SMEP | Sustainable Manufacturing and Environmental Pollution

A study of textile waste at Owino Market, Kampala

TOWARDS A CIRCULAR TEXTILE ECONOMY IN UGANDA

FINDINGS OVERVIEW

wasteaid

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Uganda Tailors Association – Empowering Tailors

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The **Uganda Circular Textiles Project** is a partnership between **WasteAid**, the **Management Training and Advisory Centre**, and **Uganda Tailors Association**. It is funded by UK International Development through the **Sustainable Manufacturing and Environmental Pollution Programme** to address critical issues within the **second-hand clothing supply chain**, particularly the identification, management and options for **diversion and reuse of second-hand clothing (SHC) and other textile waste**. By establishing a Textile Reuse Hub and implementing innovative diversion, sorting and repurposing systems, the project aims to reduce environmental impact, support local industries and create new job opportunities, ultimately promoting a more sustainable economy in Uganda. This study was commissioned to inform the implementation of the project.

Background

Globally valued at approximately USD 1.3 trillion, the **clothing industry largely operates in a linear system** where consumers typically use garments for less than a year before disposing of them. This **short usage strains resources and contributes to pollution and environmental degradation.** [i] [ii] The fashion and textile industry represents 2-8% of global greenhouse gas emissions.[i]

The East African Community accounts for 12.5% of global imports of second-hand clothing [iii] [iv] and **Uganda ranks as the fifth largest importer in Africa**, accounting for 6.3% of the continent's total SHC imports. The Uganda Revenue Authority reported 80 million kg of second-hand clothing imported in 2023, contributing UGX 262 billion (USD 70.85 million) in taxes in 2023. This trade is essential for the local economy, providing **affordable clothing** to a large segment of the population and **generating employment** for traders, transporters, and ancillary service providers. [v]

Globally, the **SHC market** contributes significantly to sustainability as it **extends the lifespan of textiles.** Yet in Uganda it remains a linear market, with SHC and other textiles **eventually dumped or burnt or making their way to landfill sites**, where recent estimates show that it makes up between 0.5 and 3% of the waste (up to 48 tonnes per day). [vi] [viii]

Owino Market is at the heart of Uganda's SHC market, attracting thousands of traders and customers daily. Despite the economic significance of this market, there is little research on this SHC market and the waste generated there, so **this research provides an important snapshot of the SHC flow from import of bales to sale of individual pieces, the waste arising in the process, and its management** as well as **innovative opportunities for reuse and recycling.**

Methodology

Over the course of several weeks in **May-June 2024** research was undertaken at Owino Market through **key stakeholder interviews,** primary data collection through **1,001 structured surveys** (598 retailers, 312 vendors, 91 tailors) and a **desk review** of a range of documents pertaining to the market. An **additional eleven interviews** were conducted to map out the second-hand textile value chain. A **382.5 kg waste sample** (8.7-10% of the collection that day) was collected from different areas within Owino Market from both tailors and floor sweepings in order to pilot a sorting process and product creation to assess product and financial viability. Informed verbal consent was obtained from all participants, ensuring anonymity and confidentiality.

Key Findings

OBJECTIVE A:
Assessing market participation in the second-hand clothing industry in Owino Market: roles, gender distribution, and educational accessibility

Owino Market, also known as St. Balikuddembe Market, is a major commercial hub located in the centre of Kampala, Uganda and is the most prominent market for SHC in Uganda, providing affordable clothing options and creating employment opportunities.

The market hosts around 50,000 traders[viii]. Women make up 42% of the SHC retailers and vendors (figure 1), and 45% of business owners (figure 2). Most SHC traders have completed secondary school as their highest level of education, but those with lower and higher levels are also represented. Just over half of retailers move up the value chain, regardless of education. For vendors social mobility was much lower – 2-20% depending on education level. The SHC market accommodates individuals with varying levels of capital and diverse financial backgrounds, whether as vendors operating in or entering into the market or as consumers purchasing second-hand clothing.

A range of market participants contribute to the flow of goods through the supply chain from import to end consumer (figure 3). Tailors also play a role by customising and repairing second-hand clothing. Bales remain unopened until they reach retailers, thus waste arises in the supply chain with the retailers and vendors.

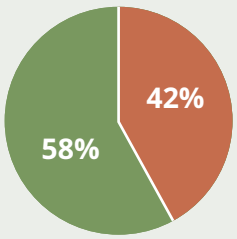


Figure 1 Gender disaggregation of retailers and vendors in Owino Market

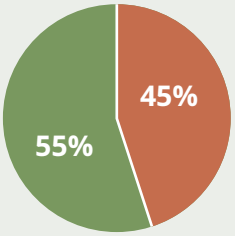


Figure 2 Gender disaggregation of primary business owners in Owino Market

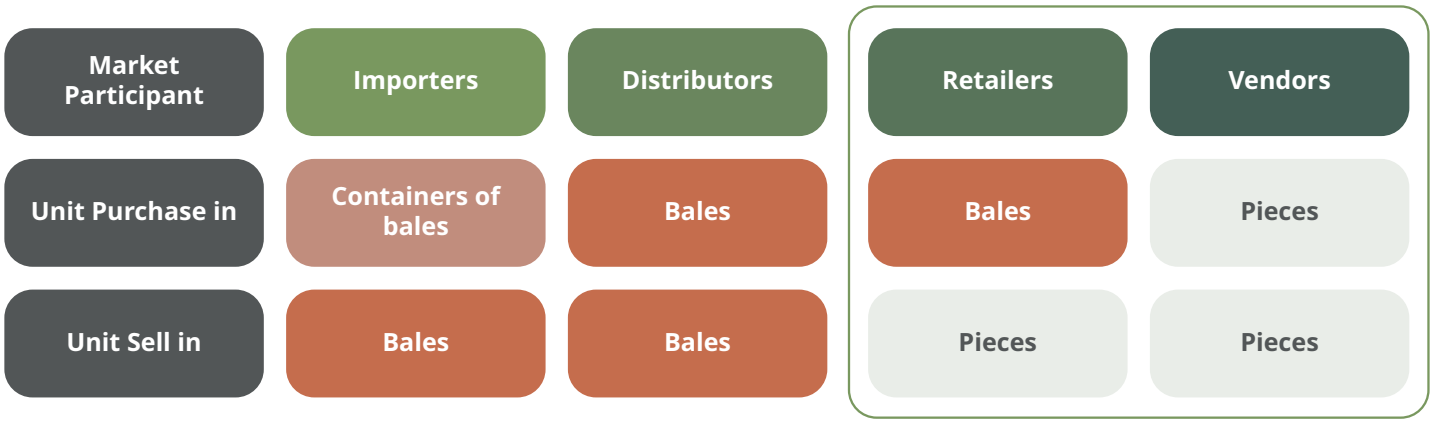


Figure 3 Diagram outlining the flow of imported bales and individual clothing pieces in Owino Market. Bales remain unopened until they reach retailers, thus waste arises in the supply chain with the retailers and vendors.

OBJECTIVE B:
Content quality and economic inclusivity through market segmentation

Grading and sub-categorisation of bales

Buyers import clothing from sorting facilities abroad in the form of graded bales, typically weighing 45kg. Bale sizes, grades and pricing were found to vary, accommodating the needs of different market participants.

Bales are typically graded as follows.

- **Grade A:** Predominantly contains items of the highest quality and fetch the highest prices. They are often nearly new and in excellent condition.
- **Grade B:** Predominantly contains items of good quality but may have minor defects or show slight signs of use. They are valued lower than Grade A.
- **Grade C:** Predominantly contains items with noticeable wear and are considered lower quality compared to Grades A and B. They are sold at the lowest prices.

On arrival, once a bale is opened, the pieces of clothing are sorted into the sub-categories below based on their perceived economic value and the speed at which it can be sold:

- **First (Top):** Items with the highest turnover and economic value.
- **Second:** Highly sought-after items but with a lower market value than the first.
- **Fagi:** Fagi is a locally designated term for wearable clothing, that is generally of lower quality than the first or second classes or is anticipated to have a slower turnover. Fagi provide a crucial affordable option for individuals who cannot afford clothing from the first and second sub-categories. Fagi is sold both as bales and as individual pieces, often in a pile in front of the storefront, whereas the higher quality clothing is hung up in the stores. Despite its lower grade, there is consistent demand for fagi, which is sought after by vendors for purchase and resale.
- **Rags:** Items with the lowest economic value, typically sold at the lowest prices. Unlike fagi, rags exhibit significant wear and tear or damage to the extent that they can no longer be used as clothing. Rags, particularly those with high absorbency, are primarily sold individually to consumers or in bulk sacks to industries for cleaning purposes.
- **Waste:** Some waste was found to arise at this unbaling and sub-categorisation stage. Waste items are usually beyond repair or reuse and are typically disposed of.

Figure 4 depicts the grading and sub-categorisation. Rather than mixing grades, traders tend to focus on a single grade, particularly for the vendors versus retailers: 61% versus 39%. Interestingly, the data indicated fagi is bought and resold within Owino Market as individual pieces or re-baled: 12% of retailers purchase fagi-grade bales and 14% of vendors, who purchase individual pieces, specifically purchase fagi items for resale.

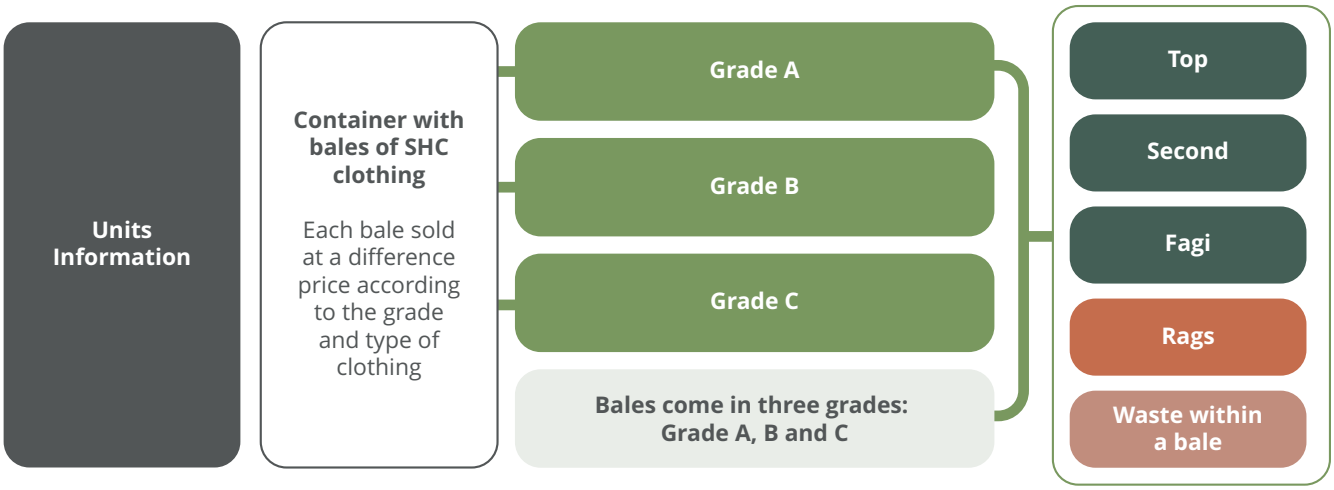


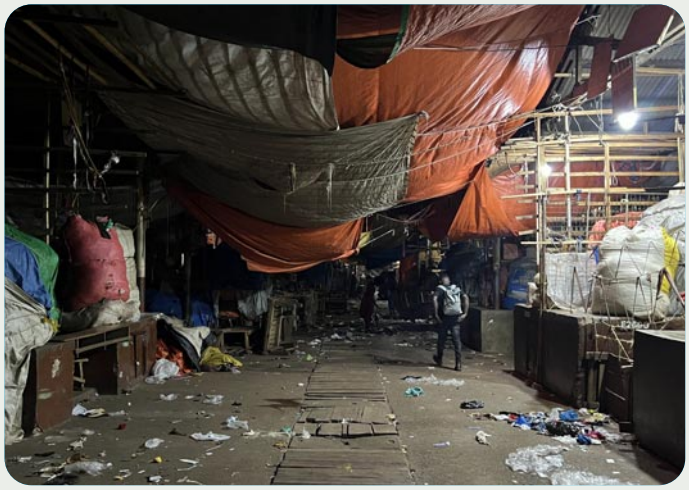
Figure 4 Diagram summarising how grade imports are sub-categorised upon opening. Note that items sub-categorised as fagi may be re-baled for sale or sold as individual pieces.

Avoiding waste through stock management

To understand where waste is arising, 891 retailers and vendors were surveyed about their unsold stock as this could be a potential source of waste. Whilst 13.4% (119 respondents) reported no strategy for inventory management, as all residual items are sold, the vast majority were unable to sell all their inventory. For those with residual items, the primary strategy to manage this unsold inventory, cited by 75.8% of respondents, is to offer discounts on items that have remained unsold for an extended period and 6.2% store items for future sale e.g. in high season such as December to sell at higher prices during peak market demand. The study highlights that even unsold items can be used by someone and sold or donated at some point, resulting in little waste.

For those who stated they had residual items (772 retailers and vendors), they were asked about the characteristics of discarded textile pieces lacking reuse options, marketability or economic value.

54.8% of traders reported that even after implementing inventory management strategies they are left with pieces they cannot sell, usually because the clothing is torn, appears old, is faded, stained beyond repair or has another fault. These items are typically disposed of as waste.



Second-hand clothing bale distribution

683 participants of the 910 surveyed were able to provide insights on the distribution of pieces within a bale according to the sub-categories of first, second and fagi (classed together as items for reuse), rags and waste (figure 5). Responses were often given as a range, thus a low and high range is given in the table to reflect this.

Looking specifically at waste within a bale, this was estimated to be 0.9-1% of the total number of pieces within a bale. In real terms this equates to 800,000 kg per year.

Distribution of pieces within a bale (non-grade specific)

	Low Range	Percentage	High Range	Percentage
Reuse	113,423	96.7%	118,697	96.5%
Rags	2,779	2.4%	3,185	2.6%
Waste	1,055	0.9%	1,178	1.0%
Total Pieces	117,257		123,060	

Figure 5 Distribution of pieces within a bale, based on bale-content estimations by survey participants

OBJECTIVE C:
Understanding Owino Market waste management practices and textile waste characteristics

Under the Market Act, Part V, Section 23 by the Ugandan Government, locations are allocated for waste disposal. Kampala Capital City Authority (KCCA) is responsible for waste collection and market cleaning, engaging 46 casual workers to do so. Designated roadside waste disposal locations in Owino Market mainly contain organic waste deposited directly on the ground by cleaners and traders which is then shovelled onto trucks for removal to landfill. Once the market closes formal waste cleaners and five confirmed informal textile waste collectors collaborate to manage the market's waste. The researchers established that formal cleaners remove circa 69% of the waste which is mixed textiles and organics, with the remainder – the uncontaminated textile waste, largely offcuts – collected by the informal collectors who operate in areas with high concentrations of tailors and then sell or use it for other purposes such as furniture and pillow stuffing, or more detrimentally burnt as fuel. Textile offcuts can be purchased from informal collectors or directly tailors, with prices varying based on whether the material has been pre-sorted.

Volume of textile waste generated from Owino Market

Examining the waste sacks of uncontaminated waste collected by informal collectors revealed that a total weight ranging from 14,535-16,915 kg per week or 755,820-879,580 kg annually (based on limited spot checks over a few days). The fact that the waste consists almost entirely of textile offcuts of differing sizes and a mix of fibre compositions has implications for reuse options. The quantities of contaminated textile waste was not explored further, as this has extremely limited reuse options.

As established earlier, the 0.9-1% of waste arising directly at the time of opening bales equates to 800,000 kg annually. A more specific inquiry on the waste arising immediately from the bales and how they are disposed of would provide useful information to inform whether and how these can be intercepted and whether this would detract from another reuse initiative already in place.

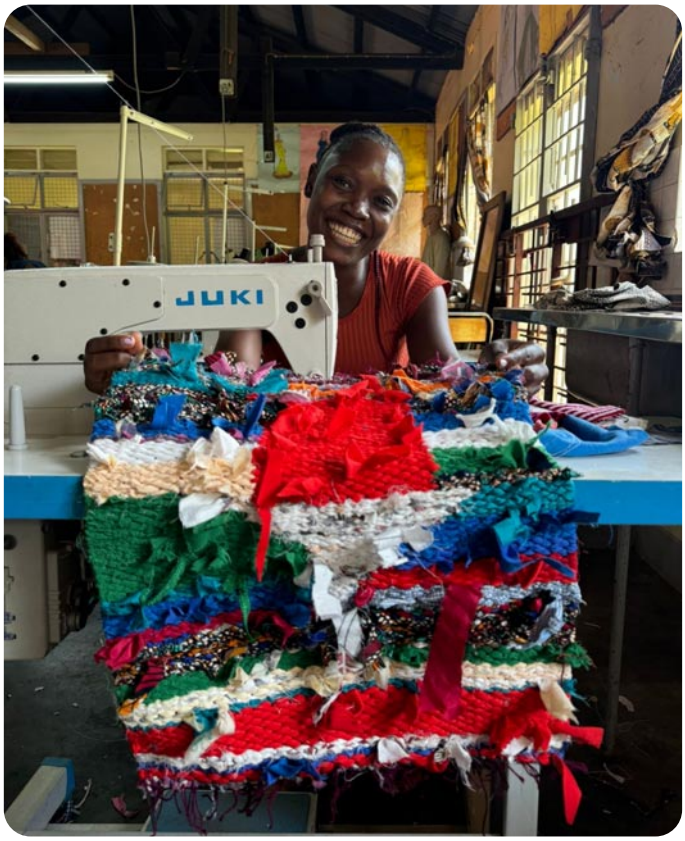
OBJECTIVE D:
Creating solutions to address textile waste generated from Owino Market

A waste sorting pilot based on methods observed in Panipat, India was trialled by the research team with a team of fashion students, art professor, and textile specialists at Kyambogo University. Several bags of textile waste were sourced from Owino Market and sorted by fabric construction (knitted or woven), colour, fibre composition, size, and condition.

Interestingly, the perception of the textiles by those involved in the pilot shifted from being seen as waste to being viewed as raw material after it has gone through the sorting process. The team then created ideas for utilising the material using relatively low-technology sewing equipment. Prototypes were tested, refined based on feedback, and iterated to improve solutions. Various products, including tops, wall hangings, art pieces, floor mats, and table mats, were developed. This is the start of a product catalogue which can continue to evolve with feedback from makers and consumers. In time specialised garneting machines could be acquired to mechanically shred fabrics which can then be spun back into yarn or used in the production of nonwoven fabrics.

Next, the pilot assessed the financial feasibility of using tailor offcuts from Owino Market to create new products whilst minimising waste. Through a series of calculations and assumptions based on the production of items from five bags of textile waste it was possible to calculate a net profit of 17,094 UGX (4.6 USD) per novice per day or 67,265 UGX (17.9 USD) per professional tailor per day. It should be noted that this calculation factors in purchase of textile waste, its overnight storage and transportation, time for sorting, cleaning and preparation, and production. The results are limited in that they don't factor in costs related to accessing space and equipment, tax, etc. Note that the financial feasibility of the planned Textile Reuse Hub was not examined as this was out of scope of the research.

A project to divert waste textiles in Owino Market into reuse would support a reduction in the volumes of waste requiring management, i.e. collection, transfer, management at landfill, dumping and/or burning, and therefore contribute to carbon reductions in the most significant SHC and textile market in Uganda. It would create a move towards a more circular economy as the lifespan of materials is extended.



Conclusion

Owino Market provides livelihood for 50,000 people and serves a huge population through access to affordable clothing. This research on textile waste at the market provides an important snapshot of the SHC flow from import of bales to sale of individual pieces, the waste arising in the process and its management. The study highlights both opportunities and challenges in dealing with the waste arising from a linear market and of transitioning towards a circular textile economy in Uganda, and piloted a sorting and reuse initiative which can return financial gains as well as environmental ones.

The **Uganda Circular Textiles Project** holds the **potential to transform waste into opportunity**. By leveraging local strengths, fostering innovation, and implementing sustainable practices, **Uganda could become a leader in circular textile economy initiatives**. These efforts can reduce landfill reliance, create green jobs, and attract international investment, setting a powerful example for the East African region and beyond.

Urgent collaboration among stakeholders – local governments, policymakers, international donors, and market participants – is needed to act on its findings and recommendations. **With targeted investments like the SMEP project and a shared vision, Uganda can redefine its textile industry for a more sustainable future.**

About

WasteAid UK, Uganda Tailors Association and Management Training and Advisory Centre has been awarded a UK International Development grant in order to implement the project Uganda Circular Textiles: Recovery and upcycling of textile residues to address excessive amounts of unsold and second-hand garments. The grant has been made via the **Sustainable Manufacturing and Environmental Pollution (SMEP) Programme.** The SMEP Programme is funded by UK International Development from the UK Government and is implemented in partnership with the UN Trade and Development (UNCTAD) providing technical support. The grant has been awarded until 31 March 2026.

WasteAid is an international NGO focused on supporting countries to fast track local solutions to the circular economy. It currently has projects in The Gambia, South Africa, Uganda and India, and has previously worked in Cameroon, Indonesia, Kenya and Vietnam.

Management Training and Advisory Centre is a body corporate under the Ministry Trade, Industry and Cooperatives that promotes enterprise development and sound management practices through training, advisory, entrepreneurship development services and business.

Uganda Tailors Association is a non-government organisation that was formed to unite, professionalise and create a common voice for all tailors operating in Uganda.

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Disclaimer

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[i] Ellen MacArthur Foundation. (2017). A New Textiles Economy: Redesigning Fashion's Future.
[ii] UNEP. (2023). Sustainability and Circularity in the Textile Value Chain: A Global Roadmap.
[iii] Hansen, K. T. (2000). Salaula: The world of secondhand clothing and Zambia. University of Chicago Press.
[iv] Wetengere, K. K. (2018). Is the banning of importation of second-hand clothes and shoes a panacea to industrialization in East Africa? African Journal of Economic Review, 6(1), 166029.
[v] Diamond, P. (2023). The Second-Hand Clothing Industry in the East Africa Community. Queen University of London, Commissioned by the Mitumba Consortium Association of Kenya.
[vi] GIZ. (2023). Sector brief Uganda: Waste and recycling. Deutsche Gesellschaft für Internationale Zusammenarbeit.
[vii] Kampala Capital City Authority. (2023). Solid Waste Management Strategy for the Greater Kampala Metropolitan Area. Kampala Capital City Authority.
[viii] Kampala Capital City Authority. (2023). Performance report for cleaning activities in the markets and city abattoir for period 1st to 31st of May, 2024.

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