic transformation, making the fashion industry a significant player.

The understanding of what constitutes sustainable fashion is a pressing issue. This has been further compounded by the emergence of fast fashion, where fashion items are mass-produced and processed, distributed, and marketed with immense speed. As illustrated by Figure 2, the fast fashion industry is linked with various unethical environmental and labour practices, because most consumers prefer the cheap option that fails to align with sustainable best practices (Wren 2022). With the burgeoning middle class, especially in some African countries, which prefers the heavy resource usage demand of fast fashion, the consideration of sustainable fashion as a public policy challenge must be nurtured (Williams 2022). Consumer demands for increased transparency from fashion players must be supported by detailed data on clothing items' production and processing value chain (Papú Carrone 2020). Such public policy may go the extra mile in preventing negative environmental consequences.

3. Policy Frameworks for Sustainable Fashion

Countries in Africa design strategic policies for governance, drawing from global best practices and existing local policy resources. Fashion provides an enormous platform for realising Sustainable Development Goals (SDGs) in developing countries. However, many African countries lack a comprehensive policy strategy to direct their fashion industry into producing and consuming more sustainably (Niinimäki *et al* 2020). Fostering fashion sustainability requires the pursuit of integrated policy across the production, education, design, consumption, and waste management sectors (Murzyn-Kupisz & Hołuj 2021). African countries require innovative policies and strategies to provide both direction and support to achieve sustainable fashion practices (Anaman, Ahmed, Suleman & Dzakah 2023).

Valuable insights are provided by these authors into why we need a policy framework for taking action and what we can implement in a policy framework for sustainable fashion in Africa. Furthermore, the provided insights outline a policy framework to guide efforts to educate, inform, and change fashion practices in production, consumption, and disposal. This contribution is the starting point of discussions on sustainable fashion policy development in Africa, as it explores policy interventions and actors.

Proposed policies go beyond industrial-level policy and differ from the contribution of previous research. The lack of policy discussions around fashion issues in the region is a challenge. The technological development of reducing pollution and treating wastewater at the output has emerged as an area of technology in which the industry is most interested in advancing.

3.1. International Perspectives

Several countries, regions, and global institutions have recognised the need to introduce social responsibility legislation to encourage businesses to promote sustainable consumption and production. Various policy instruments have been implemented to ensure sustainable development. However, inefficient legislative provisions and an absence of enforcement of these provisions undermine their necessity to meet the existing development imperatives and reorient the growth trajectory towards sustainable fashion in Africa. With the proper policy framework to improve sustainability, economic reform, climate change, and performance in supply chains (Rotimi, Topple & Hopkins 2021) in the African context, sustainable fashion offers a new and promising approach.

The need to redefine development goals that consider the private sector's social, environmental, and ethical responsibility in every step of the supply chain of fashion products is already recognised at the United Nations level (Montiel, Cuervo-Cazurra, Park, Antolín-López & Husted 2021). In its 26th Session, the United Nations Human Rights Council (UNHRC) adopted a plan of work to create a legally binding instrument on

business and human rights. This decision was made to combat corporate involvement in human rights abuses. It has brought the world closer to formulating standards and responsibility norms for businesses to enhance respect for human rights across the globe (Terán 2021). Furthermore, the UNHRC was tasked with the majority of the mission, and the working group mandate included creating the need to exercise authority over, in accordance with international human rights law, the activities of transnational corporations and other business enterprises (Addo 2024). More binding global and regional legal provisions and customary law will catalyse industrial change for social good and environmental improvement (Perrez 2020). Arguments such as risk complexity and interdependent risk should not be used to allow corporations to behave selfishly when they should be acting in the interests of society and the environment. In the long run, the absence of regulations at the highest international level encourages allegations and major international or civil crimes. A lack of adequate governance will keep allowing abuses.

3.2. African Approaches

In Africa, in the context of the selected project countries, policy briefs compiled by relevant organisations detail pertinent policy issues and directions for realising the SDGs and supporting relevant policy initiatives. The work of various institutions in the Africa Sustainable Fashion Week is exactly what is needed: stimulating dialogue and sharing experiences, strategies, and results by government, industry, and civic society organisations to maximise joint progress (Thorisdottir & Johannsdottir 2020). Likewise, the facilitation and sharing of relevant expert reports offer crucial, timely support regarding fashion industry policy to support common African action towards achieving Africa's industrial transformation agenda.

These reports mainly seek to steer the dialogue towards fashion design, supply chain production evolution, and policy instruments that will promote the benefits of Fourth Industrial Revolution technologies for social transformation (Cheng, Awan,

Ahmad & Tan 2021). With better choices about who is involved in product fashion processes, these benefits will be more consistent with the 2030 Agenda for Sustainable Development because the fashions that people wear and the food that they eat express who people are and where they come from. Public-private sector partnerships with African countries envisage facilitating policy changes and offering value chains; value chains that are cheaper and more aligned with fashion technology-related policies, including exports (Pandey, de Coninck & Sagar 2022). By supporting the introduction of the right innovations, these partnerships can make use of distinctive African cultures with unique design ideas that make a difference. Such innovations draw attention to the relevance of various parts of the user chain and the benefits to the user of a better match with the modular manufacturing processes offered by the technologies of the First, Second, Third, and Fourth Industrial Revolutions.

4. Government Initiatives in Africa

This section examines policy frameworks and initiatives relevant to sustainable fashion across five selected African countries. Government involvement in formal or written policy is the focus of this discussion. The governments of Ethiopia, South Africa, Morocco, Kenya, and Nigeria are included in this review of government involvement (UNECA 2021). In this context, these governments advocate for and institutionalise sustainable fashion. The common ground for all nations in this study was that their governments initiated the conceptualisation process, including drafting several guidelines which could be signed into law in the years to come. Although some governments have established initial resource documentation and research, others have not yet tackled this aspect. This review offers the basis for evaluating the experimentation with these plans and project initiatives. Policy approaches possibly vary, with either the agency or governmental entities showcasing their interest in sustainability; a few have already initiated and incorporated basic or specific policy instruments related to doing more with sustainable fashion. Any fashion sector government policy is placed in the context of

foreign policy today. All five selected African countries have some degree of international stabilisation and a supportive foreign policy agenda. The five countries have signed global conventions, protocols, and best practices, displayed commitments, and set targets. All also favour a multi-stakeholder approach that consults and engages with local community actors, industries, and individuals and collaborates with the broader government (UNCTAD 2020).

4.1. Ethiopia

Ethiopia's fashion design industry is unique in its focus on traditional Ethiopian jewellery and clothing. Many designers aim to raise the profile of local artisans and their skills and expose the world market to the culture and cultural heritage of Ethiopia (Von Pezold & Driessen 2021). This may facilitate a deeper embedding of sustainability in the design lines and marketing strategy, inform cultural branding, and make cultural branding socially responsible. The Ethiopian government aims to integrate sustainability in the textile and garment sectors (Brandenburg, Bizuneh, Teklemedhin & Woubou 2022). The country does not produce or experiment with smart textiles. Raising the importance of fashion and art is hoped to change how society looks at products from chic to sustainable (Coscieme, Manshoven, Gillabel, Grossi & Mortensen 2022). The National Cooperative Development Policy was launched in Ethiopia in 2015. This policy aims to support the development of cooperative societies. These cooperatives can form public-private partnerships, making it easier to place products in the market, connect designers with producers, physical hubs, digital platforms, and help to set standards and provide education (Yitayaw 2021). A value chain approach was taken.

In the Ethiopian Textile-Apparel Trade for Sustainable Human and Diverse Ecosystems forum, waste and value addition are key themes. There are three initiatives specifically focusing on artisans (Castellote & Okwuosa 2020):

- Addis Ababa Still Arts Biennale, which began in 2018.
- Festival Fashion Designers of Africa, held for the first time in 2019 in Ethiopia.

- Companies that produce goods for the domestic market have production hubs that host artisans and provide them with access to an international network of designers.

The most significant programme is the Ethiopian-Italian cooperation agreement to help small and mid-size enterprises to grow in areas that can improve sustainability, notably the circular economy and product design. There is progress in improving the small, inefficient framework in Addis Ababa. The European business network for corporate social responsibility has been collaborating to deploy sustainable practices and goods (Meseguer-Sánchez, Gálvez-Sánchez, López-Martínez & Molina-Moreno 2021). These initiatives are incremental in their output as they are built on other programmes. Ethiopia also has several design and business management programmes in various institutions aimed at all levels of the fashion and textile apparel chain.

4.2. South Africa

South Africa is a large and diverse country. The fashion industry, although currently suffering similar challenges to its African peers, is a hardy mix of independent solid designers working in a variety of styles, export-driven businesses, and the remnants of the local garment production industry that was decimated by cheap imports over the past 30 years (Pooe & Mugobo 2020). The South African government's commitment to implementing the SDGs and the Paris Agreement is best accomplished by focusing more on developing countries and social inclusiveness. South Africa is making conscious efforts to counteract some of the negative aspects of fast fashion, such as textile waste and pollution.

At the beginning of 2004, the Department of Trade and Industry commissioned research into developing a local design-oriented strategy (Cano Piniero 2020). The result was a range of strategic frameworks systematically designed to facilitate the growth of design-based industries. The design promotion document refers to broader sustainability and social inclusiveness trends. Like most industries, the fashion

sector primarily relies on the value of the local currency (ZAR, called "the rand"), a particularly volatile currency (Snowball & Mapuma 2021). Prices have increased as the currency begins to recover. Reports indicate that shoppers in local markets do not consider sustainability. The sustainable fashion sector, while attracting attention, is failing to win widespread appeal because of predominantly niche marketing. This, in turn, means that most consumers only engage with sustainable fashion as an afterthought if it aligns with the high street price point (Coste, Pereira, Charman, Petersen & Hawkes 2022). In addition, significant growth and investment have not been forthcoming because economic disparities limit the consumers who can afford the price points of the sustainable market as it currently stands (Spash 2021). However, major clothing retail chains contribute significantly to eco-friendly and fair-trade cotton farming in Africa. A non-governmental organisation such as Africa Centre, Community House and Biowatch based in Cape Town seeks to make the textile dyeing process eco-efficient and save costs. Overall, though, governmental schemes and corporate initiatives in sustainable textiles and community projects are limited.

4.3. Morocco

Over the past decade, Morocco has developed unique policy and initiative frameworks that recognise the importance of fashion and design in driving economic growth and address social and environmental issues (Zaatari 2022). A premium has been placed on preserving Moroccan cultural heritage and customs, focusing on innovation in practices and production. The Moroccan government has emphasised the importance of creating and maintaining the conditions for the fashion sector to remain competitive in a globalised industry (González, Vogel, Karagiannakidis & Cavalli 2021). For Africa, these policies are important for the economy and women in particular, as 71% of the workforce in the Moroccan fashion sector is made up of women. The overall potential impacts for the global fashion industry are significant based on the country's strengths within the sector. Morocco, like Ethiopia and Kenya, has a burgeoning artisanal

design sector and protocols for discovering and testing the best ways to enhance the skill set of the artisans. The Moroccan fashion industry has an extensive global following. The industry is widely known for its well-established textile cluster and high-quality leather production (Oqubay 2022). Some reports indicate that Morocco is recognised as a production giant of luxury labels. The Moroccan industry receives support from the Moroccan Association of Textile and Garment Industries. Morocco's fashion chains are amongst the country's most prominent (Ouaha 2021). Moreover, Morocco hosts the largest textile and clothing event in Africa.

Morocco's fashion industry has many growth opportunities. The three main growth areas are (Choi 2023):

- Creating connections between the design, textile, footwear, and leather industries, with possible free design degrees to move designers through traditional textile skills into a fashion understanding of garment creation.
- Training and testing young male and female artisans and designers, and upskilling or reskilling existing workers for a potential increase in textile-garment production, but also through diversification into crafts.
- Investing in inventory finance for the fashion industry and holding international forums and conferences in Morocco for a youth-targeted media and business image campaign.

4.4. Kenya

In a broader sense, upcycling has led to the development of various products and ideas within the topical African design frameworks (Hall 2021). Kenya encourages fashion designers and brands to continue utilising local artisanship, notably for producing textiles and using traditional ethnic fabrics to offer the fashion industry a "truly African" identity (Foley 2023). The promotion of eco-ethical designs and brands is also contained in the Kenyan government's strategic document titled the National Policy on Culture, which was adopted in 2009. This policy recommends the integration of sustainable and fair-trade practices across the textile and clothing, fashion, leather, and

jewellery design sub-sectors and motivates these products to be labelled as genuinely Kenyan (Adu-Gyamfi, Asongu, Mmusi, Wamalwa & Mangori 2020). Traditional intricate weaving and colourful printing processes have been a significant attraction for those visiting the continent, such as the local textile industries that continue to flourish in Mali. While West Africa has been recognised worldwide as a source of high-quality cotton and printed textiles (Whitfield 2022), Kenya also has a vibrant traditional textile fabrication industry. The Kenyan policy promotes well-documented practices of ethical and sustainable sourcing and fair trade in cultural sectors, aiming for "a uniquely African brand distinction" (Lubano 2023).

Although the Kenyan government appeals for increasing demand through consumer education, it concedes that demand for eco-ethical products in the local markets is nearly non-existent because of low consumer awareness (Abdulgadir & Abdulgadir 2020). The same problem was raised by other Bottom Billion countries, where a relatively high middle-income group exists. Kenya is in contention for the international trade in ethical souvenir shopping amongst many tourists because of its wildlife.

4.5. Nigeria

Nigeria has renewed enthusiasm for creating a sustainable fashion ecosystem. In an ever-expanding fashion industry, however, the question arises whether Nigeria can use policy to enforce sustainable fashion practices. Despite not being the first country associated with sustainability in Africa, Nigeria's rich culture and creativity have begun to shape how fashion is being approached (Egere, Maas & Jones 2024). While Nigeria's creativity is undeniably driving many cultural and policy innovations, the country's policy approach to sustainable fashion is still quite vague (Chuma-Okoro 2022). Nigeria's approach to sustainable fashion needs to be rooted in the Indigenous, local culture and the espousal of traditional techniques (Dasylva 2023). The Nigerian government should, therefore, encourage the production and consumption of Nigerian traditional attire and environmentally

friendly materials, especially in areas where the government is taking a firm stand to promote the production of Indigenous materials (Okpu & Abimbola 2020). The Alara Store in Lagos shows that highly influential and much-desired designers feature Indigenous products. A budding grassroots initiative in Warri has also embraced market-themed fashion psychology and an environmental movement that encourages ethical creativity and ethical choices around clothing. According to Onyekwelu (2024), the Nigerian Mairie led a campaign encouraging youth to choose environmentally friendly clothing. Mairie explains that the choice of organics is connected to traditional cultural and religious considerations as much as it is based on the ecological movement from the Western world (Onyekwelu 2024).

4.6. Comparative Analysis of Sustainable Fashion Initiatives: Ethiopia, South Africa, Morocco, Kenya, and Nigeria

Analysis of each country's sustainable fashion and policy matrix highlights common themes, strategies, and challenges in making existing fashion policies more sustainable and moving towards more effective and impactful sustainable fashion policies in Ethiopia, South Africa, Morocco, Kenya, and Nigeria. First, there is the powerful and interlinked influence of place, context, culture, and available resources. These factors form the foundational practices and principles that contribute to the themes, strategies, and challenges in the fashion sectors of Africa and the associated policy frameworks. Thus, rather than being a "problem" in and of itself, the challenging elements can also be factors that become assets and translate into best practice cases and policies, which can be more easily formulated and implemented in broader areas. Examining commonalities, best practices, success stories, and current efforts in each country provides the content for the matrix. Table 1 provides a comparative analysis of the five selected countries; it includes information on policy considerations, government involvement, sustainability, artisan support, international collaboration, localisation, and key events or programmes in each country:

Table 1: Comparative analysis of sustainable fashion initiatives: Ethiopia, South Africa, Morocco, Kenya and Nigeria

Aspect	Ethiopia	South Africa	Morocco	Kenya	Nigeria
Policy framework	Federal Cooperative Agency (2015)	Design-oriented strategy for industry growth (2004)	Policy framework supporting economic growth through fashion	Ministry of State for National Heritage and Culture (2009)	Vague policy direction on sustainable fashion
Government initiatives	Integration of cooperatives into public-private partnerships	Support for eco-friendly and fair-trade cotton farming	Focus on preserving cultural heritage and innovation	Promotion of eco-ethical designs and brands	Grassroots initiatives in sustainable clothing choices
Integration of sustainability	Emphasis on circular economy and waste reduction	Conscious efforts to counteract fast fashion impacts	Strong emphasis on sustainability in textile and leather production	Integration of sustainable practices in cultural sectors	Focus on promoting Indigenous techniques and creativity
Support for artisans	Strong focus on promoting local artisans	Niche support for independent designers	Programmes for upskilling and reskilling artisans	Support for traditional ethnic fabric production	Encouragement for the local production of traditional attire
International collaboration	European business network collaboration	Limited international initiatives	Extensive global collaboration in fashion	Efforts to market Kenya as a sustainable destination	Limited yet growing international influence
Focus on local production	Limited experimentation with smart textiles	Challenges caused by economic disparities	Significant local textile and leather industry	Emphasis on local artisanship and upcycling	Strong push for eco-friendly clothing production
Prominent events and programmes	Addis Ababa Still Arts Biennale, Ethiopian-Italian cooperation	Research into local design-oriented strategy	Largest textile and clothing event in Africa	Cultural events promoting ethical and fair trade	Campaigns promoting environmentally friendly fashion

5. Case Studies and Best Practices

5.1. European Union's Circular Economy Action Plan

The European Commission adopted an ambitious Circular Economy Action Plan in March 2020. The action plan presents measures to achieve the shift towards a circular economy in Europe. Building on the new Circular Economy Action Plan, the initiative may help policymakers and businesses in the Eurasian Economic Union (EAEU) Member States, the European Union, and the Eastern Partnership countries to promote the exchange of best practices and innovative solutions for implementing circular economy principles and developing eco-design approaches (Fidélis, Cardoso, Riazi, Miranda, Abrantes, Teles & Roebeling 2021). The Circular Economy Action Plan includes comprehensive initiatives across the various stages of the economic lifecycle, and most of the actions were meant to be delivered by 2023. However, the execution is still in motion. A considerable share of actions is dedicated to product policy.

The initiative consists of actions in seven priority areas: predictable legal frameworks for businesses, promotion of bio-economics, fostering industrial transition and promoting ecological products, fair and committed global actors, addressing and preventing pollution, bridging the low-carbon and circular transitions, implementation efforts, and governance (Daly-Smith, Quarmby, Archbold, Corrigan, Wilson, Resaland & McKenna 2020). The Circular Economy Initiative builds on the experience acquired through the Circular Economy Stakeholder Platform. However, this initiative transcends how such initiatives have operated in the past and requires a different approach with new targeted actions that can accelerate and facilitate the dissemination of circular business models (Awan & Sroufe 2022). The Circular Economy Initiative is a new joint endeavour that will enhance cooperation with the main stakeholders in the economic cycle who benefit from the knowledge and support provided, with standardisation and innovation organisations, the financial sector, industry associations, and other partner organisations and networks (Owojori & Okoro 2022). However, the new initiative's

main objectives are to shape key actions around the three promoted, elevating deliverables:

- Strengthening and developing.
- Consumer products.
- Packaging.

The Circular Economy Initiative will use an integral approach, including product policy and removing obstacles to the circular economy. Synergetic interaction and cooperation, along with standard monitoring and knowledge of the impact and effectiveness of the circular economy action plan, will include maintaining and promoting the stakeholder platform (Xie, Xia, Tian & Liu Y 2023). The European Union will also seek to engage with interested parties from international and regional organisations and governments, as well as from businesses, other economic players, and the scientific community, to promote the circular economy, help the awareness of its potential, and implement strategies (Chioatto & Sospiro 2022). This rests on promoting an integrated approach and fostering the involvement of all the main actors in the fashion value chain across the different stages of the life cycle of all products and companies. Designing a regulatory environment to implement the circular economy also strengthens efforts to reduce environmental damage by removing substances of concern and fostering business in line with the Paris Agreement (Du & Li 2020). This includes a revision of the Ecodesign Directive and the energy labelling policy.

5.2. Sweden's Sustainable Fashion Initiatives

The Consular General of Sweden in Shanghai organised a Swedish fashion exhibition in Shanghai in 2014 (Airaksinen 2023). The aim was to showcase and promote Swedish sustainability practices in the fashion industry. Moreover, the exhibition showed that the Swedish government works to encourage and build an image of Sweden as a sustainable fashion country (Törngren & Ooi 2023). This promotion of sustainability practices aligns with the strategy of the Swedish government to brand the country's values. The government promotes fashion companies on international and domestic platforms (Peleg *et al* 2022). The following is a summary of initiatives taken by Sweden on sustainable fashion.

Table 2: Sweden's sustainable fashion initiatives

Key policy aspects	Details
Government policies	Sweden's government aims to reduce the fashion industry's environmental impact by promoting sustainable practices and policies, such as the Swedish Textile Initiative for Climate Action and extended producer responsibility.
Circular economy focus	Strong emphasis on the circular economy, encouraging the reuse, recycling, and upcycling of textiles to minimise waste.
Support for innovation	Support for start-ups and innovation in sustainable fashion through grants, subsidies, and collaborative projects.
Sustainable brands	Home to globally recognised sustainable brands like H&M and Filippa K, which lead in ethical production and eco-friendly practices.
Educational initiatives	Integrate sustainability into fashion and design education, with institutions offering specialised courses on sustainable practices.
International collaboration	Active participation in international initiatives like the Global Fashion Agenda and partnerships with the European Union to promote sustainable fashion.
Textile recycling programmes	Implementing textile recycling programmes aimed at reducing textile waste and encouraging consumer participation in recycling efforts.
Research and development	Investment in research and development for innovative materials, such as bio-based and biodegradable textiles.

In 2017, a report on selling sustainable fashion to China showed that the Consulate General of Sweden in Shanghainese and Swedish organisations worked together to facilitate all the Swedish brands, designers, and organisations involved. The Swedish General Consul in Shanghai was proactive in lobbying for the Swedish fashion industry by personally approaching Chinese vice mayors of Shanghai and local business council leaders, thus initiating public-private dialogues. This showcased the Swedish government's proactive role in fashion diplomacy, which undertook extensive outreach to ensure the event's success.

6. Potential Solutions

Table 3 categorises potential solutions in the form of concrete actions by stakeholders, including all value chain actors and consumers, as well as what the government and policymakers should be doing.

Table 3: Proposed policy strategies (researcher's compilation)

Strategy aspect	Recommended strategy
Regulatory framework	Develop clear regulations that set industry standards for sustainable production, fair trade, and ethical sourcing in fashion.
Government initiatives	Launch government initiatives like grants, subsidies, and public-private partnerships to promote sustainable textile production and reduce environmental impact.
Incentives for sustainable practices	Provide tax breaks, subsidies, or grants to companies that adopt eco-friendly practices, use sustainable materials, and reduce waste.
Support for local designers	Support local designers by promoting Indigenous textiles and traditional techniques to create culturally relevant and sustainable designs.
Public awareness campaigns	Implement national campaigns to raise awareness amongst consumers about the benefits of sustainable fashion and encourage eco-friendly choices.
Education and skills development	Integrate sustainability into the curriculum of fashion and design schools, focusing on innovative practices and ethical production.
International partnerships	Encourage collaboration with international bodies and networks to share knowledge, technology, and best practices in a sustainable fashion.
Circular economy promotion	Promote the circular economy by encouraging recycling, upcycling, and using biodegradable materials within the fashion industry.
Funding and financial support	Establish funds or low-interest loans to support start-ups and SMEs in the sustainable fashion sector, focusing on innovation and scalability.

In general, governments should provide suitable framework conditions and rigorously enforce best practices regarding employment rights and environmental laws. Regulations should also be designed to make guidance on best practices accessible and affordable to all potential entrepreneurs, regardless of their location or sources of funds. Africa should not be lured into defining "sustainable" based on standards and criteria imported from elsewhere, but rather develop the concept based on relevant local resources, contexts, and style history. Although there are many standards and initiatives with elements potentially relevant for Africa's style industry to become more sustainable, few, if any, target the context of fashion in which industrialisation plays no or only a minor role.

7. Conclusion and Future Directions

This study investigated government policies and initiatives for the fashion sector in five African countries that contribute to achieving sustainability in this sector. In recent years, African governments have recognised the contribution of the fashion sector to their economic development and the global fight against climate change and have chosen to enhance the position of fashion as an engine of transformation, diversification, and job creation. These factors show that Africa has the potential to be transformed into a competitive and sustainable fashion continent through supportive and favourable policy frameworks and government initiatives.

Three important future directions for the role of policy frameworks and government initiatives in promoting sustainable fashion in Africa are:

- Enhanced regional collaboration: Strengthen African countries' cooperation to develop common policies promoting sustainable fashion trends within African countries, knowledge-sharing, and regionalised textile networks.
- Investment in education and capacity-building: Raise funding for educational initiatives and skills development programmes through vocational education training for designers and producers.
- Incentives for sustainable practices: Rank independent fashion producers and sellers, offering them tax incentives or grants to encourage them to be both innovative and produce environmentally friendly clothes, to increase the competitiveness of such products.

An evaluation of policy frameworks, government initiatives, and measures suggests the relevance of these in enhancing sustainable fashion in Africa. Today, Ethiopia, South Africa, Morocco, Kenya, and Nigeria have established several unique strategies to mainstream sustainability in the textile and fashion industries. Such strategies typically emphasise African cultural identity, support for local artisans, and the principle of reusing and recycling materials. In the case of the European Union and Sweden, these efforts are well developed, have access to resources

and the market, and help to build the framework of green fashion movements in the region. In general, achieving these goals is possible by improving global cooperation, enhancing investments in developing sustainable technologies, and altering consumer preferences, as the proposed policy strategies suggest. In conclusion, more concerted effort is needed to establish a sustainable fashion value chain, given that efficiency is still weak and more must be achieved in Africa at the regional and international levels.

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Chapter Eight

Traditional Textile Techniques and Their Relevance in Contemporary Eco-Fashion in Nigeria

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Abstract

This study explores the relevance of traditional Nigerian textile techniques, such as *adire*, *aso-oke*, and *akwete*, in the context of contemporary eco-fashion, addressing the research gap in linking Indigenous artisanship with sustainable fashion practices in Africa. While much of the global literature acknowledges the aesthetic and cultural value of traditional textiles, there is limited empirical investigation into their practical contributions to environmentally responsible fashion systems, particularly within Nigeria. Using a qualitative research design, data were collected through in-depth interviews, participant observation, and visual documentation with six master artisans, six eco-conscious fashion designers, and six local textile cooperatives. Thematic analysis revealed that traditional textile practices align closely with core principles of eco-fashion, such as low-carbon production, use of natural dyes, and cultural sustainability. However, findings also highlight challenges, including generational knowledge loss, economic marginalisation of artisans, limited natural resources, and low scalability caused by the lack of modern technology, and fast-paced demands for new products. Eco-conscious designers indicated integrating traditional Nigerian textiles for their sustainable benefits and as a brand strategy. This study contributes to sustainability theory and

slow fashion theory by demonstrating how traditional techniques can inform and enrich Nigeria's evolving eco-fashion landscape. Recommendations emphasise integrating artisans into structured supply chains, intergenerational skills transfer through educational initiatives, policy support for the cultural economy, collaboration between government and private sector partnerships, as well as ongoing collaborations between textile and clothing members.

Keywords: eco-fashion, Indigenous-textile techniques, sustainable-fashion, traditional Nigerian-textile

1. Introduction

In recent years, the global fashion industry has come under increased scrutiny for its environmental impact, prompting a shift towards more sustainable and ethical production practices. This eco-conscious shift has led to the emergence of eco-fashion, a movement that emphasises ecological integrity, cultural preservation, and social responsibility (Fletcher & Tham 2019). In response, many designers and scholars are re-evaluating traditional textile techniques as viable solutions to the pressing challenges of sustainability in fashion. These methods, often characterised by low waste, natural materials, and cultural authenticity, offer not only environmental benefits but also socio-economic opportunities for marginalised artisan communities (Gwilt 2014). Indigenous textile techniques refer to culturally rooted, community-specific cloth-making, dyeing, weaving, and embellishment methods passed down through generations (Eicher & Sumberg 1995). Indigenous textiles are produced under ecological integrity, preserving cultural values and at the same time promoting social responsibility. Nigeria, with its rich textile heritage spanning centuries, is uniquely positioned in this discourse. Techniques such as *adire* (Yoruba resist-dyed cloth), *aso-oke* (Yoruba hand-woven fabric), and *akwete* (Igbo loom-woven textile) (Figure 1), represent Indigenous technologies that exemplify sustainability through the use of local materials, handcrafting skills, and low-carbon processes (Oyeniyi 2015). These techniques, once integral to community identity and economic livelihood, are now being reimagined by contemporary Nigerian designers who are merging tradition with innovation to meet the demands of the eco-conscious global market



Figure 1: Akwete fabric (https://fashionhistory.fitnyc.edu/akwete/)

Despite this promising convergence, the integration of traditional methods into mainstream fashion systems remains challenged by issues of scalability, modernisation, and consumer awareness (Adeoti 2024). This necessitates the need to examine how these textile practices can transition from cultural artefacts to dynamic agents in sustainable fashion systems. Furthermore, the potential of these techniques to influence eco-fashion dialogue both locally and internationally remains under-researched in academic and design scholarship. Eco-fashion is a segment of fashion that emphasises environmental sustainability, ethical sourcing, and heritage preservation through design practices (Black 2012).

This study seeks to bridge the gap by investigating the relevance of traditional Nigerian textile techniques in the context of contemporary eco-fashion. It argues that these practices offer culturally rooted, environmentally friendly, and economically inclusive pathways for developing a sustainable fashion industry in Nigeria. By focusing on the intersection of heritage, innovation, and sustainability, this research contributes to broader conversations on decolonising fashion and promoting locally driven environmental solutions.

The study aims to investigate traditional Nigerian textile techniques and their potential integration into contemporary global textile production as a means to advance sustainable fashion practices.

Objectives:

1. Identify and document key traditional Nigerian textile production techniques currently practised by members of textile cooperatives.

2. Examine how Nigerian fashion designers have adapted traditional textile techniques for use in modern textile and clothing production.
3. Explore and describe the current benefits associated with producing textiles using traditional Nigerian textile techniques.

2. Literature Review and Theories

Textile craft in Nigeria has long been interwoven with social identity, spiritual practice, and ecological knowledge (Adegboye 2024). *Adire*, a resist-dyeing technique rooted in Yoruba culture, uses natural indigo dye and cassava paste to produce symbolic patterns (Picton & Mack 1989). *Aso-oke*, the hand-woven ceremonial cloth of the Yoruba, features labour-intensive strip-weaving using cotton or silk (Olajide, Ajiboye & Ajayi 2009). *Ukara*, the Nsibidi-encoded fabric (Figure 2) of southeastern Nigeria, served both religious and communal functions (Esege 2022). These textiles were traditionally produced with biodegradable, renewable materials and involved labour-sharing systems, aspects that mirror modern sustainability goals. Historical research by Eicher and Ross (1977) illustrates how Indigenous methods inherently promoted material conservation, waste minimisation, and community resilience.

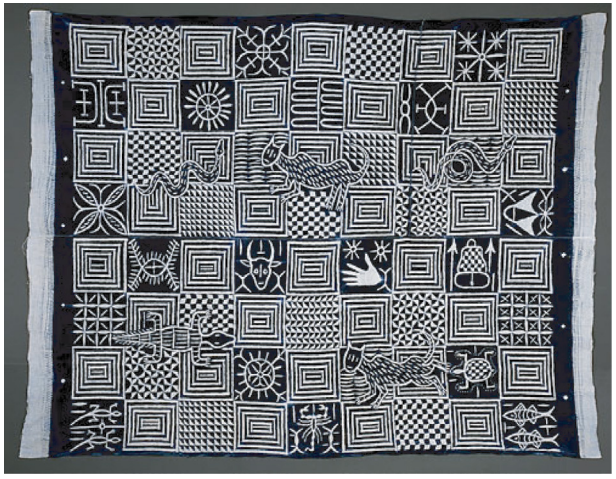


Figure 2: *Ukara*, the Nsibidi-encoded fabric (https://africa.si.edu/exhibits/inscribing/power.html)

The colonial and postcolonial periods saw a systematic erosion of Indigenous textile industries. The influx of European-manufactured fabrics, combined with colonial narratives that devalued African craft, led to a dramatic decline in hand-woven and hand-dyed textile practices (Barnes 2004). Increased synthetic materials and mass production have decreased demand for locally made Nigerian textiles (Igwe, Fiel-Miranda & Miranda Jr 2023). Additionally, inadequate modern technologies, skills gap caused by a decline in the skilled artisan population, and limited raw materials plague the Nigerian textile industry (Adeoti 2024). Despite these challenges, contemporary eco-fashion in Nigeria reflects a growing response to both environmental degradation and cultural dislocation. Emerging designers are actively incorporating Indigenous textile techniques into modern silhouettes, reestablishing connections with tradition while promoting sustainable practices (Kinwumi, 2021). For instance, Lisa Folawiyo and NKWO (Figure 3) reinterpret traditional Nigerian textiles with modern silhouettes and production using upcycled textiles, handcraft, and ethical production methods.



Figure 3: NKWO dress merging aso-ok*e* with modern silhouettes (https://www.nkwo.design/products/unisex-agbada-2)

Comparative analysis with global slow fashion trends reveals a shared interest in local production, low-impact materials, and storytelling through clothing (Clark 2008). Nigeria's approach is distinct in its postcolonial reclamation of identity and its adaptation of Indigenous methods to resist homogenising global fashion culture (Allman 2004). The global sustainability movement puts pressure on fashion businesses to adopt sustainable practices, resulting in sometimes only superficially applying sustainable practices and sometimes using marketing language that masks their unsustainable practices (Van Amber & Islam 2024). Superficial efforts towards sustainability and misinforming consumers about supply chain practices are known as greenwashing (Van Amber & Islam 2024).

The revival of traditional textile techniques is not merely an act of nostalgia, but rather a progressive strategy aimed at addressing contemporary sustainability challenges. Scholars such as Thorsen (2013) argue that hybridisation is a practice where traditional practices are adapted and integrated with modern methods. Hybridisation offers a dynamic pathway for innovation within the fashion and textile industries. Where traditional forms are reimagined for new markets, hybridisation allows both preservation and innovation. Moreover, Indigenous Nigerian textiles provide a context-specific solution to sustainability challenges, offering low-energy, biodegradable processes and a rich aesthetic heritage that can differentiate Nigerian fashion on global platforms (Adeyemi 2021).

Understanding the relevance of traditional textile techniques in contemporary eco-fashion requires a grounding in multiple theoretical lenses. Sustainability theory emphasises environmental stewardship, economic equity, and cultural continuity (Elkington 1997). The application of sustainability theory aligns closely with Indigenous textile practices, which historically embraced low-impact, local-resource-based production. Slow fashion theory (Fletcher 2010) challenges the speed, waste, and impersonality of fast fashion by advocating for durable, locally rooted, and culturally significant clothing. Similarly, cultural preservation theory (Smith 2006) argues

that safeguarding intangible cultural heritage, such as weaving and dyeing traditions, reinforces community identity and intergenerational knowledge transmission.

These frameworks collectively justify the relevance of traditional Nigerian textile practices and products such as *adire, aso-oke, ukara,* and *kampal*a, as not only aesthetic artefacts but also eco-cultural models for sustainable fashion.

3. Materials and Methods

This study adopted a qualitative ethnographic research design to explore the cultural, ecological, and economic dimensions of Indigenous textile revival in contemporary Nigerian fashion. Ethnography was chosen for its strength in uncovering the social meanings and lived experiences behind traditional craft practices. This approach allowed for a deep contextual understanding of how heritage textile knowledge is produced, preserved, and innovated (Creswell & Poth, 2018). A qualitative framework was particularly appropriate for capturing the intergenerational transmission of knowledge, the artistic and symbolic value of textiles, and the social dynamics of revival efforts, all of which are difficult to measure quantitatively.

3.1. Sampling Strategy and Participants

Purposive sampling was employed to select information-rich cases directly involved in traditional textile production or innovation. The sample of 18 participants was from three key groups:

1. Master artisans (n = 6): Each with at least 20 years of experience in Indigenous textile methods such as *aso-oke* weaving, *adire* dyeing, or *ukara* embroidery.
2. Textile cooperative members (n = 6): Including community weavers and dyers involved in local cooperative networks producing eco-textiles.
3. Eco-conscious fashion designers (n = 6): Designers integrating traditional techniques into modern fashion collections.

3.2. Data Collection Methods

The following data collection methods were utilised:

- Document review: Historical documents on traditional Nigerian textile techniques were consulted.
- In-depth semi-structured interviews: Conducted in participants' preferred languages (with interpreters where necessary); these interviews explored practices, innovations, and values surrounding Indigenous textile revival. Each session lasted 45–90 minutes and was audio-recorded with consent (Objectives 1 and 3).
- Participant observation: Conducted at weaving centres and dyeing workshops in Oshogbo, Abeokuta, and Kano. Researchers observed materials, tools, production methods, and social interactions amongst artisans (Objectives 1 and 2).
- Visual documentation: Still photographs and short videos (captured with permission) documented textile processes and finished garments, particularly eco-fashion collections integrating traditional Nigerian textile techniques (Objectives 1 and 2).

These methods were chosen to capture both explicit knowledge based on techniques, materials, tools, and tacit knowledge (rituals, symbolism, community transmission). Triangulation of methods strengthened the credibility and richness of the data. Visual data further enhanced the interpretive depth of the study by showing rather than merely describing the work of participants.

3.3. Ethical Considerations

Ethical approval was obtained from the authors' institution's research ethics committee. All participants provided informed consent and were briefed on the purpose, risks, and voluntary nature of participation. Pseudonyms were used to protect identities, and intellectual property rights for textile patterns and images were respected through written agreements. Once data collection and analysis were complete, participants received summaries of findings, ensuring mutual benefit and transparency.

3.4. Data Quality and Trustworthiness

The following strategies were used to ensure data quality:

- Member checks: Key findings and interpretations were shared with selected participants (especially master artisans and designers) for validation and feedback, ensuring accurate representations.
- Triangulation: Data were triangulated across three sources, interviews, observations, and visual evidence, to verify consistency and build a holistic understanding.
- Reflexivity: The researchers maintained reflective journals to account for their own biases and assumptions during data interpretations.
- Credibility and dependability: Long-term engagement in the field, use of thick descriptions, and an audit trail of decisions ensured rigour.
- Transferability: Contextual details about sites, participants, and processes allow readers to assess the applicability of findings to other settings.

4. Results and Discussions

The data collected from semi-structured interviews, field observations, and visual documentation revealed several crucial insights into the current state and relevance of traditional Nigerian textile techniques, particularly *aso-oke, adire,* and *akwete*, within Nigeria's emerging eco-fashion industry. The results and discussions will be discussed under the following themes:

- Cultural continuity, its challenges and aesthetic value.
- Sustainable practices and challenges.
- Commercial viability and challenges in scaling.

4.1. Cultural Continuity, its Challenges and Aesthetic Value

The fieldwork revealed that traditional Nigerian textile techniques such as Akwete weaving, *adire, aso-oke, kano* dyed cloth, batik-hand dyeing techniques, and *ukara* remain deeply

embedded in the cultural identities of specific ethnic groups. For instance, *akwete* weaving in *abia* and *adire* production in Abeokuta are still conducted primarily by women, preserving a centuries-old practice passed down through generations. Artisans expressed pride in the continuation of these techniques, often linking their craft to a sense of cultural responsibility. Respondents overwhelmingly linked traditional textile practices with cultural identity and aesthetic richness. A 62-year-old *aso-oke* master weaver stated:

> *"Weaving is not just making cloth; it is a language of our ancestors. Every pattern means something".*

These findings confirm that traditional textiles are not merely aesthetic or functional, but also carry significant cultural meaning. Contemporary Nigerian fashion designers who incorporate these textiles and their techniques are fostering cultural preservation while introducing new, eco-conscious audiences to their heritage. It is clear that Nigerian fashion designers are practising hybridisation. Thorsen (2013) defined hybridisation as practices where traditional practices are adapted and integrated with modern methods. The revival is particularly pronounced in wedding attire, ceremonial garments, and runway collections, indicating renewed interest not only in traditional Nigerian textile techniques and heritage but also in marketable style.

One alarming finding was the ageing population of skilled artisans. Nearly 80% of the master artisans interviewed were above 50 years old, with few apprentices. A veteran *aso-oke* weaver lamented:

> *"My children say weaving is not 'cool' enough; they prefer tailoring or design on a computer".*

This generational divide poses a direct threat to continuity unless rebranded or integrated into modern education and entrepreneurship schemes.

Emerging designers are actively incorporating Indigenous textile techniques into modern silhouettes (Kinwumi 2021).

A key finding about Objective 2 was that designers confirmed that they are integrating traditional Nigerian textiles into modern fashion. The study found that the integration between traditional textiles and modern silhouettes has become a competitive branding strategy. This emphasises the dual role of traditional textiles as both cultural symbols and viable, eco-friendly materials for modern fashion. Furthermore, designers admitted pressure to "simplify" motifs or adjust colours for Western markets, challenging the purity of traditional design philosophies. These findings highlight the tension between cultural preservation and market adaptation, as designers navigate the demands of global fashion consumers. To maintain the integrity of traditional design philosophies, it is crucial to balance innovation with respect for the cultural and aesthetic origins of Indigenous textiles.

4.2. Sustainable Practices and Challenges

Traditional Nigerian textile production, especially in *adire* and *ukara*, relies heavily on natural materials. Dyes are sourced from indigo and local barks, which have minimal environmental impact compared to synthetic dyes used industrially. Furthermore, the hand-weaving techniques involved in *aso-oke* production reduce energy consumption as they do not rely on machinery.

Across all interviews, a recurring theme was the environmental friendliness of Indigenous processes. *Adire* practitioners, especially in Abeokuta, emphasised their use of natural dye (indigo, kola nut, camwood), solar drying methods, and cotton sourced locally. One of the respondents stated that:

> *"We use the same tree bark and leaves our forefathers used to colour the fabric, no chemicals, no waste,' said an* adire *dyer from Itoku Market".*

The eco-friendliness of these traditional techniques is a key finding in the context of contemporary eco-fashion. The use of natural dyes ensures lower water contamination, while the handcrafting processes contribute to low carbon emissions. As the global fashion industry increasingly looks for sustainable solutions, these findings suggest that Nigerian textile techniques

offer viable models for eco-conscious production. Nigerian textile production techniques meet eco-fashion criteria, which emphasise environmental sustainability, ethical sourcing, and heritage preservation through design practices (Black 2012). Therefore, artisans, textile craft communities and fashion designers should continue their collaboration.

Furthermore, over 75% of designers interviewed agreed that traditional techniques align closely with the principles of sustainable fashion, minimal water waste, biodegradability, and small-scale production, making them ideal for eco-fashion narratives. By integrating these practices, contemporary Nigerian fashion designers are positioning themselves at the forefront of the global sustainability movement. The findings strongly support the argument that traditional textile practices in Nigeria are not only culturally vital but increasingly relevant in global eco-fashion. The results align with slow fashion theory (Fletcher 2010), which emphasises locality, artisanal labour, and sustainability as correctives to the fast fashion model. However, this study crucially reveals gaps in knowledge transmission and economic equity.

Two challenges related to sustainable practices were noted. Firstly, while eco-fashion narratives prominently feature Indigenous textiles, some industry players adopt these practices superficially. The limited number of long-term partnerships and unequal profit-sharing models reveal a sustainability paradox, where the language of environmentalism is used for branding, but not always backed by equitable systems. This echoes Van Amber and Islam (2024), who state that superficial efforts towards sustainability are greenwashing. To ensure genuine sustainability, industry stakeholders must move beyond performative alliances and invest in equitable, long-term collaborations with Indigenous artisans.

Secondly, challenges such as limited access to raw materials, the time-intensive nature of handcrafting, and limited financial resources for artisans hinder the widespread adoption of traditional textile techniques. Interviews revealed that many artisans struggle to meet the increasing demands for their textiles because of these constraints. This challenge suggests that while

traditional textile techniques have immense potential in the eco-fashion space, structural barriers must be addressed to allow for broader implementation. Investments in training, access to sustainable raw materials, and support for artisan cooperatives are necessary to help to scale production without undermining the environmental benefits of the techniques. Additionally, increased collaboration between designers, artisans, and policymakers could facilitate greater market access and financial sustainability for those engaged in traditional textile production.

4.3. Commercial Viability and Challenges in Scaling

In interviews with artisans, it was discovered that those engaged in traditional textile production are often part of cooperatives that help to ensure fair wages and access to local and international markets. *Adire* producers in Abeokuta, for example, have formed networks that allow them to supply eco-conscious fashion brands in Lagos and other major cities. However, challenges remain, particularly in scaling production without sacrificing the handcrafted nature of the textiles.

Data revealed a paradox between authenticity. While demand has increased, particularly through online platforms and export orders, artisans cited the inability to mass-produce without sacrificing quality. For example, a cooperative leader in *akwete* remarked:

> *"Each* akwete *cloth takes days to finish. You can't hurry art. But buyers want 50 pieces in a week".*

This finding concurs with Adeoti (2024), who points out that inadequate modern technology is one of the challenges facing the Nigerian textile industry. The economic viability of traditional textiles is closely tied to the ability of artisans to adapt their practices to meet the demands of contemporary fashion markets. The study highlights the potential for economic empowerment through the continued production of traditional textiles, particularly when artisans collaborate with fashion designers. Nonetheless, balancing tradition with increased production capacity presents a challenge, as artisans must

ensure that scaling up does not compromise the integrity of their eco-friendly techniques

Numerical findings showed that 64% of eco-conscious fashion entrepreneurs considered artisans' collaboration "essential", but only 28% had long-term contracts with them, indicating instability in the artisan-designer relationship. Ultimately, the economic viability of traditional textiles hinges on the sector's ability to innovate and adapt without compromising the cultural and environmental integrity of the craft.

5. Conclusion

The resurgence of traditional textile techniques such as *adire, aso-oke, ukara,* and *kampala* within Nigeria's eco-fashion landscape presents an opportunity to address both environmental and cultural sustainability. Rooted in Indigenous knowledge systems and ecological balance, these methods align strongly with global sustainability goals while offering distinctive aesthetics and heritage value. However, this potential remains under-utilised because of fragmented artisan networks, lack of formal documentation, declining generational transmission, and limited integration with contemporary fashion value chains. This study has shown that contemporary eco-fashion designers are playing a crucial role in reinterpreting traditional textiles for modern markets, but the scale, consistency, and policy support required for impact remain insufficient. Reviving and sustaining these techniques will require a multidimensional strategy, combining cultural preservation, fashion innovation, market development, and policy intervention.

6. Recommendations

There is a strong need to support Nigerian artisans involved in traditional textile production through financial investment, training, and access to materials. Government and private sector partnerships can help artisans to scale their craft sustainably while preserving its cultural integrity. Collaboration between fashion designers and artisans is vital for innovation. Design schools and incubators should promote the integration of Indigenous techniques with modern practices such as zero-waste cutting and

ethical sourcing to enhance the global relevance of traditional textiles. Expanding market access through trade shows and digital platforms can boost demand and visibility for Nigerian textiles, positioning the country as a key player in eco-fashion. Sustainable growth also requires research on how to scale production without losing ecological value, including exploring eco-friendly technologies and reducing manual labour intensity. Policymakers should develop frameworks that support local, sustainable fashion practices and offer incentives for using traditional methods. Future studies should examine the role of technology, consumer education, and long-term impacts to ensure the sustainability of integrating traditional textiles into modern fashion. In conclusion, merging traditional Nigerian textiles with eco-fashion offers a path to sustainable development that honours cultural heritage while addressing modern fashion needs.

Author's Contributions

The author played a critical role in the development of the manuscript. She conceived and designed the research framework, conducted the primary ethnographic fieldwork, and wrote the manuscript. She was responsible for conducting the historical analysis, including archival research and sourcing of historical materials, and contributed significantly to the literature review. She interviewed eco-fashion designers and analysed the case studies, providing insights into contemporary fashion practices in Nigeria. The author also contributed to the data analysis and interpretation, collaborated in the revision of the manuscript, and approved the final version for submission.

Statement of Approval

The author has read and agreed to the published version of the manuscript.

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Chapter Nine

Consumption Values Related to Sustainable Clothing and Textile Products in the African Context

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Abstract

With growing middle-income consumer segments in emerging economies such as South Africa, the overconsumption of clothing and textile products has become problematic across the African landscape. Although second-hand clothing offers several benefits in extending the service life of a garment, it may also have inadvertently contributed to increased consumption levels. For these reasons, consumers' adoption of other sustainable practices and product alternatives in conjunction with their already established second-hand clothing consumption is paramount in pursuing circular economy principles. Consumption value may be key in this regard. This study examines the value that consumers derive from purchasing sustainable clothing and textile products that follow circular economy principles. Consumption value theory postulates that consumers' decisions to buy a product are based on the specific benefits or value that the product offers. Consumption value theory provides new insights into the benefits of sustainable choices and why consumers in emerging African economies may be willing to buy sustainable alternatives. Consumption value includes emotional, environmental, epistemic, functional

(financial), and social dimensions. Survey data from two studies examined consumption values related to second-hand clothing purchases (Study 1) and intent to buy upcycled textile products (Study 2). Using non-probability sampling, female consumers over 18 were targeted, yielding 523 (Study 1) and 1,182 (Study 2) responses, respectively. The results indicated that environmental value was the most prominent factor in both cases, with emotional value also showing significance. Functional (financial) value was more prevalent in second-hand clothing purchases, while social value was not notable for either. These findings could guide future research in the local clothing and textile sector and assist in tailoring marketing strategies for sustainable alternatives.

Keywords: Circular economy, consumption value, second-hand clothing, sustainable practices, upcycled textile products

1. Introduction

The rise of fast fashion has led to excessive clothing and textile waste because of shorter product lifecycles, overconsumption, and overproduction (Jacometti 2019; Niinimäki, Peters, Dahlbo, Perry, Rissanen & Gwilt 2020). Magnifying this problem are the inadequate disposal methods and the throwaway culture of Western countries (Nkatha 2023). Consequently, tonnes of second-hand clothing end up in Africa (Acquaye, Seidu, Eghan & Fobiri 2023). For African countries, the second-hand clothing trade known as *obroni wawu* in Ghana, *mitumba* in Kenya, *madunusa* in South Africa, *okrika* in Nigeria, and *kaunjika* in Malawi, offers employment and business opportunities, as well as access to affordable clothing for consumers (Ogunmefun 2024; Sumo, Arhin, Danquah, Nelson, Achaa, Nweze, Cai & Ji 2023). However, a substantial amount of second-hand clothing that reaches Africa is unusable waste, ending up in landfills, polluting precious water resources, or being burned for energy (Acquaye *et al* 2023). In 2022, textile waste accounted for about 70,300 tonnes, representing 6.38% of the total 1.1 million tonnes of waste disposed of in South African municipal landfills (GreenCape 2023). In an effort to curb this textile waste, the South African Department of Forestry, Fisheries and the Environment has

launched a Zero Textile Waste in Landfills strategy for 2030 by implementing circular economy principles (Mohlala 2024).

Circular economy principles aim to keep products in use for as long as possible, deriving the most service from them by reusing, repairing, reselling, recycling, redeveloping, and reengineering products and materials (Cruz & da Cruz 2023). Consumers adopting circular practices for clothing and textile products, such as buying second-hand and upcycled products, help to close the loop as products and materials are reused instead of discarded (Kim, Jung & Lee 2021). Second-hand clothing refers to pre-owned garments passed on for reuse by the next owner (Machado, Almeida, Bollick & Bragagnolo 2019). Upcycled textile products repurpose or convert garments or textile waste into newly designed products to give them a second life (Kim *et al* 2021). Second-hand clothing and upcycled textile products offer sustainable alternatives to new products because the service life of a garment and the textiles are extended (Cruz & da Cruz 2023).

Understanding the factors driving consumers' adoption of sustainable product alternatives, such as second-hand clothing and upcycled textile products, is paramount in pursuing circular economy principles (Kim *et al* 2021). Consumers base their buying decisions on the specific benefits or value that they will obtain from consuming a product (Sheth, Newman & Gross 1991). Consumption value theory provides insights into the benefits of sustainable choices and why consumers in emerging African economies may be willing to buy sustainable alternatives (Machado *et al* 2019; Visser 2024). Consumption values outlined by research play a role in sustainable product consumption and include emotional, environmental, epistemic, functional, and social values (Kim *et al* 2021; Machado *et al* 2019).

Hernaez and Gicquel (2020) found that 40% of South African consumers have previously purchased second-hand clothing. However, little is known about the underlying reasons why they buy second-hand clothing. Similarly, research on consumers' acceptance of upcycled textile products in South Africa is scant. Previous studies have investigated consumption value theory in various categories, but limited research exists surrounding

consumption values specifically related to sustainable product alternatives (Kim *et al* 2021; Machado *et al* 2019; Visser 2024). For the South African government's strategy of incorporating circular economy principles to be successful, it is essential that consumers are willing to support these initiatives.

This study, therefore, explores the role of consumption values in consumers' second-hand clothing buying and their intent to buy upcycled textile products. The findings of this study could contribute to understanding the specific benefits that consumers seek when buying second-hand clothing or upcycled textile products. Furthermore, insights into what drives consumers' decisions to buy sustainable products could help retailers and small businesses to identify new market opportunities. This research can also inspire companies to create products that align with their consumers' consumption values. Finally, this study could encourage the clothing and textile industry to adopt circular principles in their design and production processes to curb waste. By embracing circular practices in purchasing, designing, and producing, we can lessen overconsumption and waste, leading to a healthier environment for both consumers and the industry.

2. Literature Review and Theories

2.1. Sustainable Alternatives: Second-Hand Clothing and Upcycled Textile Products

Second-hand clothing consumption has become more acceptable in recent years (Koay, Cheah & Lom 2022). This trend encompasses more than merely purchasing from thrift stores; in some cases, it even includes being part of coinciding online social communities (Machado *et al* 2019). Although it was previously perceived that those purchasing second-hand clothing are predominantly from lower-income groups, this is changing as consumers from different social classes have started adopting such practices (Koay *et al* 2022). Apart from environmental consciousness, those from higher-income groups are often motivated by the exclusivity of second-hand purchases (Machado *et al* 2019).

Unlike second-hand clothing consumption, purchasing upcycled textile products is still a new concept that consumers

have not yet embraced (Kim *et al* 2021). Upcycling textile waste involves creatively repurposing discarded textiles to produce new products of higher value or quality than the original materials (Yoo, Jung & Oh 2021), thus rejuvenating textile waste for extended use. Textile waste refers to unused or discarded raw materials, fabrics, garments, and other finished textile products that no longer serve their intended purpose (Kim *et al* 2021). It differs from recycling because it does not involve downgrading raw materials, which requires energy and water (Adıgüzel & Donato 2021). The problem remains that upcycled products typically evoke negative consumer perceptions because they are made of discarded waste (Yoo *et al* 2021). Because consumers have not yet accepted upcycled textile products to the same extent as second-hand clothing, most research on upcycled textile products has focused on buying intention (Adıgüzel & Donato 2021; Park & Choo 2015; Yoo *et al* 2021) as opposed to buying behaviour which is also the case in the study at hand. It should be noted that a gap exists between the intention to buy and actual purchase behaviour. However, an intent to purchase an unfamiliar product, such as an upcycled textile product, is a step in the right direction and indicates a willingness that could eventually lead to actual behaviour (Yoo *et al* 2021). Therefore, it is worth exploring the consumption values that play a role in the intention to buy as well as the actual buying of sustainable alternatives such as pre-owned garments and repurposed textile items (Sheth *et al* 1991).

2.2. Consumption Values

Consumers' decisions are often driven by their needs and desires, as well as the value that they derive from the products that they consume. Understanding consumption values sheds light on the underlying motivations that emphasise consumer behaviour and provides insight into why consumers buy certain products (Kim *et al* 2021). The consumption values theory was first introduced by Sheth *et al* (1991), identifying five key values: emotional, social, epistemic, functional, and conditional. This seminal work is based on three assumptions: consumer choices are influenced by multiple consumption values; the contribution of the various consumption values varies depending on the choice situation; and

the consumption values are independent (Sheth *et al* 1991). In the past decades, many authors (Kim & Lim 2001; Xiao & Kim 2009) have further expanded on this theory, exploring consumption values further. Notably, Chun, Jiang, Yu and Ko (2018) added an environmental value to the list, especially in the context of sustainable clothing consumption practices, which was also adopted by Kim *et al* (2021). Considering the progression of the consumption value theory and the relevance of certain values to specific practices, this research delves into the following consumption values: emotional, environmental, epistemic, functional (financial), and social.

2.2.1. Emotional Value

Consumers derive value from the emotional state or aroused feelings that they perceive when shopping for a product or wearing specific items of clothing (Kim *et al* 2021). These positive emotions ultimately drive consumer behaviour and include feelings of happiness, joy, and pleasure (Koay *et al* 2022; Sheth *et al* 1991). The emotional value that consumers derive from products differs from person to person, depending on what is important for that consumer. Regarding sustainable clothing and textile purchases, reducing waste, and buying sustainable clothing and textile products could potentially evoke positive emotions from some consumers (Kim *et al* 2021), while others might experience joy from social interactions with peers while shopping for these products (Sheth *et al* 1991).

2.2.2. Environmental Value

Environmental value is vital in both second-hand clothing and upcycled textile products (Kim *et al* 2021; Yoo *et al* 2021) and is the perceived value that consumers receive for contributing to preserving the environment and preventing waste from ending up in landfills (Chun *et al* 2018). Consumers differ in terms of the environmental value that they derive from the products which they buy, and this is often related to their level of environmental consciousness and their views on circular economies and sustainability (Hur 2020). For environmentally conscious consumers, the importance that they place on the environment often transcends one consumption value as they

develop an emotional link to their environmental values (Koay *et al* 2022).

2.2.3. Epistemic Value

Epistemic value, which encompasses knowledge, curiosity, novelty, and the pursuit of new experiences, plays a significant role in the realm of consumer behaviour (Sheth *et al* 1991). This concept is particularly relevant in the context of second-hand clothing purchases, where the allure of discovering unique and rare items offers high epistemic value (Koay *et al* 2022). Many consumers are drawn to second-hand clothing as a means of expressing their individuality, often experiencing the search for such items as a treasure hunt (Visser 2024). This pursuit of uniqueness is not limited to second-hand clothing; it also extends to the domain of upcycled textile products. The novelty inherent in these upcycled items can significantly boost consumer interest and willingness to purchase, emphasising the importance of epistemic value in driving consumer choices across various sectors of sustainable clothing and textile products (Adıgüzel & Donato 2021; Kim *et al* 2021).

2.2.4. Functional (Financial) Value

Functional value relates to the consumer's perceived utility of a product or service, focusing on physical performance and attributes such as price, reliability, and durability (Sheth *et al* 1991). Kim *et al* (2021) deliberately excluded functional value when studying circular fashion because of its multiple functional risks. In terms of functional utility, possible barriers might be the perceived cleanliness and durability of second-hand clothing and upcycled textile products, which negatively influence consumer decisions (Hur 2020; Kim *et al* 2021; Koay *et al* 2022; Yoo *et al* 2021). If sustainability, for instance, is important for the consumer, high environmental value can lower the influence of functional barriers (Hur 2020; Kim *et al* 2021). This research focused solely on price as a subset of functional value to avert possible barriers linked to durability and to intercept the potential financial value that consumers could derive from buying second-hand clothing or upcycled textile products. The value was subsequently named functional (financial) value.

2.2.5. *Social Value*

Social acceptance and approval from peers are determining factors in the decision-making process of consumers who purchase items such as clothing (Chun *et al* 2018; Koay *et al* 2022). Regarding sustainable clothing practices, social value is not only limited to the aesthetic appeal of clothing but also the personal values that it conveys regarding sustainability (Kim *et al* 2021). Some consumers acquire social utility from sustainable consumption because of the good impression that their conscious choices have on others (Kim *et al* 2021). However, social utility can also have opposite connotations for other consumers. An important determinant of social value is how consumers' significant others perceive sustainable clothing and textile products (Koay *et al* 2022). A study conducted in China found that social value was a barrier to the buying intention of upcycled fashion products and that consumers are uncertain how others will perceive such purchases (Yoo *et al* 2021). In studies that focused on second-hand clothing consumption, similar concerns were elicited. Moreover, the association between second-hand clothing and low-income groups purchasing it for financial reasons can negatively affect social utility (Koay *et al* 2022). However, the driving force behind these purchases may not always be tied to seeking social acceptance. This leads consumers from different income brackets to opt for second-hand clothing, driven by a range of other consumption values, such as epistemic or functional value (Machado *et al* 2019).

3. Materials and Methods

3.1. Research Design and Approach

This project draws upon data and findings from two studies. Study 1 was conducted in 2023 and explored the consumption values associated with second-hand clothing buying behaviour. Study 2 was undertaken in 2024 and investigated aspects of consumption values related to the intent to purchase upcycled textile products. Both Studies 1 and 2 employed survey research designs using self-administered online questionnaires developed and distributed via Qualtrics. A quantitative approach allowed researchers to analyse the datasets by means of statistics to generate significant findings (Creswell & Creswell 2023). The exploratory and

descriptive scope of these surveys focused on broadening the knowledge and research relating to the consumption values that female consumers derive from either purchasing second-hand clothing or intending to purchase upcycled textile products.

3.2. Sample and Sampling Techniques

For Studies 1 and 2, participants were selected using non-probability sampling techniques, specifically purposive and convenience sampling. The selection criteria were specifically focused on female consumers living in South Africa who were over the age of 18 at the time the data was collected. This study concentrated solely on women because earlier research has shown that gender significantly influences sustainable buying behaviour. It has been observed that women generally exhibit more environmentally friendly and sustainable consumption patterns than men (Bloodhart & Swim 2020; Salehi, Telešienė & Pazokinejad 2021; Vicente-Molina, Fernández-Sainz & Izagirre-Olaizola 2018).

3.3. Data Collection and Analysis

Once ethical approval was obtained from the university's ethics committee (Study 1 – NAS320/2022; Study 2 – NAS090/2024), the questionnaires for Studies 1 and 2 were pre-tested to improve overall wording and understanding of the instructions and content. Thereafter, a link to each of the questionnaires was posted on social media platforms (Facebook, LinkedIn, Instagram) and sent via messaging apps (WhatsApp), inviting individuals to participate. A consent form preceded the questionnaires for both studies and stated information regarding anonymity, voluntary participation, and agreement to participate in the studies. Following this, screening questions relating to age and residence were included to ensure accurate sampling. Measurement items concerning consumption values (for Study 1) were derived and adapted from Kim *et al* (2021) and Sweeney, Soutar, Whitely and Johnson (1996) to relate to second-hand clothing purchases (Table 2). Because of Study 1 forming part of a larger project relating to lifestyles with particular measurement items and response options, a four-point Likert-type scale (1 = mostly

disagree, to 4 = mostly agree) was used to ensure uniformity and accuracy of all response options throughout the study. Study 2 adapted the measurement items from Study 1 and Kim *et al* (2021) to generate a pool of items relevant to upcycled textile products (Table 3). Responses for Study 2 were anchored on a five-point agreement scale (1 = strongly disagree to 5 = strongly agree).

Once the data collection for Studies 1 and 2 was concluded, the datasets were reviewed, and responses that did not meet the specified criteria or were incomplete were excluded. Study 1 resulted in 523 responses, while Study 2 received 1,182 responses. Data analysis included descriptive statistics such as frequencies, percentages and means. Internal reliability was also tested by means of Cronbach's alphas. The demographic characteristics of the samples can be seen in Table 1. In summary, Study 1 mainly comprised a younger sample of white, Generations Y and Z consumers (75.6%), with more than half having obtained higher education qualifications (69.2%). Nearly a third of those surveyed (28.5%) have an after-tax income of less than R5,000. Close to this, 29.6% earn between R5,001 and R15,000 per month after taxes, while 28.7% have an income ranging from R15,001 to R35,000 after taxes. Study 2's sample was more evenly distributed amongst the various generational cohorts, with almost a third (30.4%) being classified as Generation Z (aged 18–25), 28.2% being classified as Generation Y (aged 26–41), and 30.7% ranging between the ages of 42 and 57. Similarly to Study 1, three-quarters of the respondents in Study 2 (74.5%) had obtained some sort of higher education qualification. The sample that made up Study 2 was quite evenly distributed amongst the various income brackets. Those who indicated a total monthly income (after tax) of "less than R5,000", "R5,001 – R15,000", or "R15,001 – R25,000" made up almost a fifth of the sample in each afore-mentioned bracket; collectively, these lower-income brackets totalled more than half of the sample (62.8%), while 37.2% indicated an income of R25,001 or more. Lastly, almost two-thirds of the respondents in Study 2 (65.9%) were classified as white, while 17.5% were classified as black. Although these samples are clearly not representative of the broader South African population and are based on non-probability, convenience sampling methods, they were deemed appropriate for the explorative and descriptive purposes of both studies.

Table 1: Demographic characteristics

Characteristics	Study 1		Study 2	
	n	%	n	%
Total sample Size	523	100	1,182	100
Age groups				
18 – 25	288	55.1	360	30.4
26 – 41	107	20.4	333	28.2
42 – 57	102	19.5	363	30.7
58 and older	26	5.0	126	10.7
Level of Education				
Lower than Grade 12	6	1.2	27	2.3
Grade 12	155	29.6	274	23.2
Tertiary degree or diploma	252	48.2	574	48.5
Postgraduate	110	21.0	307	26.0
Total monthly income				
Less than R5,000	149	28.5	246	20.8
R5,001 – R15,000	155	29.6	256	21.7
R15,001 – R25,000	88	16.8	240	20.3
R25,001 – R35,000	62	11.9	177	15.0
R35,001 – R45,000	31	5.9	114	9.6
More than R45,000	38	7.3	149	12.6
Population group				
Black	38	7.3	207	17.5
Coloured	14	2.7	45	3.8
Indian/Asian	18	3.4	111	9.4

(*Continued*)

Table 1: Demographic characteristics (*Continued*)

Characteristics	Study 1		Study 2	
	n	%	n	%
White	435	83.2	779	65.9
Other	0	0.0	4	0.3
I prefer not to say	18	3.4	36	3.1

4. Results and Discussions

Descriptive statistics were used to explore and describe the five consumption values regarding second-hand clothing buying behaviour (Study 1) and the intent to buy upcycled textile products (Study 2). As mentioned in the methodology, Study 1 consisted of a four-point agreement scale with no neutrality, while Study 2 comprised a five-point agreement scale with a neutral option. Besides ensuring consistency of response options in the various studies to guarantee uniformity throughout the respective questionnaires, using the four-point agreement scale for second-hand clothing purchases retrieved more definite realisations regarding female consumers' actual buying behaviour of an already familiar practice. In contrast, using a five-point agreement scale for Study 2 was deemed more appropriate as upcycled textile products might not be as "well-known" as second-hand clothing, and, therefore, consumers might not have made up their minds about their intentions to buy it yet. The results and discussions relating to Studies 1 and 2 are presented according to the consumption values, namely emotional, environmental, epistemic, functional (financial) and social values. Further details regarding the values and items relating to the respective studies can be seen in Tables 2 and 3.

4.1. Emotional Value

Emotional value was deemed significant for both Studies 1 and 2. In Study 1, most female consumers agreed that they feel

Table 2: Study 1 – Consumption values related to second-hand clothing buying behaviour

Study 1 – Consumption value and items	n		%		M	SD	α
	Disagree	Agree	Disagree	Agree			
Emotional value					3.37	0.64	0.85
I feel happy when I buy second-hand clothing.	42	481	8	92			
Purchasing second-hand clothing makes me feel good.	49	474	9	91			
Buying second-hand clothing provides joy and pleasure.	52	471	10	90			
Environmental value					3.56	0.55	0.76
Buying second-hand clothing helps to save resources.	22	501	4	96			
Purchasing second-hand clothing is environmentally friendly.	30	493	6	94			
Second-hand clothing has more environmental benefits than other clothing.	49	474	9	91			
Epistemic value					3.19	0.62	0.63
Second-hand clothing offers uniqueness.	48	475	9	91			
I buy second-hand clothing to find one-of-a-kind items.	93	430	18	82			

(*Continued*)

Table 2: Study 1 – Consumption values related to second-hand clothing buying behaviour (*Continued*)

Study 1 – Consumption value and items	n		%		M	SD	α
	Disagree	Agree	Disagree	Agree			
Second-hand clothing is more novel than new clothing.	130	393	25	75			
Functional (financial) value					3.52	0.55	0.81
When I buy second-hand clothing, it saves me money.	36	487	7	93			
Purchasing second-hand clothing benefits me financially.	37	486	7	93			
Second-hand clothes are good products for the price you pay.	32	491	6	94			
Social value					2.21	0.78	0.78
Purchasing second-hand clothing gives me social approval.	299	224	57	43			
Buying second-hand clothing makes me fit into a social group.	338	185	65	35			
Second-hand clothing improves the way I am perceived.	295	228	56	44			
M = mean (based on a four-point scale with no midpoint); SD = standard deviation; α = Cronbach's alpha							

Table 3: Study 2 – Consumption values related to upcycled textile product purchase intent

Study 2 – Consumption value and items	n			%			M	SD	α
	Disagree	Neutral	Agree	Disagree	Neutral	Agree			
Emotional value							3.81	0.69	0.82
I would feel happy if I were to buy upcycled textile products.	47	273	862	4	23	73			
Purchasing upcycled textile products would make me feel good.	49	279	854	4	24	72			
Upcycled textile products provide joy and pleasure.	62	403	717	5	34	61			
Environmental value							4.07	0.62	0.78
Buying upcycled textile products helps to save natural resources.	24	120	1038	2	10	88			
Upcycled textile products are environmentally friendly.	24	178	980	2	15	83			

(*Continued*)

Table 3: Study 2 – Consumption values related to upcycled textile product purchase intent (*Continued*)

Study 2 – Consumption value and items	n			%			M	SD	α
	Disagree	Neutral	Agree	Disagree	Neutral	Agree			
Upcycled textile products have more environmental benefits than other textile products.	36	275	871	3	23	74			
Epistemic value							4.00	0.64	0.76
Upcycled textile products offer uniqueness.	27	177	978	2	15	83			
I would buy upcycled textile products to find one-of-a-kind items.	70	230	882	6	19	75			
Upcycled textile products have unique features.	29	215	938	2	18	79			
Functional (financial) value							3.47	0.75	0.84
Buying upcycled textile products would save me money.	156	466	560	13	39	47			

Study 2 – Consumption value and items	n			%			M	SD	α
	Disagree	Neutral	Agree	Disagree	Neutral	Agree			
Purchasing upcycled textile products would benefit me financially.	143	526	513	12	45	43			
Upcycled textile products are good products for the price you pay.	66	505	611	6	43	52			
Social value							2.91	0.83	0.84
Purchasing upcycled textile products would give me social approval.	314	561	307	27	47	26			
Buying upcycled textile products would make me fit into a social group.	403	549	230	34	46	19			
Upcycled textile products would improve the way I am perceived by my friends.	357	566	259	30	48	22			
M = mean (based on a five-point scale with a midpoint); SD = standard deviation; α = Cronbach's alpha									

happy (92%) when buying second-hand clothing and that it makes them feel good (91%). The respondents also confirmed that it provides them joy and pleasure (90%). Similarly, a large portion of the respondents from Study 2 indicated that they would feel happy if they were to buy upcycled textile products (73%) and that it would make them feel good (72%), while some were neutral about it. Fewer respondents agreed that it potentially provides them with joy and pleasure (61%). Based on the means, purchasing second-hand clothing (Study 1) evoked stronger, positive emotions than the intention to buy upcycled textile products (Study 2), as can be seen in Figure 1. The positive emotions experienced when purchasing second-hand clothing may stem from the act of acquiring something new or may be associated with values such as the satisfaction of giving a clothing item a second life or finding a great deal. In Study 2, which focuses on the intention to purchase upcycled textile products, participants may not have strong feelings about it yet because of a lack of prior experience with such products or unfamiliarity with their potential benefits. In Studies 1 and 2, Cronbach's alphas of the emotional value were above the minimum acceptable level of 0.7, showcasing strong internal reliability. More specifically, the Cronbach's alpha for Study 1 was 0.85, and for Study 2 it was 0.82.

4.2. Environmental Value

From the results, it is clear that environmental value plays an important role when female consumers purchase second-hand clothing or even intend to purchase upcycled textile products. An overwhelming portion of respondents in Study 1 agreed that it helps to save resources (96%), is environmentally friendly (94%), and has more environmental benefits than other clothing options (91%). Concurring with this, the results in Study 2 indicated that most respondents feel that upcycled textile products help to save natural resources (88%) and are an eco-friendly option (83%). A few more than in the previous statements were undecided (23%) about upcycled textile products having more environmental benefits than other textile products, yet the majority still agreed with this statement (74%). Studies 1 and 2 found that female consumers place the highest importance on environmental value

amongst all consumption values (Figure 1). This emphasises their strong preference for sustainable options like second-hand clothing and upcycled textile products. Both these options promote circular economy principles where clothing and textiles are not discarded as waste but are instead reused and given a second life. This emphasis on sustainability appears to be a significant consideration for female consumers in their overall consumption patterns, encompassing both their intentions and behaviours. In both studies, the Cronbach's alpha for environmental value exceeded the 0.7 threshold, reaching values of 0.76 (Study 1) and 0.78 (Study 2).

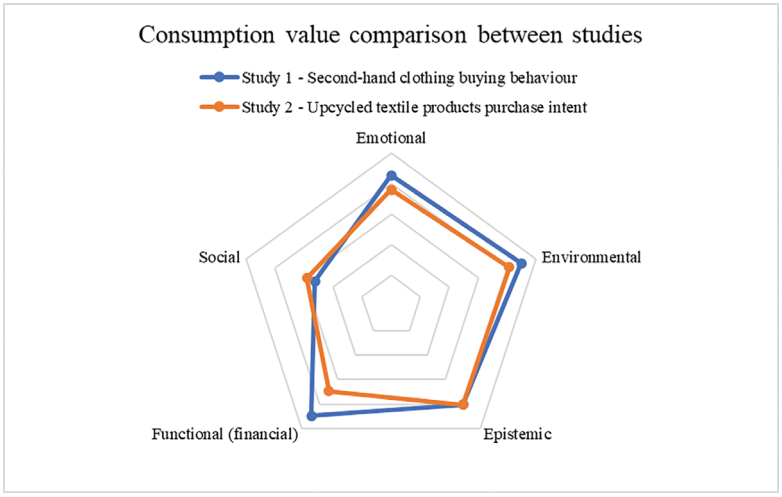


Figure 1: Consumption value comparison between Studies 1 and 2 (Source: Clothing Retail Management research projects 2023-2024 and Visser 2024)

4.3. Epistemic Value

New experiences and alternatives to what consumers are used to seem to feature quite prominently with the respondents who buy second-hand clothing and those who intend to buy upcycled textile products. Almost all the respondents agreed that second-hand clothing offers uniqueness (91%) and one-of-a-kind items (82%). A smaller percentage indicated second-hand clothing as more novel than new clothing (75%), with 25%

disagreeing. Once again, the results from Study 2 reflected similar notions, with the intention to buy upcycled textile products strongly linked to uniqueness (83%) and one-of-a-kind items (75%). Because of some items not faring too well in Study 1 (i.e., presenting inconsistencies and internal reliability issues), they were adapted for Study 2, and thus, the item originally detailing novelty was rephrased to relate to unique features instead. Responses for the adapted item in Study 2 were more in line with the other items pertaining to epistemic value, where the majority agreed that upcycled textile products have unique features (79%). The mean scores from both studies are equally high, showing a solid consensus amongst female consumers that epistemic value is a definite driver of second-hand clothing and upcycled textile products. That said, buying second-hand clothing, thus, provides consumers with the thrill of discovering clothing items that are not readily available in retail stores and allows consumers to find unique pieces from various eras that may have faded from current fashion trends. Moreover, upcycled textile products are inherently unique and one-of-a-kind. This uniqueness is because the products are not generic, as they are crafted from a diverse range of textile waste. In Study 1, the internal reliability concerning epistemic value, indicated by a Cronbach's alpha of 0.63, did not meet the required minimum threshold of 0.7, indicating that the reliability was not achieved. In the process of developing the measurement tool for Study 2, problematic items from Study 1 were identified and adapted to improve the internal reliability of this construct. Consequently, the Cronbach's alpha for epistemic value in Study 2 reached a satisfactory level of 0.76.

4.4. Functional (Financial) Value

Functional value, specifically financial value, presented varying results in buying second-hand clothing versus the intent to buy upcycled textile products. Respondents in Study 1 were agreeable to buying second-hand clothing because it saves them money (93%), benefits them financially (93%), and they obtain good products for decent prices (94%). Because these clothes have been used before and are now bought for a second life cycle,

they tend to be cheaper than new clothes bought in stores. Often, consumers are drawn to more affordable options, such as second-hand clothing, because it offers them the necessary clothing that they need to survive. In contrast, others are drawn to cheaper options because they can buy more clothes for less to satisfy their desire to dress fashionably. In contrast, the functional (financial) value did not present prominent results regarding upcycled textile products. The respondents were divided about upcycled textile products saving them money, with 47% agreeing and almost as many feeling neutral about it (39%). Nearly half of the respondents (45%) were undecided about whether it would benefit them financially, while 43% agreed. Lastly, responses were once again mainly scattered between having no definite feeling (43%) and agreeing (52%) that they would obtain good products for the price that they paid. This could be because of a lack of exposure to such products or a lack of understanding of what upcycled textile products entail, whether they are worth the price, and whether they are cheaper or more expensive than general textile products. Based on the average means for functional (financial) value, respondents from Study 1 strongly agreed that functional (financial) value plays an important part in their second-hand clothing purchases. On the contrary, the feeling towards upcycled textile products and their functional (financial) value was not as strong. These differences are clearly evident in Figure 1. The Cronbach's alphas were deemed acceptable for both Study 1 (0.81) and Study 2 (0.84), indicating internal reliability for functional (financial) value across both studies.

4.5. Social Value

Social value presented interesting findings in both Studies 1 and 2. Contrary to the above consumption values, respondents were divided regarding social value and second-hand clothing purchases. Slightly more than half of the respondents disagreed that second-hand clothing purchases give them social approval (57%) or make them fit into a social group (65%). Similarly, half of them do not believe that second-hand clothing improves how they are perceived (56%), while the other half believe that it does (44%). Regarding Study 2,

the female consumers were undecided but still leaned towards the disagreement side. Almost half were neutral about upcycled textile products, potentially resulting in social approval (47%), making them fit into a social group (46%), and improving the way in which they are perceived by their friends (48%). These findings are also reflected in the mean scores for both studies, with social value scoring slightly more for the intention to buy upcycled textile products than second-hand clothing purchases (Figure 1). Both studies demonstrated strong internal reliability, surpassing the minimum threshold of 0.7. Study 1 yielded a Cronbach's alpha of 0.78, while Study 2 achieved a higher value of 0.84.

4.6. Cross-Tabulations Between Consumption Values and Sustainable Buying Practices

In summary, Figure 2 and Table 4 reveal that environmental values fulfilled a key role in respondents' acceptance of both second-hand and upcycled textile products. These results reinforce existing research, emphasising the importance of environmental values in adopting sustainable alternatives (Kim *et al* 2021; Yoo *et al* 2021). Yet, affordability and the accompanying functional (financial) value were found to be equally important for second-hand clothing, significantly more so than for the corresponding value associated with upcycled textile products. Respondents may be more experienced in acquiring second-hand clothing and, therefore, more confident in their appraisal of the functional (financial) value which they derive from second-hand clothing. This finding aligns with consumer expectations that second-hand clothing is generally more affordable, which could remain a primary incentive for purchase. However, the same cannot be said for upcycled textile products, which often come with a higher price tag because of artisanal artisanship and handcrafted input that increases their value and cost.

Another prominent finding from the analysis is the role of epistemic values, referring to the novelty and uniqueness of products in driving consumers' interest in both second-hand and upcycled textile products (Figure 2 and Table 4). The pursuit of uniqueness is a key motivator in choosing sustainable alternatives, as previously noted by Kim *et al* (2021) and Adıgüzel and Donato (2021). The allure of discovering unique and rare

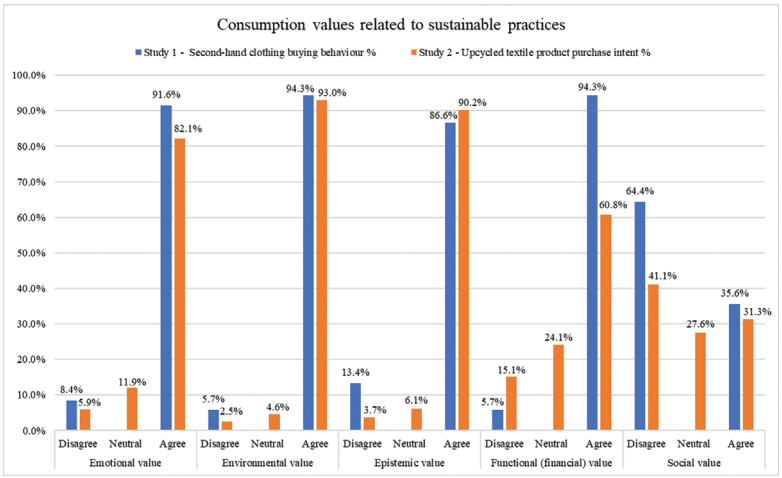


Figure 2: Evaluation of the consumption values related to sustainable clothing and textile practices (Source: Clothing Retail Management research projects 2023-2024 and Visser 2024)

items offers high epistemic value (Koay *et al* 2022), which, in turn, could evoke positive emotions such as joy and pleasure (Kim *et al* 2021). Figure 2 and Table 4 highlight strong agreement amongst both samples in terms of the emotional value they derive from both second-hand and upcycled textile products.

Table 4: Cross tabulations of consumption values and sustainable clothing and textile practices

Consumption values		**Study 1 – Second-hand clothing buying behaviour**	**Study 2 – Upcycled textile product purchase intent**
		%	%
Emotional value	Disagree	8.4%	5.9%
	Neutral	0.0%	11.9%
	Agree	91.6%	82.1%

(*Continued*)

Table 4: Cross tabulations of consumption values and sustainable clothing and textile practices (*Continued*)

Consumption values		**Study 1 – Second-hand clothing buying behaviour**	**Study 2 – Upcycled textile product purchase intent**
Environmental value	Disagree	5.7%	2.5%
	Neutral	0.0%	4.6%
	Agree	94.3%	93.0%
Epistemic value	Disagree	13.4%	3.7%
	Neutral	0.0%	6.1%
	Agree	86.6%	90.2%
Functional (financial) value	Disagree	5.7%	15.1%
	Neutral	0.0%	24.1%
	Agree	94.3%	60.8%
Social value	Disagree	64.4%	41.1%
	Neutral	0.0%	27.6%
	Agree	35.6%	31.3%

Finally, Figure 2 and Table 4 reveal that for both second-hand and upcycled textile products, social values fulfilled a lesser role compared to the other consumption values. In their study, Yoo *et al* (2021) concluded that consumers might be uncertain about how others will perceive their purchase of upcycled fashion products. In addition, Koay *et al* (2022) concluded that the association between second-hand clothing purchases and the affordability that it offers for lower-income groups might negatively impact social utility. Similarly, the findings of both studies reported in this study reveal that local consumers' acceptance of sustainable alternatives such as second-hand and upcycled textile products might not be driven by social acceptance.

5. Conclusions

Extending the service life of clothing and textile products has become vital in countering the overconsumption practices of consumers and reducing waste and the overall impact on the environment (Cruz & da Cruz 2023). The findings of both studies reported in this paper suggest that environmental, emotional, and epistemic values play a significant role in consumers' acceptance of both second-hand clothing and upcycled textile products and the value which they derive from them. Environmental values, in particular, could be emphasised in marketing campaigns that are focused on promoting sustainable consumption alternatives in the local clothing and textile sectors. Retailers and small businesses, in particular, could utilise these findings to highlight the environmental benefits that consumers gain from buying these products. Environmental benefits can be achieved through visual, informative labels or by sharing the design, manufacturing, and consumption history or circular economy principles via social media campaigns or website inserts. In terms of epistemic value, consumers seem to be drawn by the distinctiveness and novelty of second-hand and upcycled textile products, which could also evoke emotional value, such as joy and excitement in finding unique, one-of-a-kind items. The novelty factor not only enhances the consumer's experience but also differentiates these products from mass-produced items, creating the potential for a niche market appeal.

While functional (financial) value remains a significant benefit for consumers in the purchasing of second-hand clothing, it may form an important basis for further exploratory investigation into the affordability and acceptance of upcycled textile products versus other sustainable alternatives. Because upcycled textile products are not yet familiar or readily available, consumers are not acquainted with the financial value that this product might hold for them. Ultimately, it should be recognised that consumers may embrace sustainable alternatives such as second-hand clothing for the sake of being able to acquire more at a lower cost rather than genuinely attempting to extend the products' lifespan.

Social values fulfilled a lesser role in respondents' acceptance of these products, which suggests that uncertainty about societal perceptions of upcycled and second-hand alternatives may reduce the social utility of such products. While social value may not be a strong determinant of consumers' acceptance of sustainable alternatives, it points to the need for continued exploration of social perception and consumption values' influence on the adoption of sustainable alternatives that embrace the circular economy principles, particularly within the scope of second-hand and upcycled textile products. Overall, the findings of these studies emphasise the complex interplay of environmental, emotional, epistemic, functional (financial), and social values in shaping consumers' preferences for sustainable alternatives.

6. Recommendations

Future research could consider incorporating more representative samples to determine the influence of consumption values on actual purchase behaviour, specifically in terms of upcycled textile products. Also, future research endeavours could focus on other sustainable alternatives that contribute to more circular economies, such as garments produced from recycled fibres, yarns and/or fabrics. Extending the lifespan of a product by trading it via second-hand or upcycling it does not circumvent textile waste; it simply prolongs the point at which it becomes waste. In this regard, more initiatives are needed, particularly in the African context, to incorporate and advance consumers' acceptance of products that are derived from closed-loop recycling systems.

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Author Contributions

Conceptualisation, H.T., B.J., N.S. and L.D.; methodology, H.T., B.J., N.S. and L.D.; formal analysis, H.T. and N.S.; data collection, H.T., B.J., N.S. and L.D.; writing—original draft preparation, H.T., B.J., N.S. and L.D.; writing—review and editing, H.T., B.J., N.S. and L.D.; project administration, H.T.

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Dr Hanri Taljaard-Swart obtained her Doctor of Consumer Science (Clothing Management) from the University of Pretoria, where she is currently a lecturer in the Department of Consumer and Food Sciences. She teaches various subjects relating to sustainable production and consumption, including product development, clothing construction, and pattern design. Her research trajectory reflects a growing expertise in circular economies, specifically focusing on sustainable product development and sustainable consumption, addressing key issues in the clothing and textiles industry relating to recycling and upcycling, re-commerce, voluntary simplistic lifestyles, collaborative consumption, cultural heritage, community engagement, and local empowerment. Dr Taljaard-Swart's work aligns with several Sustainable Development Goals (SDGs), including SDG 4 (quality education), SDG 8 (decent work and economic growth), SDG 11 (sustainable cities and communities), and SDG 12 (responsible consumption and production).

Bertha Jacobs is a senior lecturer in the Department of Consumer and Food Sciences at the University of Pretoria. She teaches courses on clothing retail, merchandising (including buying, planning and sourcing), and aesthetics. Her research interests focus on experiential retailing, consumer experiences, sustainable and collaborative consumer behaviour, and the social psychology of clothing. Recently, Jacobs has expanded her research interests to include graduate employability, skills development for graduates pursuing careers in the local and global clothing industry, and the Scholarship of Teaching and Learning.

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Glossary

Aawambo: A major ethnolinguistic group residing in northern Namibia and southern Angola, comprising several subgroups, including Ovakwanyama.

Adire: An indigo-dyed cotton fabric made using resist-dye techniques such as tying and stitching created by the Yoruba people of Nigeria.

Akwete: A traditional loom-woven fabric featuring stripes and geometric patterns, made by the Igbo people of Nigeria.

Aso-oke: A traditional Yoruba Nigerian cotton fabric distinguished by its colourful stripes achieved through natural dyes.

Bark cloth: A textile produced from the inner bark of the Mutuba tree, particularly associated with Uganda.

Basotho blanket: A culturally significant wool garment worn by the Basotho people of Lesotho and South Africa. Characterised by symbolic patterns, the blanket communicates identity, status, and social belonging.

Bògòlanfini: A Malian traditionally dyed fabric using fermented mud and plant-based extracts.

Circular fashion: Circular fashion is a sustainable model that aims to close the loop on clothing production and waste by extending the life of fabrics off-cuts, and garments through reuse, repair, resale, recycling, and upcycling.

Closed-loop: A system designed to minimise waste by keeping materials in circulation, reusing them to repair or manufacture new products.

Eco-fashion: Fabric and clothing production and end-of-life techniques and practices that protect the environment, empower communities and workers, and benefit society.

Efundula: A traditional initiation ceremony amongst Ovakwanyama girls marking the transition to womanhood.

Fast-fashion: Rapidly mass-produced clothes sold at low cost, typically using low-quality synthetic fabrics and craftsmanship to respond quickly to trends.

Indigenous knowledge systems (IKS): Intergenerational systems of knowledge, practices, and belief structures developed by Indigenous communities through sustained interaction with their environments. In fashion contexts, IKSs include traditional weaving, dyeing, beadwork, and sustainable material stewardship.

Kente: A traditional Ghanaian fabric, woven from cotton and silk, distinguished by its vibrant colours and complex geometric patterns.

Kikoi: A traditional handwoven East African cotton fabric or wrap distinguished by its bold, multi-coloured stripes. Popular in Kenya and Tanzania, it is traditionally dyed with natural pigments to achieve its vibrant colours.

Kiondo: A traditional handwoven basket crafted from sustainable sisal fibres and widely used in Kenya and Tanzania.

Linear fashion: In the linear fashion model, waste is generated at multiple stages: raw materials from both natural and man-made resources are extracted and manufactured into clothes, and fabric scraps are discarded during production. These garments are then used and ultimately thrown away by consumers.

Mitumba / Salaula / Kaunjika: Terms that refer to second-hand clothes from the Global North shipped into countries such as Kenya, Tanzania, Zambia, and Malawi and sold in markets at an affordable price.

Oihanangolo: A ritual performance associated with the efundula ceremony amongst Ovakwanyama communities.

Olufuko: A traditional Aawambo initiation ceremony marking a girl's transition to womanhood. Participants wear culturally significant adornments, including *onyoka* beads.

Olukula: A red ochre pigment derived from *Pterocarpus* angolensis, used in Aawambo cultural practices for body adornment and the enhancement of bead aesthetics.

Ombike: A traditional distilled beverage produced in northern Namibia. Its reference reflects the interconnected nature of local livelihoods and cultural production systems.

Ondjeva: Ostrich eggshell beads used in traditional Namibian adornment. Often combined with *onyoka* in ceremonial necklaces.

Onguluwe: Blue glass bugle beads incorporated into Aawambo beadwork traditions and sometimes combined with *onyoka* and *ondjeva*.

Onyoka / Nonyoka: Stringed handcrafted disc shapes made from oyster shells. They are an important element of dress amongst Aawambo, Ovahimba and Vakavango communities in Namibia.

Oshidima: Aromatic herbs used in Aawambo ceremonial practices, often combined with red ochre during bead preparation.

Oshinyenye / Ondiwi: A specific type of *onyoka* necklace presented to infants by paternal relatives as part of clan introduction rituals.

Ovaherero: An ethnic group in Namibia known for distinctive dress traditions and beadwork reflecting cultural identity and environmental adaptation.

Ovahimba: A Namibian ethnic group recognised for bead adornment and ochre body applications embedded in cultural and ecological practices.

Oilanda yomuhanga: A beaded waistband worn as part of traditional Aawambo attire.

Oilanda yovelela: Beadwork used to decorate the *ovelela* dress in Aawambo cultural dress systems.

Ovelela: A traditional Aawambo dress worn during ceremonial occasions.

Shweshwe: A printed cotton fabric widely used in southern Africa, particularly amongst Sotho, Tshwana, Xhosa communities, and is also worn.

Slow-fashion: Clothes produced to reduce consumer over-consumption and promote environmental sustainability, characterised by durable fabrics, high-quality craftsmanship, and extended product longevity.

Sufficiency-based circular economy: This integrated approach, combining closed-loop and sufficiency models, develops systems designed to cultivate a culture of mindful production and consumption for the well-being of all socio-economic groups and the environment.

Tagelmust: An indigo-dyed veil worn by Tuareg men in North Africa, serving protective and symbolic functions.

Ukara: A cotton fabric with distinctive ideographic motifs, formed by stitching the symbols prior to immersing the cloth in indigo dye.

Umbhaco: Traditional Xhosa material characterised by geometric patterns and bead embellishment, worn during rites of passage and ceremonial occasions.

Upcycling: The creative process of converting unwanted fabric scraps, and clothes into new items that offer the same or an entirely different function, thereby extending the lifespan of materials.

Uuputu: Traditional metal beads used amongst Aawambo communities. Historically handcrafted and sometimes repurposed from found metal, *uuputu* signify wealth and status.

Zero-waste: A method of reducing cutting room waste by using every component of the fabric including fabric off-cuts, to ensure that no fabric is discarded.



UJ Press

Eco-Fashion in Africa: Narratives from Fields to Landfills takes a timely, interdisciplinary look at the journey of fashion in different African settings. It follows the process from the growth and sourcing of raw materials through textile production, use, reuse, disposal, and renewal.

The book uses research, case studies, and real-life stories from across Africa to share the perspectives of academics, designers, artisans, entrepreneurs, traders, and communities. It looks at how Indigenous knowledge, cultural traditions, and new ideas are helping to create more sustainable, ethical, and circular ways of making fashion. Examples include using natural fibres and plant-based dyes, traditional textile methods, upcycling, zero-waste design, repairing, reselling, and other ways to extend the lifespan of clothes and materials.

The book takes a close look at the environmental and social impacts of fast fashion, global supply chains, imported textiles, and the rise in textile waste. It also shows how African fashion systems are creative and support jobs, keep cultures alive, strengthen communities, encourage responsible production, and help restore the environment.

By bringing together environmental, cultural, social, economic, and policy views, this book questions the common idea that Africa is only a place for resource extraction, consumption, or waste. Instead, it shows Africa as an important source of knowledge and as a leader in creating fair, inclusive, and sustainable fashion models for the world.

Accessible yet theoretically informed, this book is easy to read but grounded in theory, making it useful for students, researchers, teachers, policymakers, and professionals in fashion, sustainability, African studies, cultural studies, development, and creative industries.

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