#BeatPollution

UN environment programme

TRANSFORMING THE TEXTILE INDUSTRY

Learning To Manage Waste, Better

The problem

The textile sector is producing more and more waste every year. With production volumes rapidly rising, the sector is outpacing nature's capacity to provide resources. It is also outpacing the capacity of people to deal with the waste.

Each year, 92 million tonnes of textile waste is generated — or the equivalent of a truck full of clothing incinerated or discarded in landfills every second. In 2023, only **8%** of textile fibres were made from recycled sources, with less than 1% of the total fibre market coming from textile-to-textile recycling. And as global trade in new textiles has grown, the quality of materials has decreased, driven by the increasing use of cheaper, low quality synthetic materials.

As a first step, ensuring a product does not become waste, through reuse or recycling, replaces the need for something new, thus avoiding the impacts from another production process. But once an item has been produced, if value can be recouped before its disposal, this could reduce the product's environmental impacts across its entire life cycle. **Improving the management of waste can therefore alleviate significant material and economic losses**.

Did you know?

The Kenyan textile industry contributes:

14% of national employment

Provides livelihoods for over
2.5 million people

Generates an annual turnover of
USD 564 million

What is InTex?

The InTex programme, part of the UNEP Textile Initiative, works with governments and SMEs in countries where textiles are a key economic driver, encouraging a shift from a linear take, make and dispose process to a more sustainable, circular model. The programme does this by supporting national-level policy changes that enable a shift towards circularity. It also helps companies understand the impact of the resources they are using, spurring them to optimize production processes, reduce environmental harms and change the way they do business. This gives businesses a competitive edge.

The textile industry is one of Kenya's major manufacturing industries and an important pillar of the country's economy. Yet, this is an industry with a big environmental footprint, from its use of land and water to the emissions it generates, as well as its impacts on human health. But positive change is happening, and there is a lot of opportunity for real impact.

By the numbers

To date in Kenya, South Africa and Tunisia

32 SMEs
applied UNEP's eco-innovation methodology

10 LCAs
conducted following the Product Environmental Footprint (PEF) method

230 company representatives
trained in LCA and circularity concepts

5,100 tonnes GHG
emissions savings estimated in Tunisia and South Africa

10% hazardous chemicals
reduction estimated in Tunisia

25% waste
reduction on average

USD 4 million
estimated savings

The environmental and financial impacts are annual estimates, assuming full implementation of the measures identified through InTex.

What SMEs can do

Businesses can implement a range of solutions to better manage waste and lower their environmental footprint. Guided by a Life Cycle Assessment (LCA), when solid waste emerges as a hotspot, meaning an area of high environmental impact and thus where improvements are needed, an SME could for example **adopt zero-waste design techniques** that involve cutting patterns that leave little to no leftover fabric; **switch to digital planning tools**; **contribute to an extended producer responsibility scheme** to increase the collection of post-consumer textile waste; **use recycled materials** in production; and **support investments** in recycling infrastructures.

This was the case for some of the small businesses participating in UNEP's InTex programme, having assessed their environmental impacts by adhering to the European Union Apparel and Footwear Product Category Rules (PEFCR). **This data-driven method** helps businesses identify **targeted ways to reduce pollution** (including reducing their waste) and prioritize implementation of the most impactful solutions.

Shona Factory, October 2023

Did you know?

UNEP InTex helps SMEs lower their environmental impacts through zero-waste design strategies, recycling offcuts, reusing materials, and supporting LCA-based assessments of technologies.

Case study

SHONA team working on InTex

"It was so valuable to have an expert from UNEP help us to see what we could do with our extra fabric, and we are continuing to implement the actions identified in our InTex action plan. Our new processes are reducing our carbon footprint, and we have a new revenue stream."

***Isaac Maluki**, Director of SHONA*

"As Kenya's textile sector grows, we need to address its environmental impacts as a matter of priority. There is so much space to improve, and we have seen firsthand how targeted environmental action can drive effective solutions, which make business sense."

***Prof. Josphat Igadwa of Moi University**, InTex Implementing Partner in Kenya*

Kenyan company gives its textile waste a second life

SHONA is a Kenyan garment and apparel manufacturer founded in 2018 and operating in the Athi River Export Processing Zone. With 650 staff, the business manufactures everything from T-shirts and knitwear to personal protective equipment for the healthcare sector.

A **Product Environmental Footprint** (PEF) study followed by **eco-innovation** analysis of SHONA's products and processes allowed the identification of hotspots with high water and energy consumption as well as off-cuts waste disposal challenges . Targeted solutions were then identified, ranging from acquiring resource management software to developing strategies to reduce internal waste to investing in recycling machinery. Another circular solution involved partnering with other value chain actors to monetize the value of the fibre waste being generated during production, which was largely accumulating on site.

As a result, today SHONA sells its fabric offcuts to local businesses, which give them a second life by transforming them into products such as pillows, mattresses and chairs that are sold to the local community. This can be a game-changer in an industry where scraps are often burned or discarded. **By the end of 2025, the company projects a significant 30% reduction in waste generation**, but they want more: they are looking at **mobilizing capital investment of USD 210,000** to set up water and steam recovery, waste management and recycling systems and upgrade their solar power equipment.

How SMEs benefits

The SMEs that work with the InTex programme receive **trainings and technical support** to calculate their Product Environmental Footprint (PEF) and innovate their business strategy. Through this process, they expand their understanding of how to better manage waste and reduce other environmental impacts through targeted strategies that could also reflect positively on the balance sheets.

InTex assists companies in **shifting their mindset, helping to forge new strategic partnerships and enabling systemic change** through concrete solutions for participating SMEs and, by extension, the sector overall. SMEs also benefit from exposure to international networks and expertise, learning from the latest developments in circularity and sustainability. The programme results show the real-world potential of low-cost sustainability measures in textiles — proving that environmental action and business profitability can go hand in hand.

UNEP's InTex programme, funded by the European Union and the Government of Denmark, works with governments and textile SMEs to reduce the environmental impact of textile products and the way companies do business, using life-cycle approaches.

unep.org/intex

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