



Opportunities for cannabis in Cape Town's textiles value chain

2 of 3

Investment opportunities for cannabis in Cape Town

1. Pharmaceutical industry

2. Textiles

3. Construction material



Main Insights

- Globally, the cannabis sector is growing, currently valued at \$51.28 billion in 2023 [1].
- In South Africa, recent policy and regulatory changes create an enabling environment that is opening up local opportunities for investment and job creation within the sector. In his State of the Nation address, President Cyril Ramaphosa indicated the sector could be worth R406 billion by 2026.
- In Cape Town, and more broadly in South Africa, one of the key opportunities for investment in the sector, lie within the textiles value chain.
- Hemp can be used as a substitute raw material in textiles, replacing less sustainable plant fibres such as cotton.
- There are opportunities to invest in the primary production of hemp, which generates more revenue per hectare than other plant fibres, and can be sold to local or international markets.
- There are also opportunities to invest in the mid-stream processing and spinning capacity of hemp textiles. There is a growing demand for locally-sourced hemp textiles from retailers
- Cape Town is well-positioned to become a hemp textile processing hub. It is already home to a number of hemp apparel businesses and most head offices of major national clothing retailers, enabling a vertically-integrated value chain.
- As the hemp sector is nascent in South Africa, it faces a number of barriers. Primary producers face unclear local markets and off-takers, while processors are hesitant to invest without consistency of supply and volumes (that unlock economies of scale).
- To reduce these barriers, investors in the primary production of hemp fibres, can initially focus on export markets, until South Africa has scaled up investment in hemp fibre processing.

This document is one of three sector-specific briefs that highlight opportunities for investment in the industrial hemp value chain in Cape Town and South Africa. This brief is written for:



Investors interested in the sector-specific opportunities for industrial hemp in Cape Town and South Africa.



Retailers looking to learn more about the advantages of procuring hemp products.



Cities looking to boost their textile manufacturing capacity.



Context

Hemp is a non-psychoactive varietal of cannabis, and it can be used in a number of different industries, such as textiles, construction materials, plastics etc. In recent years, hemp has grown in popularity as a more sustainable input, particularly because of its agricultural benefits in comparison to other industrial crops. South Africa is particularly well-placed to take advantage of this interest in hemp, as the climate is well-suited for its cultivation. President Cyril Ramaphosa stated that unlocking South Africa's cannabis industry could create more than 130 000 new jobs

and be worth R406 billion by 2026. However, in order to reap the full benefit of this crop, South Africa must invest in localising full value chains for greater value-add as well as job creation.

One such identified value chain is textiles. There have been a number of industry efforts to revitalise the textile value chain, particularly in Cape Town. The manufacturing of hemp textiles could not only satisfy local demand that is currently being served by imports, but also supply a growing export market.

1. South African textiles sector overview

1.1 Fibre production in South Africa

Fibre consumption in SA is aligned to global consumption when it comes to cotton and synthetic fibres, as seen in **Figure 1**. Cotton accounts for 22% of fibres consumed in SA; however, other natural fibres such as wool, jute, and mohair account for an additional 12%, double the market share seen globally.

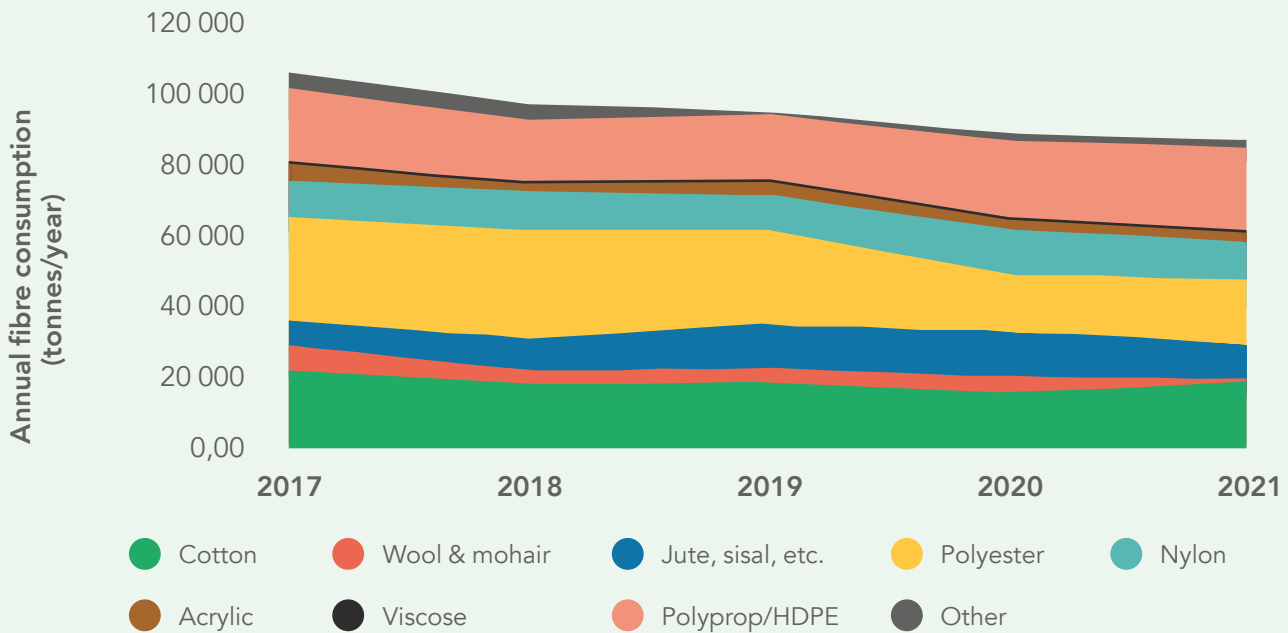


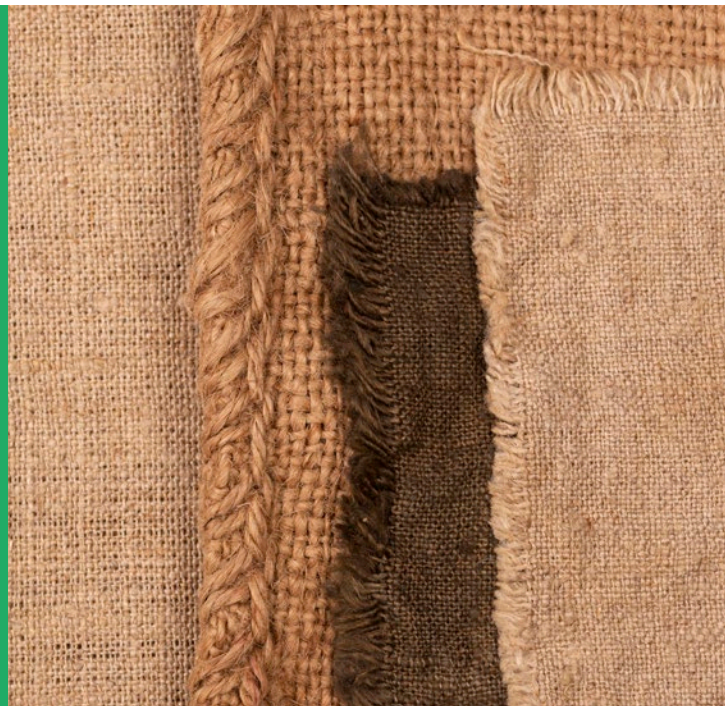
Figure 1: Annual fibre consumption in South Africa [2]

In 2021, seed cotton, kenaf and sisal were the main fibre crops under production in SA. However, changes in regulations could see hemp production increase significantly. Before 2021, hemp cultivation for commercial purposes was generally prohibited. In 2021, the Department of Agriculture, Land Reform and Rural Development (DALRRD) declared hemp an agricultural product under the “Plant Improvement Act 53 of 1976” and established the application framework for obtaining permits to commercially cultivated hemp. Since then, 397 hemp permits have already been issued nationally – 20 of which are in the Western Cape¹.

1.2 Textile production in South Africa

The clothing, textiles footwear and leather (CTFL) industry makes up around 14% of manufacturing employment in South Africa and generated revenue of R19 billion in 2018 [3]. In the early 1990s, South Africa once had a thriving textile and garment manufacturing sector that was reduced by low cost Chinese imports in the early 2000’s. In recent years, national government has invested in various programmes that seek to revitalise the industry and produce products that can be globally competitive.

¹ These are the number of permits issued as of 7 March 2023.



1.3 Hemp as a textile

1.3.1 Hemp textile products

Although touted as a sustainable fibre crop alternative to cotton, the physical characteristics of hemp textiles do differ from those of cotton. **Table 1**, below, highlights some of the characteristics of hemp fibres, particularly as a textile.

Table 1: Characteristics of hemp textiles

Common textile products	<ul style="list-style-type: none">• Textiles: Apparel; diapers; handbags; working clothes; denim; socks; shoes; fine textiles (from cottonised fibres).• Technical textiles: Twine; rope; nets; canvas bags; tarps; carpets; geotextiles.
Hand-feel	<ul style="list-style-type: none">• Coarse hand-feel, similar to canvas.• Requires further mechanical processing (i.e. cottonisation) to manufacture a softer yarn.
Wearability	<ul style="list-style-type: none">• Excellent breathability.• Mould- and mildew-resistant.• High UV protection attributes.• Easy to crease/wrinkle.• Less stretch than other fibres.
Physical properties	<ul style="list-style-type: none">• One of the strongest natural fibres.
Dyeing requirements	<ul style="list-style-type: none">• Low lignin levels enable environmentally friendly bleaching without the use of chlorine• Doesn't hold dye as strongly as other fibres.

Whilst globally, the majority of fibres are used in the manufacturing of garments such as trousers, shirts, socks etc., the coarse hand-feel of hemp fibres and physical strength in comparison to most other natural fibres, makes it well suited for industrial applications and as such, the majority of hemp fibres are manufactured into technical textiles [4]. However, hemp fibres can be processed further, in a step called cottonisation, which produces finer, but weaker fibres that can be spun by itself or with other natural fibres such as cotton to produce a softer fabric [5].

Processors looking to produce hemp fibres for technical applications would need to use spinners and weavers specifically for hemp, since these fibres require specific mechanical manipulation. However, processors which intend to produce a softer hemp fabric or blend hemp with cotton would only need to invest in additional equipment for cottonisation and be able to use conventional spinning and weaving machines used for cotton.



² The hand-feel of a fabric describes the way a fabric feels on the skin, particularly as it relates to softness and smoothness of the fabric.



1.3.2 Drivers

1.3.2.1 Policy and regulatory environment

Recent changes to the policy and regulatory environment are opening up opportunities for investment in the local cannabis sector.

In 2021, the DALRRD declared hemp an agricultural product under the “Plant Improvement Act 53 of 1976” and established the application framework for obtaining permits to commercially cultivated hemp. Already almost 400 permits have been issued.

South Africa’s Retail – Clothing Textile Footwear Leather (R – CTFL) Masterplan for 2030 envisions “a competitive, sustainable and dynamic R-CTFL value chain that provides its customers with compelling products...”. One of the objectives of the masterplan is to increase the share of locally manufactured clothing and footwear to 65% of total retail sales [6]. According to the R-CTFL task team, the reality is the industry will probably only reach 36%, due partly to the fact that the majority of fibres utilised in the sector are imported. One of the identified priorities of the Masterplan in 2023, is the development of niche value chain strategies, as well as a textile development programme. It is confirmed that hemp textiles would fall into these priorities, although there is no clear mention of the fibre.

1.3.2.2 Consumer awareness

Hemp is considered a sustainable fibre crop because it requires fewer inputs to cultivate in comparison to other fibre crops like cotton, kenaf, flax etc. It is a robust crop so it requires less fertiliser and water to grow with an average growth cycle of 120 days. While the cultivation of hemp is considerably less harmful than other fibre crops, the fibre production process does have a higher water requirement. However, when calculating the total ecological footprint of both cultivation and fibre production, studies show that hemp performs better than both cotton or polyester, even cotton grown organically [7].

Additionally, hemp has been proven to absorb more CO₂ per hectare than any forest or commercial crop – an estimated 22 tonnes of CO₂ per hectare [8]. Because a substantial amount of carbon is held in the biomass as well as the roots, the use of hemp in industrial applications can be considered a carbon sink.

As South Africa develops pathways to decarbonising its economy, hemp fibres are a promising alternative input for the textile industry.

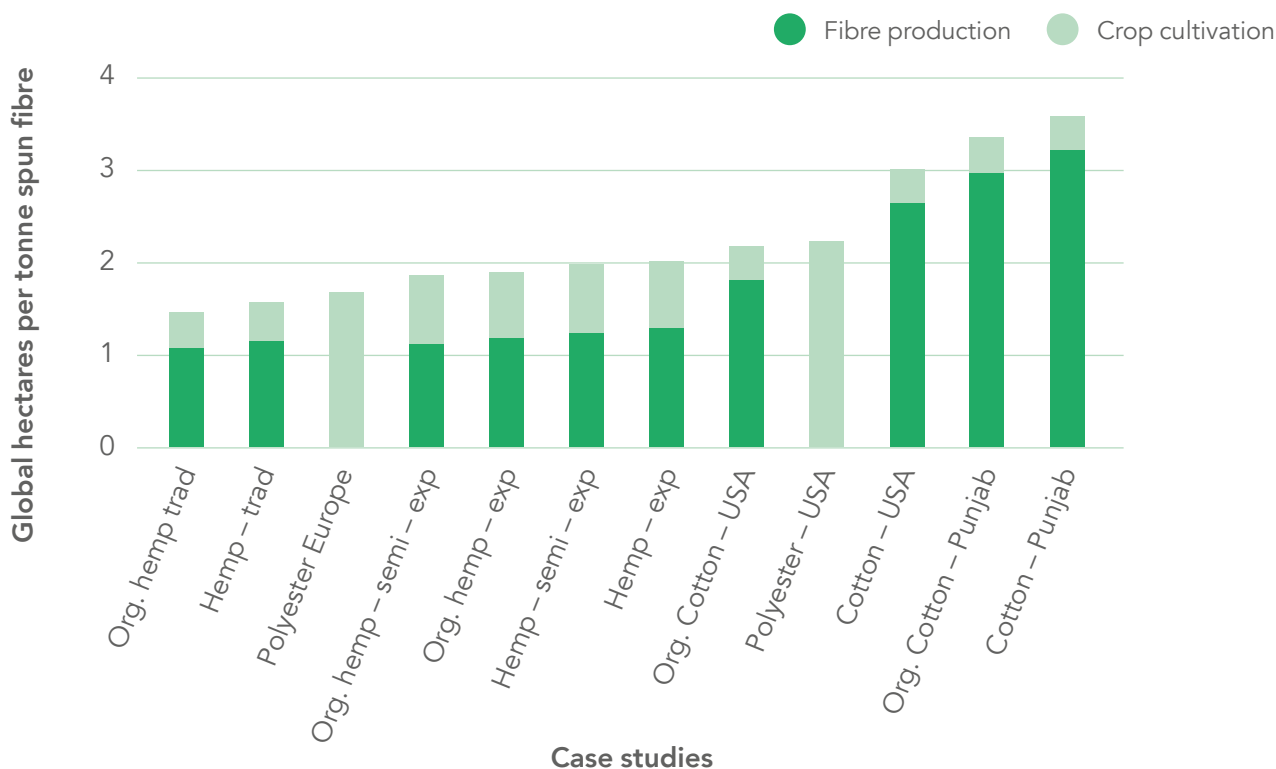


Figure 2: Ecological footprint of producing one ton of spun fibre
Source: Cherrett et al, 2005

1.3.2.3 Business case

In comparison to other plant fibres, hemp is economically competitive at primary production level. **Figure 3**, below, illustrates the yield of fibres and estimated revenue of each fibre crop per hectare of land planted [9]. In a single growth cycle, agricultural producers of hemp could earn the same revenue as kenaf producers. But the short growth cycle of hemp means that producers are able to plant multiple times in the year – so on an annual basis, hemp producers could potentially earn more per hectare.

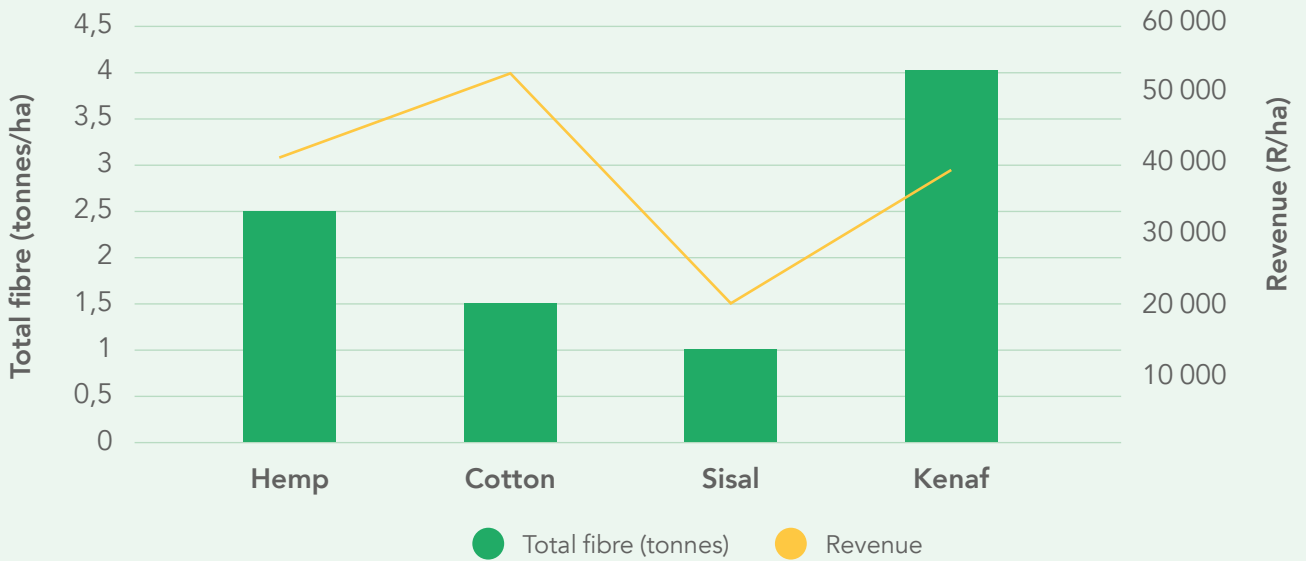


Figure 3: Estimated revenue and yield to produce one hectare planted

	Hemp	Cotton	Sisal	Kenaf
Price (R/kg)	20.00	40.00	20.90	10.07

Hemp fibres are attractive at a manufacturing level as well. The cost of hemp fibres has remained steady over the past couple of years; however, cotton prices have experienced fluctuations, particularly price increases since the beginning of January 2021. As seen in **Figure 4**, derived cotton prices in SA hit an 11-year high in mid-2023. The Russia-Ukraine war has had a significant impact on this commodity's price, since the war has resulted in increases of key inputs such as fertiliser and fuel [10]. Although prices have eased since, the price of cotton is unlikely to return to previous levels in the near future.

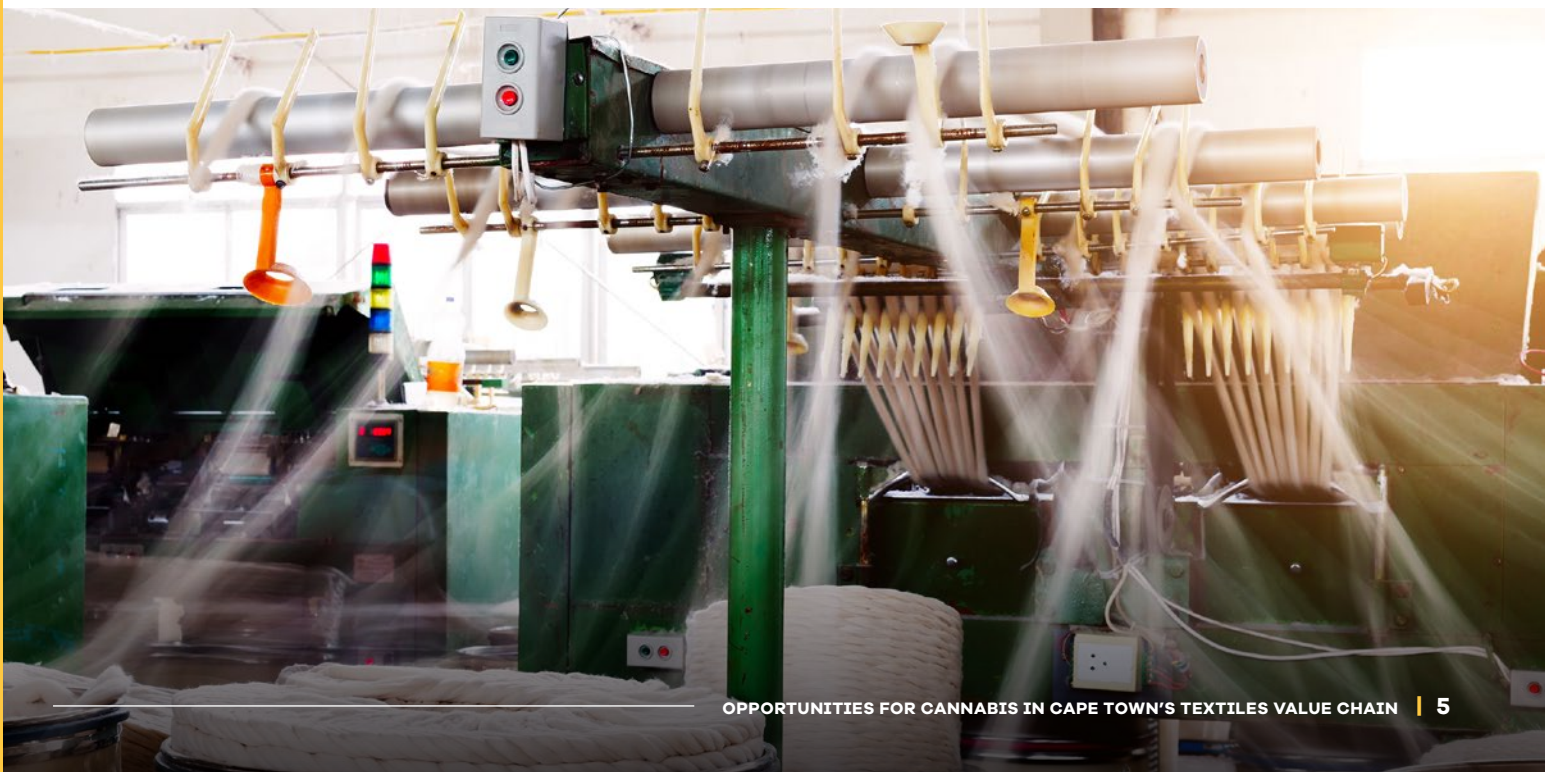




Figure 4: Derived cotton price
Source: Cotton SA (2023)

Figure 5 illustrates global demand for hemp yarn (HS530820) against the local market. The global hemp yarn market remains positive, with an annual growth of imports above 25%, between 2017 – 2021. However, this remains a lost opportunity for SA, since SA remained a net importer of hemp yarn over the same period of time.

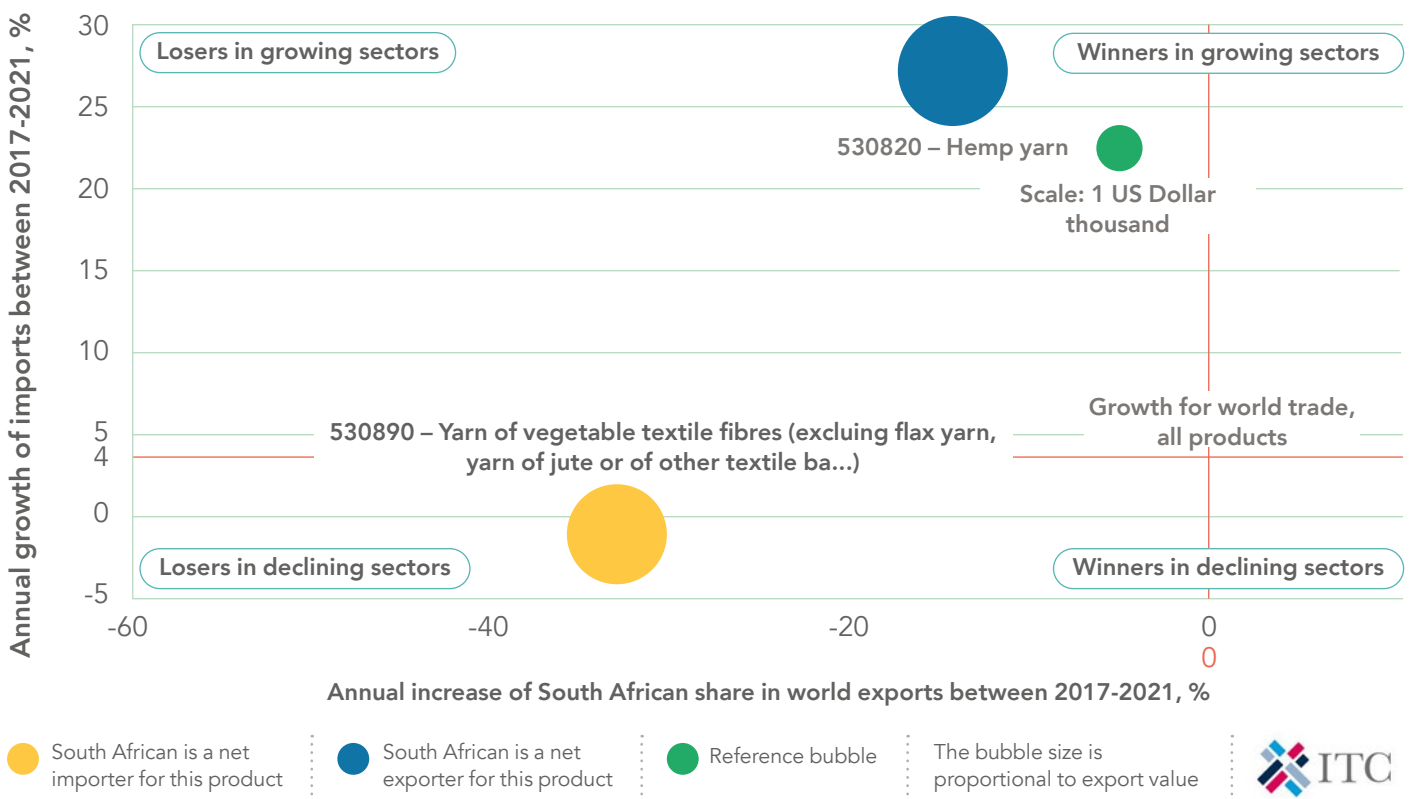


Figure 5: Growth of national supply versus international demand for hemp yarn in 2021
Source: TradeMap

1.3.3 Barriers

Although hemp textiles present as an opportunity for SA, there are a number of barriers for unlocking this industry.

1.3.3.1 Feedstock supply

DALRRD has issued 397 hemp permits in South Africa since 2021, but not all permit holders are producing hemp consistently. Most stated that the lack of clear market or industry off-takers made them hesitant to plant any seed or plant the full permitted hectares. This situation becomes a challenge as industry, particularly manufacturers, will not make any investments without a clear indication of the volume and consistency of supply.

The nascence of the industry also means that quality of fibres is a concern as there is no historical data to back best practices, although there are a number of government and private programmes that seek to address this by offering training programmes and production scheduling.



1.3.3.2 Price sensitivity

Although the price of hemp at primary production is comparable with that of cotton, the production cost of hemp fibres and textiles is significantly higher. This is due to two main reasons:

1. Hemp undergoes more processing than cotton, and that processing requires investment in additional machinery and labour costs.
2. The scale of production of hemp is very small in comparison to cotton and thus, is unable to leverage on scales of economy to bring prices down.

These reasons mean that hemp textiles will be most likely directed to high-end markets for the foreseeable future. This intersects well with the current market of environmentally conscious consumers who are willing to pay a premium for products deemed sustainable, but wide-spread adoption of hemp textiles is not likely in the short-term.

To reduce these barriers, investors in the primary production of hemp fibres, can initially focus on export markets, until South Africa has scaled up investment in hemp fibre processing. In this way, the hemp industry can establish a consistent supply of quality feedstock whilst developing long-term strategy for localisation.

1.4 Conclusion

There are opportunities for investment in the hemp sector within the textiles value chain, from primary production to textiles processing. Cape Town is well-positioned to become a hemp textile processing hub. It is already home to a number of hemp apparel businesses, ranging from clothing to shoes and homeware. It also hosts the head offices of most of the major national clothing retailers, making it easier to create a vertically integrated value chain for hemp textiles.

All of the businesses (both national large retailers and SMMEs) that were contacted stated that they import their hemp as either a fabric or fully assembled product, although they would much prefer procuring locally. This confirms that there is a significant opportunity to increase investment and capacity in mid-stream and tertiary processing.





Next Steps

For further information and support on any of the content provided here, please contact GreenCape's Sustainable Agriculture sector desk: agri@green-cape.co.za



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