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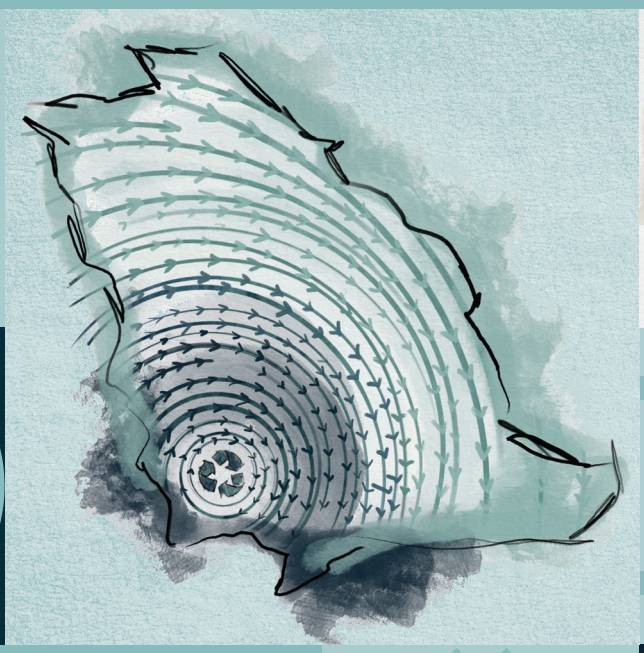
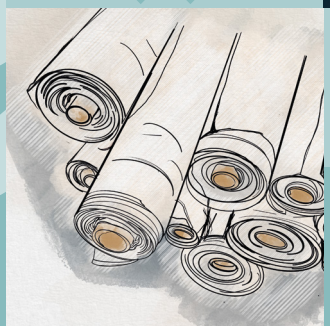
Fashion Commission

Ihram Circularity: Weaving a Greener Hajj and Umrah Experience





Ihram Circularity: Weaving a Greener Hajj and Umrah Experience

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Executive Summary

Saudi Arabia is on a trajectory towards a more sustainable economy and society as part of its Vision 2030; a vision that is putting the country on a new path toward a more diverse economy.

Vision 2030 is being realised through a diverse suite of strategic projects in various sectors including energy, urban planning, housing, tourism, healthcare, and culture. **Sustainability lies at the heart of the vision and the country is working toward achieving carbon neutrality by 2060.**

As part of making Vision 2030 a reality, Saudi Arabia's Fashion Commission, which falls under the Ministry of Culture, has developed seven strategic pillars to align their efforts with the country's vision of a vibrant and sustainable future. One of these pillars is Sustainability. By deepening and strengthening this pillar, the Fashion Commission is aiming to contribute to sustainability and waste reduction within the fashion sector. It is doing so by working with a range of strategic partners to implement sustainable and circular innovations across the textiles value chain.

As Saudi Arabia and the rest of the world strives towards more circularity (as well as carbon neutral economic and social activity), there are profound shifts taking place in how humanity disposes of material possessions.

One of these shifts is taking place in Saudi Arabia, in the holiest city of Islam: Makkah. **Saudi Arabia's journey toward textile circularity is starting in Makkah and involves a study to divert fabric away from landfill.**

The Fashion Commission has partnered with the Saudi Investment Recycling Company (SIRC), the Royal Commission of Makkah City and holy sites (RCMC), ISKO, and Tadweem to undertake a study aimed at recycling Ihrams collected during the Hajj and Umrah. In 2023, 34 tons of Ihrams were collected.

These Ihrams will be recycled into new Ihrams and distributed for re-sale or gifted to help raise awareness about the environmental and social benefits of purchasing products made from recycled materials. There is a viable opportunity to recycle Ihrams and the potential benefits to the environment are significant. This White Paper will unpack the full Ihram opportunity. It is estimated that approximately 100,000 tons of Ihrams will be discarded up to 2030. Recycling these Ihrams could reduce carbon emissions by 615 million tons CO2 eq.

The Fashion Commission currently has several initiatives underway to create a more sustainable textiles value chain and to raise awareness among consumers about how to incorporate sustainability into their everyday lives, such as the Swap Shop initiative. The Ihram Recycling study, led by the Saudi Fashion Commission alongside sustainability partners to study the potential use of Ihram, is another opportunity to circularise the textiles value chain while also raising awareness. A study by RCMC has indicated that currently the willingness by pilgrims to purchase recycled Ihrams is low. This challenge presents as an excellent opportunity for the Fashion Commission and the other stakeholders involved to create positive change while contributing to the country's ambitious target to reduce carbon emissions by 278 million tons per annum by 2030.

In 2023, partners collected

34 tons

of Ihrams during the Hajj season

by recycling these Ihrams, the country could help reduce carbon emissions by

615 million tons CO_2 eq.

Burak Cakmak, CEO of The Fashion Commission, recognises the importance of the consumer to ensure these initiatives are successful.

"We recognise the work it will take to influence consumer behaviour here in the Kingdom. What we want to see are well-informed consumers making smart choices about purchasing and recycling unwanted clothes. If you look at the demographics of Saudi Arabia, most are under 30 years of age. If you can influence this generation, they can have a massive impact on the future of fashion sustainability."

Burak strongly believes that the problem can be solved if tackled together. "We need to help the world understand how important it is to not buy more than you need. We also recognise that our actions affect others. In Saudi, we're connected to the world. Our purchases connect to the global textile value chain. So, it's important to do our part in making this more sustainable for the environment and for all the people involved. We want to be a part of the positive change. It's a global mission – not just a Kingdom mission."

As one journey ends, another begins.

What does the largest Hajj and Umrah on earth and the concept of a circular economy have in common? Simply: walk gently upon the earth. This belief is one of the key teachings of Islam and one that is aligned with the core purpose of designing a circular economy.

Saudi Arabia is on a trajectory towards a more sustainable economy and society as part of its Vision 2030; a vision that is putting the country on a new path toward a more diverse economy. Vision 2030 is being realised through a diverse suite of strategic projects in various sectors including energy, urban planning, housing, tourism, healthcare, and culture.

Sustainability lies at the heart of the vision and the country is working toward achieving carbon neutrality by 2060 [i]. As Saudi Arabia and the rest of the world is striving towards more circularity (as well as carbon neutral economic and social activity), profound shifts are being experienced in how global humanity disposes of its material possessions. One of these shifts is taking place in Saudi Arabia, in the holiest city of Islam: Makkah. Makkah is where Saudi Arabia's journey toward textile circularity has started in order to begin a process of complete diversion of fabric away from landfill.

What exactly is textile circularity and why is it important?

Over 53 million tons of fabric are produced annually across the globe[ii].

The global textile industry accounts for up to 8% of the world's greenhouse gases and 9% of the ocean's microplastic pollution problem[iii]. There is a significant cost associated with the current environmental impact of the textile industry, with 448 million SAR of commercial value at risk given the environmental pressures on the industry globally. 73% of all garments globally are sent to landfill or are incinerated while only 3% are recycled or reused in other products or processes[iv]. This is made worse by the fact that garments are typically only worn seven times before they are discarded[v].

Textile circularity refers to the process of moving from a linear process of "take," "make", "consume" then "waste" to a circular model which aims to reuse, refurbish, remanufacture into other products, or recycle (see Figure 1). The shift towards a circular textiles model has both environmental and economic benefits for Saudi Arabia. First, by supporting the Saudi Green Initiative: by extending the life of textiles and reducing the need for new production, textile circularity helps mitigate the environmental damage associated with the industry, including water use, chemical pollution, and carbon emissions. Diverting textiles from landfills and incineration reduces the challenge of growing waste. Second, by diversifying the economy: circular processes can create new business models, such as textile waste management, textile research and development as well as sustainable material export opportunities.

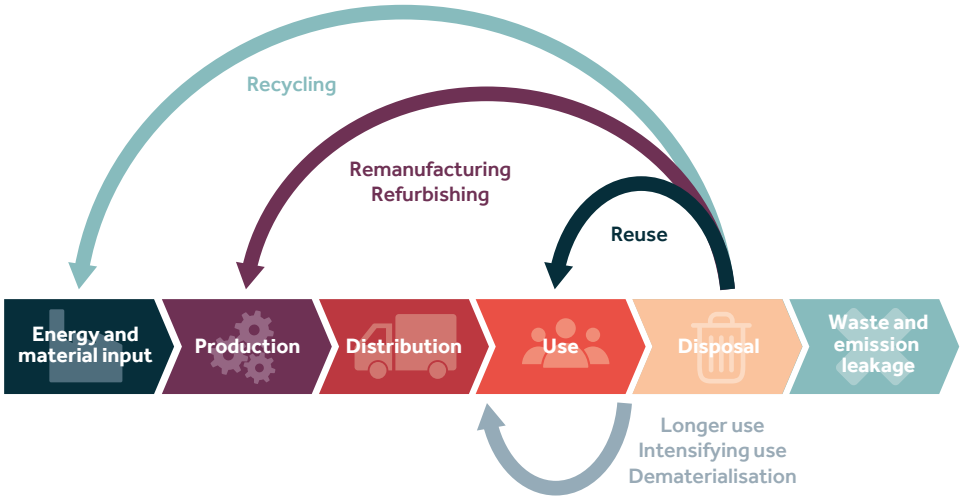

FIGURE 1
Evolving towards a circular textile ecosystem.

SOURCE: GEISSDOERFER ET AL. (2020)[vi]

The global textile industry accounts for up to

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of the world's greenhouse gases and

9%

of the ocean's microplastic pollution problem.

However, the path to a more circular textile ecosystem is not without hurdles. Evidence from global circularity projects have identified several implementation challenges:

- First, technology can limit adoption. Currently, most recycling technology and processes are limited to single-fibre materials, with limited ability to process textiles with blended fibres.
- The second challenge relates to consumer behaviour. People may be slow to recycle or prefer 'new' garments over recycled products, requiring significant investment into awareness campaigns. Circular textiles can be more expensive due to the higher costs associated with sustainable materials and recycling processes. This poses a challenge in convincing consumers to invest in more expensive but sustainable products.
- The third relates to supply chain complexities. The logistics of moving worn garments across borders and between facilities can be challenging, especially if there are regulations and duties on the movement of product cross-borders.
- The fourth significant challenge is scale. The cost associated with textile recycling as well as the enormous volume of textiles to be sorted, recycled, or reprocessed makes scaling up a priority to ensure impact and cost optimisation. Organisations managing study projects thus require a growth strategy and adequate resources to meet the demand for their services or risk not meeting the market's needs.

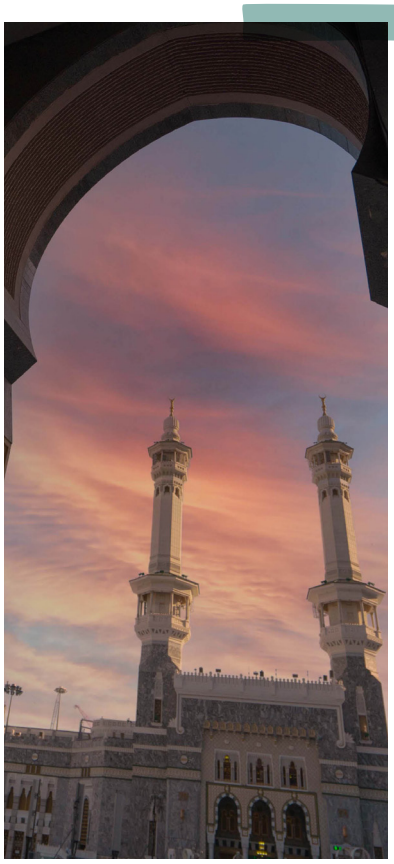
According to the United Nations[vii], key opportunities to overcome these hurdles include investment into waste collection and processing capacity. From a waste perspective, this encompasses collecting and sorting mechanisms such as road-side collection for consumers, collection from factories for pre-consumer waste, sorting infrastructure to separate material types, and managing data on inputs, as well as processing and recycling infrastructure that reflects the waste hierarchy such as reuse and upcycling systems, and then recycling technologies for separating blends, mechanical recycling mechanisms or low-impact chemical recycling mechanisms.

The symbols of the Ihram

In Makkah, pilgrims from around the world come to undertake Hajj and Umrah.

During their Hajj and Umrah journey, male pilgrims wear two pieces of white, unstitched cloth: one worn around the waist and the other around the chest. These pieces of cloth are known as Ihrams, and these serve an important purpose: to have all who undertake the Hajj and Umrah appear equal. In addition to equality, by being plain in appearance and white in colour, Ihrams symbolise humility and peace. Thus, no matter a person's status or position in society, all male pilgrims appear equal. This uniformity also helps create a sense of unity among pilgrims, all striving toward a common goal or purpose as they undertake this Hajj and Umrah that, to many, will be undertaken only once in their lifetime.

For female pilgrims, a much wider range of attire is permitted, with each country having its own deep and distinctive pilgrim traditions. A white or black Abaya is however the most common form of dress, and, like the Ihrams, the plainness of dress symbolises equality, humility, peace, and purity for all female pilgrims, and this too helps create a sense of unity. Unlike Ihrams, the outer dress of female pilgrims is not used solely for the purpose of the Hajj and Umrah and are therefore not discarded upon completion of the Hajj and Umrah. It is this distinction that has positioned Ihrams as an opportunity for textile circularity.



Quantifying the Ihram circular opportunity

Most Ihrams are made from cotton, but some can be made from other materials such as lyocell (a kind of fibre made from wood pulp) or bamboo. Synthetic fibres such as polyester are also widely used.

Importantly, Ihrams are not complicated in their design with each item typically comprising only a single fibre type, or a blend of two. This is an important consideration for recycling, since a fabric with fewer fibre types is

easier it is to recycle (with fewer steps needed to separate the fabric types). Each Ihram typically comprises two meters by one meter of either woven or knitted fabric.

The Ministry of Hajj and Umrah estimated that 1.8 million pilgrims undertook the Hajj in 2023, of which one million were men[viii]. This meant that at least 4 million square meters of Ihram fabric was worn, assuming that one set is used per man. At an average weight of 280 grams per square meter, this volume would have equalled a substantial 1,120 tons of fabric used during the Hajj season. If one includes the 6.5 million men expected in 2023 for Umrah (RCMC estimated that 12 million pilgrims undertook Umrah in 2023), this quantity reaches close to 30 million meters of fabric weighing over 8,000 tons for the ~14 million Hajj and Umrah pilgrims in 2023 (refer to figure 2 and 3).

The vast quantities of fabric presented in figure 3 indicate that any diversion from landfill would significantly contribute to the creation of a more circular textiles value chain in Saudi Arabia. As the country prepares for substantive growth in the number of Hajj and Umrah pilgrims over the coming years, the corresponding increase in the number of Ihrams worn will be equally substantial. The Ministry of Hajj and Umrah is aiming to increase its capacity to host 30 million Hajj and Umrah pilgrims annually by 2030[ix]. This represents a CAGR of 12% per annum and a doubling of pilgrims over the eight-year period (see Figure 2). Based on the growth of pilgrims, the quantity of Ihrams would reach close to 65 million meters and weigh more than 18,000 tons by 2030 (refer to figure 3). Should the Ministry of Hajj and Umrah increase capacity to 30 million Hajj and Umrah pilgrims by 2030, the total cumulative Ihram fabric use would equate to a staggering 379 million meters and 100 000 tons of Ihram fabric. This is enough fabric to encircle the globe 9.5 times and would weigh more than six times that of the Statue of Liberty.

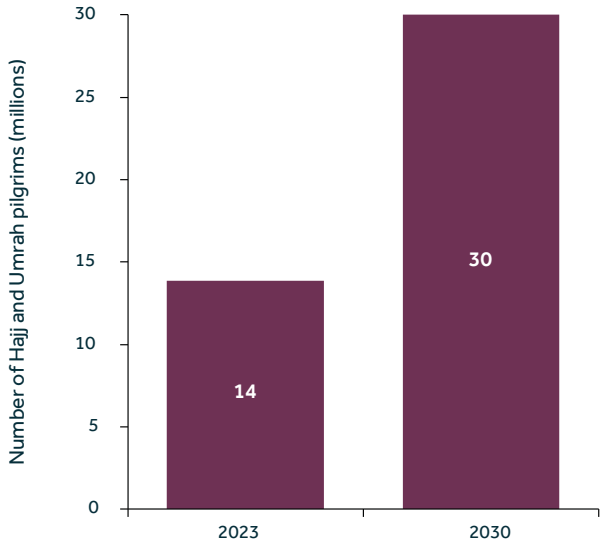


FIGURE 2:

The predicted increase in the number of Hajj and Umrah pilgrims 2023 to 2030.

SOURCE: 2023 DATA SOURCED FROM THE GENERAL AUTHORITY FOR STATISTICS (2023) AND INSIGHTS GAINED FROM A DIRECT INTERVIEW WITH THE ROYAL COMMISSION FOR MAKKAH CITY AND HOLY SITES (2023);

2030 TARGETS SOURCED FROM THE KINGDOM OF SAUDI ARABIA VISION 2030 [X].

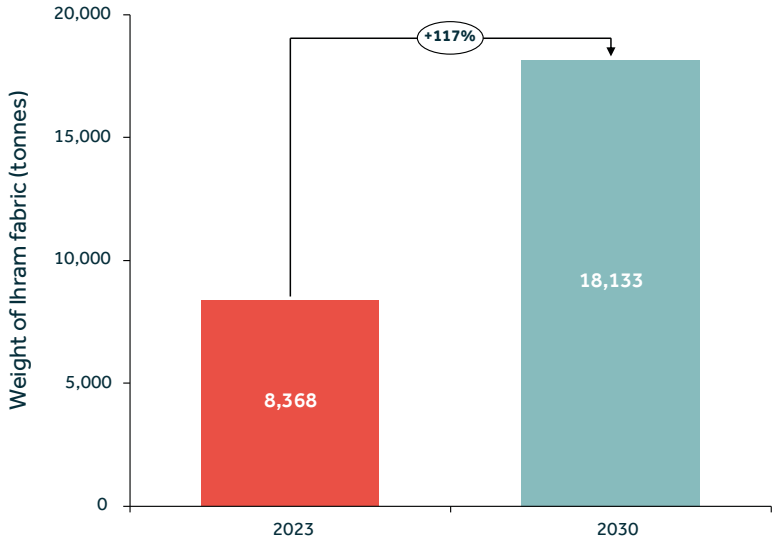


FIGURE 3:

Predicted growth of fabric worn during Hajj and Umrah from 2023-2030

SOURCE: WEIGHT PER IHRAM PACK SUPPLIED BY HAJJ ESSENTIAL (2023).

2023 WEIGHT EXTRAPOLATED USING HAJJ AND UMRAH PILGRIM NUMBERS SUPPLIED BY THE GENERAL AUTHORITY FOR STATISTICS (2023) AND INSIGHTS GAINED FROM A DIRECT INTERVIEW WITH THE ROYAL COMMISSION FOR MAKKAH CITY AND HOLY SITES (2023).

2030 WEIGHT EXTRAPOLATED FROM VISION 2030 PILGRIMAGE TARGETS [XI].

Greening the future with Ihrams

During the 2023 Hajj season, a total of 336 jumbo Ihram recycling bins were distributed throughout 118 camps in Mina Valley, as part of a study to divert Ihrams destined for landfill.

Through this study, the Ihram Recycling study collected 34 tons of discarded Ihrams during the 2023 Hajj season. Alongside the Fashion Commission, this project has several partners and stakeholders including **SIRC, RCMC, ISKO and Tadweem**, and forms part of a study that began in June 2023. The purpose of the study is to evaluate the feasibility of establishing textile recycling facilities in Saudi Arabia.

The Fashion Commission and the other stakeholders involved in the Ihram Recycling Project see the present exporting of recyclable materials as a localisation opportunity within Saudi Arabia and want to be a part of the positive change process. The Ihram recycling study makes sense as a process to test the feasibility of such an undertaking. Ihram material can be collected at scale from a relatively small area (Makkah), and the recycling process itself is relatively simple due to the nature of the fabric being collected: white in colour and mostly cotton. This means that recycling Ihrams into other products, whether into new Ihrams, or high-quality towels, carpets, or blankets, is relatively simple. The simplicity and consistency of the mainly cotton fabrics is ideal for recycling.

The partners involved in this study project are varied and strategic.

SIRC is the largest industrial waste management company in the Gulf Cooperation Council (GCC), and is aiming to recycle 81% of the 3.4 million tons of Riyadh's yearly municipal waste by 2035[xii].

Nationally and over time, SIRC has even bigger ambitions, to ultimately divert 100% of municipal waste from landfill by 2035 as it strives to create a truly circular and more sustainable economy in Saudi Arabia[xiii]. SIRC recognises that the volume of textile waste in Saudi Arabia is substantial, and was estimated to be 500,000 tons in 2021. This textile waste comprised mostly polyester (47% of waste) and cotton (23% of waste). Textile waste represents around 1% of municipal waste in Saudi Arabia and therefore is considered to hold significant potential for textile recycling opportunities.

Another partner in the Ihram Recycling Project is **Tadweem**, an organisation based in Jeddah that collects and sorts discarded clothes and textiles, preparing them for recycling or repurposing. The firm is closely connected to the circular textile ecosystem in Saudi Arabia and has collected Ihrams before.

The organisation operates in 12 cities across Saudi Arabia and their central sorting factory is based in Jeddah. It was founded in 2022 by Ali Bakhalgi who is also the company's CEO. Discarded items are collected by Tadweem directly from the public (who call Tadweem for collection), or from businesses such as retail stores who have items to donate. Clothing and textiles donated to the organisation are collected and transported to its central sorting facility and it is here where the fate of the items is decided. Clothing items in good condition are either sold through the second-hand market via various brick-and-mortar stores, or online platforms, or donated to the needy through Tadweem's associated organisations and social initiatives. An item in good condition, but not good enough for donating onwards or for re-sale, are upcycled into new products such as bags, blankets, backpacks, and small gifts and then sold. The rest are sold to recycling facilities outside of Saudi Arabia since, currently, there is no textile recycling facility in Saudi Arabia.

The organisation currently collects and sorts 5,000 tons of discarded textiles in Saudi Arabia annually. When reviewing the categories of clothes collected according to quality, 5% are luxury or high-end brands and 30% are first class items that, after some minor treatment, are ready for re-sale. These items are sorted and prepared for resale through initiatives such as

swap shops or donations. Of the remainder, 60% are second class items, items in moderately good condition that are sent abroad to localised resale markets or recycled. 5% are damaged and can only be recycled into yarns and fibres (Figure 4). These items are sorted and prepared to be upcycled into other products locally or shipped overseas for recycling. Supporting the Ihram pilot project was consequently a natural step for Tadweem.

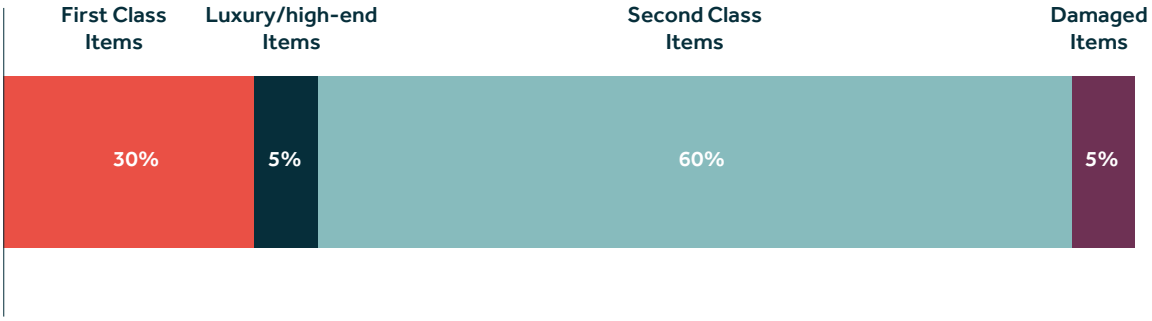


FIGURE 4:

Percentage composition of discarded textiles in Saudi Arabia annually

SOURCE: TADWEEM (2023)

Tadweem was responsible for the collection and sorting of Ihrams over the course of the study. In 2022, Tadweem together with the National Center for Waste Management, collected Ihrams as part of another recycling initiative and therefore Tadweem was well placed to be included as part of the 2023 Ihram Recycling study. Recycling bins were distributed, awareness was raised before the Hajj began, and Ihrams were collected at the end of the Hajj season. These Ihrams were then transported to Tadweem's central sorting facility in Jeddah where they were cleaned and sterilised and prepared for shipment to a recycling facility. When the pilot reaches the stage where the Ihrams will be ready for recycling at an international recycling facility as a first step in the recycling process, the Ihrams will be broken down into their base cotton fibres. After their separation, the cotton fibres are spun into yarns. The next step, which is to convert the recycled yarns into a fabric or an alternative product, depends on what products are required, whether mats, backpacks, or in the case of this study, recycled Ihrams.

The Ihram Recycling Project collected

34 tons

of discarded Ihrams during the 2023 Hajj season.

ISKO operates using over

26%

renewable energy sources, further reducing the carbon footprint of the recycled Ihrams. Currently they process around 80 kilotons annually.

ISKO, another stakeholder in the Ihram Recycling study, is a subsidiary of SANKO Holding that is based in Turkey. It is a denim and fabric manufacturer that has 300 million meters of annual production capacity. SANKO Holding has been in business for over 100 years and has textiles at the core of the business. Their inclusion in the Ihram Recycling Project is aligned with the company's ambition to make circular production a reality, with further major investments in textile recycling planned. ISKO processes are contained under one roof helping to minimise transportation of materials throughout the recycling process thereby helping to keep the carbon footprint of this study to a minimum. ISKO also operates using over 26% of energy supplied through solar and renewable energy sources, further reducing the carbon footprint of the recycled Ihrams. Currently ISKO process around 80 kilotons annually. Their production is likely to increase to 200 kilotons by the end of 2024 and to 1 million tons of textile recycling by 2030. If this goal is indeed realised, then the future for global textile circularity will be bright.

The full Ihram opportunity

The 34 tons of Ihrams collected from the pilot study were from jumbo recycling bins that covered only 15% to 20% of the total number of camps in Mina Valley.

Tadweem estimated that if distribution of the bins was comprehensive, including all camps, up to 227 tons of Ihrams could have been collected over the Hajj in 2023. It is estimated that up to 1,120 tons of Ihrams were worn during the Hajj, which would indicate that roughly 1 in 5 male pilgrims with access to the recycling bins donated their Ihrams. This suggests a significant opportunity to increase the number of recycled Ihrams through appropriate awareness campaigns - not only during the Hajj season but throughout the entire year.

According to a study assessing the carbon footprint of textile waste[xiv], diverting the discarded textiles from landfills and recycling would save close to 5,800 kg of CO_2 eq.[1] per ton (textile landfills emit 430 kg CO_2 equivalent per ton, products made from primary sources emit an average of 6,500 CO_2eq per ton, while the textile recycling process emits only 1,142 kg CO_2 eq. per ton). The full Ihram opportunity to recycle 100,000 tons by 2030 would equal a reduction of 615 million kg CO_2 eq. (Figure 6).

Through the Saudi Green Initiative the country is targeting a carbon emission reduction of more than 278 million tons per annum by 2030[xv]. If the carbon emissions saved from this single Ihram recycling initiative were accumulated over a single year, this would contribute 0.2% toward the Vision 2030 objective.

[1] CO_2 equivalent, abbreviated as CO_2eq is a metric used to compare the emissions from various greenhouse gases on the basis of their global-warming potential, by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential.

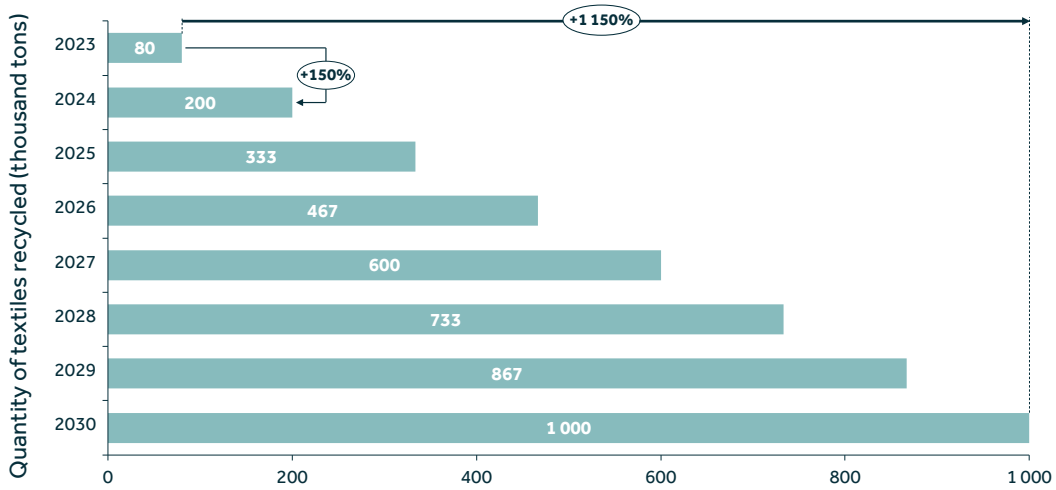


FIGURE 5:

Reduction in CO2 eq. emissions by diverting Ihrams away from landfill and having these items recycled.

SOURCE: WEIGHT PER IHRAM TOWEL SUPPLIED BY HAJJ ESSENTIAL (2023) AND EXTRAPOLATED USING PILGRIM NUMBERS SUPPLIED BY THE GENERAL AUTHORITY FOR STATISTICS (2023), CONVERTED INTO CO2 EQ. EMISSION REDUCTIONS FOR TEXTILES FROM ESPINOZA PÉREZ ET AL (2022).

What to do with the Ihrams becomes the next important question. This is a question that the Fashion Commission and other stakeholders are already taking into careful consideration. As part of this pilot study, partners are ultimately aiming to recycle Ihrams into new Ihrams for sale, and also to gift, as part of an awareness campaign to garner support for recycled Ihrams. A separate study conducted by RCMC on the willingness by Hajj pilgrims to use recycled Ihrams provided valuable insights into the demand for recycled Ihrams. Pilgrims surveyed in the RCMC study indicated they would prefer not to purchase recycled Ihrams, but rather ones made from virgin (unrecycled) materials. The reasons behind their views came down to pilgrims preferring to use a new item for a piece of clothing that is going to be worn directly against their skin. To buy a recycled, or second-hand garment, even if cleaned and sanitised, feels inappropriate for pilgrims. This research conducted by RCMC shows that pilgrims, at least for now, are more interested in purchasing new Ihrams. This highlights the importance of an awareness campaign that will be conducted by the Fashion Commission and its partners.

Should the market be interested in recycled Ihrams in the near future, then the logistics around their distribution would require careful consideration. As pilgrims travel to Jeddah and onwards to Makkah to begin their Hajj and Umrah, many take their flights already wearing their Ihrams. According to RCMC, this number could be as high as 70%. Indeed, all pilgrims must be in the state of Ihram before crossing either of the five stations of Miqat on their way to Makkah. What does this mean for recycled Ihrams? Careful consideration must be given to their distribution to allow pilgrims both from Saudi Arabia and abroad to purchase recycled Ihrams outside of the designated Miqat, especially if the intention is to recycle these within the boundaries of Makkah City. Transportation and logistics are known to be heavy contributors to carbon emissions globally[xvi]. But as a result of the deep commitment by all stakeholders in the Ihram Recycling Project, it is clear that these challenges can be overcome.

The next frontier

The biggest opportunity for recycling in Saudi Arabia is from post-consumer textile waste.

Discarded textiles come in two forms: pre-consumer and post-consumer. Pre-consumer textile waste is generated during the manufacturing processes, so before a garment is sold. This could, for example, be denim off-cuts made when denim is cut from fabric rolls before being stitched, and these portions of the fabric are then discarded. While Saudi Arabia is presently expanding its manufacturing capabilities, it is off a low base, and as such, at least for now, the opportunity for circularity using pre-consumer feedstock is small. Post-consumer textile waste is generated when unwanted textile items such as clothes and household textiles that have previously gone through a point of sale are discarded. In the absence of a recycling facility, these items are either incinerated or sent to landfills. Saudi Arabia's textile value chain is currently dominated by its large retail segment and a substantial opportunity for textile circularity consequently lies with discarded post-consumer items.

Discarded items are sorted according to the next step in the circularity cycle depending on their condition: either they can be re-used, or if too damaged, they are prepared for recycling. These items for recycling, whether clothing or other types of textile-based products, comprise different fibres and blends of fibres. Before they can be recycled, these garments need to be sorted according to their fabric composition. They can then undergo the next step of the recycling process since this can differ depending on the composition of the fabric. Sorting garments into their composition is not easy to do using the naked eye, and undertaking the process accurately is essential to producing a premium quality product at the end of the recycling process. For this reason, ISKO is looking into optical-based Artificial Intelligence (AI). AI allows accurate sorting at scale. This technology together with skilled workers could have the capability to sort textiles rapidly and accurately according to their composition.

Recycled products are often perceived to be of lower quality than virgin products when this needn't be the case. Using available technologies, it is, however, possible to produce pure and premium quality recycled cotton fibres and recycled polyester fibres.

In terms of recycled Ihrams, there exists a window of opportunity for awareness campaigns focusing on cleaning up the image of recycled garments, as well as the potential for the broader use of recycled Ihram fabrics into products considered at this early stage to be more appropriate, such as prayer mats and fillings for pillows and mattresses.

Can recycled goods be cost-competitive against virgin products? Not in the short term. The process to get to pure cotton fibres from used materials is a multi-step process depending on the type of material used as original feedstock (whether cotton or cotton-polyester blends) and its colour. Cotton blends require thermo-chemical separation of the cotton fibres and other mechanical processes, as well as decolourisation if needed. These processes are costly. One strategy is to source feedstock as cheaply as possible to bring down the cost of the final recycled product. To any consumer assessing a purchase on the price point alone, their decision on whether to buy a recycled product or one made from virgin materials will not therefore be a difficult one. Key is to produce recycled products that at the very least match the price point of virgin material products.

Critical is the type and cost of the feedstock and the technology needed to recycle it. Ihrams are mostly cotton and always

white, so they are easier to process, making them ideal for the initiation of textile circularity projects.

The size of the circular opportunity in Saudi Arabia is vast, with approximately 500,000 tons of textile products being discarded annually, based on SIRC's estimates. According to Tadweem, only a small portion of this is collected for export; around 80,000 tons annually. This is positioned against a backdrop of 200,000 tons of new clothes being imported into Saudi Arabia annually, indicating a high- volume pipeline for continuous unwanted clothes, and presenting a major opportunity for circularity in the textile value chain in Saudi Arabia.

Exporting of used clothes represents a lost value of around SAR 250 million, estimated by Tadweem, which could be benefitting local businesses if recycling was undertaken in the Kingdom. Adding discarded post-consumer textiles to the overall fabric base available for recycling in Saudi Arabia shifts the scale of the opportunity even further. This is the end goal: ensuring Saudi Arabia as a nation "walks gently on the earth" on its path towards Vision 2030 and beyond. With a highly ambitious and creative nation behind this Vision, there is no doubt that this will be achieved.

Estimated by Tadweem, the exporting of used clothes represents a lost value of around

SAR 250 million.

Going full circle

At the time of publication, Saudi Arabia is at the halfway point for delivery of Vision 2030.

As part of making Vision 2030 a reality, Saudi Arabia's Fashion Commission, which falls under the Ministry of Culture, has developed seven strategic pillars to align their efforts with the country's vision of a vibrant and sustainable future. One of these pillars is Sustainability. The Commission realises that the future of the rapidly emerging textiles value chain in Saudi Arabia needs to be built on deep sustainability foundations, covering all three elements of the sustainability challenge. These range from using renewable and/or recyclable materials; to ensuring all stakeholders through the value chain benefit from a range of value adding activities; and finally, securing sustainable economic returns for firms involved in the chain. By deepening and strengthening this pillar, the Fashion Commission is aiming to position Saudi Arabia as a global leader in sustainability. The Commission is therefore working with strategic partners to implement sustainable and circular innovations across the textiles value chain.

The Fashion Commission is committed to ramping up efforts to divert pre-owned clothes away from landfill. Their initiatives include the hugely successful **Swap Shop** where consumers can bring and swap their good quality pre-owned clothes and accessories[xvii]. The events in Riyadh have been hugely successful over the past three years, leading to the event now being scheduled to take place in Jeddah by popular demand. In 2022, the Swap Shop attracted 1,300 visitors and saw 5,500 garments and accessories swapped. In 2023, this grew to 1,500 visitors and 7,150 items. In addition, there are plans to roll-out clothing donation and recycling bins in shopping malls across the Kingdom. These clothing bins will allow consumers to bring in unwanted clothes in exchange for a reward such as a shopping voucher.

References

[i] Kingdom of Saudi Arabia (2016). A Sustainable Saudi Vision. https://www.vision2030.gov.sa/v2030/a-sustainable-saudi-vision/

[ii] GreenCape (2023). Textile recycling and fibre recovery industry brief. https://greencape.co.za/wp-content/uploads/2023/06/Textile-recycling-and-fibre-recovery_industry_brief.pdf

[iii] United Nations Environment Programme (2023). Sustainability and Circularity in the Textile Value Chain- A Global Roadmap 2023. https://www.oneplanetnetwork.org/knowledge-centre/resources/sustainability-and-circularity-textile-value-chain-global-roadmap

[iv] GreenCape (2023). Textile recycling and fibre recovery industry brief. https://greencape.co.za/wp-content/uploads/2023/06/Textile-recycling-and-fibre-recovery_industry_brief.pdf

[v] Fashion Takes Action (2023). Circularity in Fashion. https://fashiontakesaction.com/circularity/

[vi] Geissdoerfer, M., Pieroni, M.P., Pigosso, D.C. and Soufani, K. (2020). Circular business models: A review. Journal of Cleaner Production. 277: 123741. https://backend.orbit.dtu.dk/ws/portalfiles/portal/222423121/1_s2.0_S0959652620337860_main.pdf

[vii] United Nations Environment Programme (2023). Sustainability and Circularity in the Textile Value Chain- A Global Roadmap 2023. https://wedocs.unep.org/xmlui/bitstream/handle/20.500.11822/34948/MPN.pdf

[viii] General Authority for Statistics, Kingdom of Saudi Arabia (2023). Total Number of Pilgrims in 1444 H Reaches (1,845,045). https://www.stats.gov.sa/en/news/464

[ix] Reuters (2023). Saudi Arabia to host pre-pandemic numbers for 2023 haj pilgrimage season. https://www.reuters.com/world/middle-east/saudi-arabia-host-pre-pandemic-numbers-2023-haj-pilgrimage-season-2023-01-09/

[x] Reuters (2023). Saudi Arabia to host pre-pandemic numbers for 2023 haj pilgrimage season. https://www.reuters.com/world/middle-east/saudi arabia-host-pre-pandemic-numbers-2023-haj-pilgrimage-season-2023-01-09/

[xi] Reuters (2023). Saudi Arabia to host pre-pandemic numbers for 2023 haj pilgrimage season. https://www.reuters.com/world/middle-east/saudi-arabia-host-pre-pandemic-numbers-2023-haj-pilgrimage-season-2023-01-09/

[xii] Waste and Recycling (2019). Riyadh unveils new integrated waste management and recycling plan. https://www.wasterecyclingmea.com/news/waste-management/riyadh-unveils-new-integrated-waste-management-and-recycling-plan

[xiii] Al-Kinani, M (2021). Saudi Arabia's war on waste: New refuse management system to handle 106 million tons by 2035. https://arab.news/rzemh

[xiv] Espinoza Pérez, L.A., Espinoza Pérez, A.T., Vásquez, Ó.C (2022). Exploring an alternative to the Chilean textile waste: A carbon footprint assessment of a textile recycling process. Science of The Total Environment 830. https://doi.org/10.1016/j.scitotenv.2022.154542

[xv] Kingdom of Saudi Arabia Vision 2030 (2023). Saudi Green Initiative. https://www.vision2030.gov.sa/v2030/v2030-projects/saudi-green-initiative/

[xvi] United Nations Environment Programme (2022). Emissions Gap Report 2022: The Closing Window — Climate crisis calls for rapid transformation of societies. Nairobi. https://www.unep.org/emissions-gap-report-2022

[xvii] Arab News (2023). Saudi Fashion Commission to host third Swap Shop event in Riyadh. https://www.arabnews.pk/node/2277626/saudi-arabia

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