



SKILPACK LTD

BUSINESS PLAN



2024 - 2029

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1.0 Executive Summary

1.1– Introduction

Skilpack Ltd is a firm that was established after realizing a need to make natural fiber textile products in Uganda. This was followed by in-depth research conducted on banana fiber degumming methods at Tiangong University China between 2018 - 2022 to produce various banana fiber products from the abundantly discarded banana stem residues generated after mature banana fruits harvesting. The startup currently operates as a cottage firm and for each 1 kg of freshly extracted banana fibers, it produces about 500 grams of hair extensions. This converts to 7 packets each of 70 grams produced. The produced banana fiber hair extensions are 100 % organic and are locally made in Uganda. These hair extensions can be transformed or altered into any desirable color including black, brown among others. Moreover, they are also durable and quick drying in case of moisture absorption.

1.1.2 - Brief of the Project Proposal

According to the Food and Agriculture Organization (FAO) statistics, Uganda is the highest average plantains and cooking bananas producer at 7.34 million tonnes¹. From this banana fruit produce, about 22.2 million tonnes of banana stem waste are generated. Out of this, some are used as manure or in art crafts while the rest are predominantly just left to decompose in farmlands releasing greenhouse gases. Nevertheless, these banana stems wastes can generate up to 2.8 million tonnes (MT) of long banana lignocellulosic fibers². Banana fibers constitute about 60 wt% cellulose and only 5 wt% lignin contents³. They possess desirable properties such as light density (1.35 g/cm³), shiny luster, good absorbency, comfort and quick dehydration⁴.

¹ FAO, “FAOSTAT.”

² Akatwijuka et al., “Overview of Banana Cellulosic Fibers: Agro-Biomass Potential, Fiber Extraction, Properties, and Sustainable Applications”; Twebaze et al., “Banana Fiber Degumming by Alkali Treatment and Ultrasonic Methods Banana Fiber Degumming by Alkali Treatment and Ultrasonic.”

³ Elseify et al., “Comparative Study of Long Date Palm (Phoenix Dactylifera L.) Midrib and Spadix Fibers with Other Commercial Leaf Fibers.”

⁴ Subagyo and Chafidz, “Banana Pseudo-Stem Fiber: Preparation, Characteristics, and Applications.”

On the other hand, Uganda imports averagely USD 8 million of synthetic hair extensions yearly which are toxic to environment at their end of life⁵. Therefore, with these abundant bananas stem raw materials, it is feasible to convert these agricultural residues into high-value natural products. This reduces the synthetic hair extensions pollution risks and boosts the rural bio-economies through incomes to both farmers and entrepreneurs who engage in value-addition chains. More so, this boosts Uganda’s national response to climate change. So, the agricultural residues from banana production can be turned into fibers and this is the core of Skilpack Ltd operations in efforts to produce eco-friendly hair extensions.

Apparently Skilpack Ltd utilizes manual extraction and processing methods in its cottage firm and it intends to scaleup and commercialize its production so as to valorize these banana stems and create a value addition scheme in Uganda.

To propel forward its activities and objectives, Skilpack Ltd seeks to further set up different localized banana fiber extraction and collection centers in regions in Uganda with a high production of bananas. In Uganda, the Ankole sub region has the highest annual production at 3.3 MT and followed by South Buganda sub region at 2.2 MT according to the Annual Agriculture Survey (AAS) 2020 by the Uganda Bureau of Statistics. Top producing districts include Mbarara, Isingiro and Bushenyi⁶. This will allow sufficient supply of quality banana fibers to support the expanding demand for the various potential banana fiber products. The integral eco-friendly banana fiber hair extension processing will be conducted at the company premises in Njeru Municipality, Buikwe District.

Skilpack Ltd seeks close to Ugx 500,000,000 investment including both capital (equipment and infrastructure) as well as running costs to upscale its production level to a commercial scale.

1.2 - Brief on the Applicant

Skilpack Ltd started making hair extensions from fibers obtained from banana stem wastes after a series of research experiments conducted in China between 2018 – 2021 by one of the company founders. Skilpack Ltd has also been involved in skills training in textiles, hand

⁵ <https://www.trademap.org/tradestat/Product>. Accessed 19 May 2023

⁶ UBOS, “Annual Agricultural Survey (AAS) 2020.”

weaving, and other eco-friendly products. The company eyes thriving at the base of supportive government policies and programs including the ‘Buy Uganda Build Uganda’ (BUBU) initiative, Parish Development models (PDM), and the Science, Technology and Innovation (STI) support programs.

1.2.1 - Legal Status

Skilpack Ltd is a fully private incorporated as a limited company by guarantee (May 30, 2022) with Registration Number: 80020003653354, TIN: 1033054087 and NSSF Number: NS011173. Its establishment was driven by the recognition of a need to bridge the gap in the production of eco-friendly hair extensions in Uganda. UNBS Certification is still under process.

1.2.2 - The Directors/promoters – personal details, Qualifications, experience

Skilpack Ltd is headed by two Ugandan directors.

The managing director is a researcher who holds a Masters of Textile Science and Engineering from Tiangong University, Tianjin, China. He has actively engaged in several trainings and projects namely the banana fibre research project, 2021 at Southern Range Nyanza Textiles Ltd (NYTIL). He has also won different awards such as the Youth Ideathon incubation, 2021 organized by United Nations Development Programme (UNDP) for the youths and women, and a silver award in 2019 under the auspices of Zhongwu Jingwei Jinrun Co. Ltd, for the Banana fiber Project, Tianjin & Guangzhou cities, 6th China International College students’ ‘internet+’ innovation & entrepreneurship. He has also published some research articles in internationally recognized journals and attended different scientific conferences.

The other Director obtained a short-course Certificate in Project Planning and Management from Uganda Management Institute, Kampala in 2020. She also holds Bachelor’s Degree in Arts with Education from Makerere University. She has worked as a projects director at Skilpack Ltd since its inception and has propelled the startup during this time frame.

Besides the directors, Skilpack Ltd is also supported by a competent team of other personnel in charge of production, marketing, finance, and sales activities.

1.2.3 - Statutory Obligations/Corporate Governance Practices (operating license/registration compliance, PAYE, NSSF, NEMA where applicable and any other)

Skilpack Ltd adheres to all government regulations for businesses operating in Uganda. The company holds a valid operating license issued by Njeru Municipality Buikwe district and has obtained both an NSSF number and a Tax Identification number. Skilpack consistently fulfills its tax obligations, including PAYE, and excise duty, and ensures timely NSSF contributions for its employees. Additionally, after processing fibers, any waste, such as wastewater, undergoes treatment to meet NEMA standards before being responsibly disposed of into the environment.

1.3 - Past Financial Performance

In the past years 2022-2023, Skilpack Ltd has accumulated capital of over 10 million Uganda shillings from acquired properties such as laboratory apparatus, hair sample sales, and skills training activities.

Table 1.1: Year 2022 and 2023 financial performance

Items	Cost (UGX) for Year 2022-2023
REVENUES	
Personal funds	5,000,000
Hair extensions	1,200,000
Wigs	300,000
Skills training	360,000
TOTAL REVENUE	6,860,000
EXPENDITURE	
Lab apparatus	2,000,000
Banana fiber	500,000
Transport costs	2,000,000
Company registration costs	1,000,000
Intellectual Property registration costs	300,000
TOTAL EXPENDITURE	5,800,000
PROFIT	1,060,000

2.0 Market Analysis

2.1 - The Product(s) and Product Description

Product: Biodegradable banana fiber hair extensions for hair dressing.

Description: The hair extensions are branded as CELSOFT Braids. They come in long and short braids. They are black or brown in color, and 100 % organic. They are durable, and quick moisture drying. They are locally produced in Uganda.

2.1.2 - Future Products if any

In the medium term, Skilpack Ltd intends to produce other banana fiber based products such as;

- Woven banana fiber carpets,
- Banana fiber yarns,
- Rugs, and
- Cottonized shawls.

In the long run based on robust scientific research and given the unique properties of banana fibers, Skilpack Ltd will introduce other products namely;

- Banana sanitary towels,
- Nano-aerogel baby diapers,
- Nano-aerogel wound dressings

2.2 - Industry Analysis

Skilpack Ltd.'s product market is influenced by diverse factors ranging from global sustainability, government policies, forces of demand and supply, as well as health needs.

From the point of view of global sustainability, research has highlighted that synthetic hair extensions pose a threat by releasing chemicals and heavy metals into the environment when discarded in landfills. Moreover, the non-biodegradable nature of the plastics used in synthetic hair extensions exacerbates the issue by taking hundreds of years to decompose, further worsening the already severe problem of plastic pollution, which endangers ecosystems and wildlife. Addressing this challenge requires a shift towards seeking alternative biodegradable hair extensions.

From the perspective of government policies, the Government of Uganda is actively promoting the agricultural sector as a means to ensure food security. Various Ministries, Departments, and Agencies (MDAs) are implementing targeted initiatives to support banana farmers and enterprises interested in adding value to banana plant products. Under the leadership of H.E Y.K Museveni, Uganda has enjoyed relative political stability, democratic advancements, and economic growth. This stable political environment has consistently facilitated economic progress over the past decades, maintaining macroeconomic stability and controlling inflation. There is a strong political will and commitment to expanding the economy's revenue base. Additionally, the government has introduced policies to promote local industrialization, including initiatives like the Buy Uganda Build Uganda (BUBU) program, Uganda Free Zones, industrial parks, parish development models (PDM), and support programs for science, technology and Innovation (STI). Through the Uganda Investment Authority, the government is actively seeking budget allocations to support investment and tourism sectors, aiming to create an incentive framework that attracts both internal and external investors for technology and skills transfer.

Considering market dynamics of supply and demand, the introduction of alternative biodegradable hair extensions into the hair care products market will encourage consumers to transition away from synthetic options, given the associated hazards, towards more sustainable alternatives. This shift will ultimately contribute to the long-term market stability of biodegradable hair extensions, driven by their inherent benefits.

Lastly, from the health point of view, the synthetic hair extensions currently commonly used in everyday hair care routines by many women present significant health risks. These extensions, made from materials such as acrylic, nylon, or polyester, contain toxins and carcinogens due to the chemicals used in their manufacturing process. This has led to instances of skin irritations, respiratory issues, and even traces of cancer-causing agents. Moreover, heavy metals such as lead and cadmium, known for their detrimental effects on human health, may also be present in these hair extensions. The absorption of these metals by the skin can lead to their accumulation in the body over time, resulting in long-term health complications. Consequently, there is a pressing demand for alternative hair extensions that are biodegradable and less harmful to health.

2.3 - Demand Analysis

In terms of market size, Skilpack Ltd targets both local and export markets for its organic hair extension products. Currently, Uganda imports synthetic hair extensions from other countries such as China, India, etc. valued at about USD 8 million (30.55 Billion UGX) (Exchange rate 1 USD = 3817.97 UGX) yearly⁷. On the export market, there is growing demand from West African countries such as Nigeria and other European countries. The global market trade balance for hair extensions and related articles was valued at USD 3.4 million in 2022. This portrays a potential market gap to address with the company's organic hair extension product.

Based on the market segment, according to the 2014 Census data, out of the 34.6 million Ugandans, 51.2 % were females, and notably the number of females has increased overtime based on the total population projections to about 45.5 million, (Mid-year 2023) by UBOS. Majority of the women in Uganda frequent different hair and beauty salons to work on their hair. This is a trend within both the rural and urban centers of Uganda and many other African countries such as Nigeria. For instance based on a survey by the News Agency of Nigeria, it is suggested that at least 8 out of 10 women wear wigs as part of their fashion items for their day-to-day activities. These statistics are not so much divergent from the situation in Uganda⁸. This sector covers hair stylists, fashionistas, and hairdressing points.

In terms of consumer preferences and market trends, there is a global demand from customers for organic hair extension products. Notably, there is a rise of demand for natural hair commonly imported from India and Brazil. However, natural hair is still faced with a high market cost for most customers mostly from the developing economies. Alternative organic products like banana fiber hair extensions open up a cost friendly niche with similar benefits.

From the competitive analysis aspect, banana fiber hair extensions offer better properties such as no skin irritations, quick moisture drying and durability as opposed to the commonly used synthetic hair extensions which are faced with these adverse concerns. Not only do the banana fiber hair extensions offer better properties but also can be purchased at fair affordable prices in contrast to the synthetic hair extensions.

⁷ ITC, "Trade Map - Trade Statistics for International Business Development."

⁸ Cosmetics, "Wigs: Origin and Relevance. Accessed 05 May 2024"

Other demand aspects such as seasonality and consumer behaviour are summarized in the Table 2.1

Table 2.1: Target market, seasonality and consumer behaviour

Customer Segment	Consumer behavior	Seasonality of Purchase
Contractors and Exporters	<ul style="list-style-type: none"> Buy bulk quantities based on contract targets. Buy in cash or sometimes pre- finance. 	Seasonal Buyers
Institutional buyers	<ul style="list-style-type: none"> Buy on a contract basis. Buy in credit system. Buy from contracted suppliers. 	Demand based buyers
Individuals	<ul style="list-style-type: none"> Buy individual units Buy on a cash basis. Mostly impulsive buyers 	Demand based buyers

2.4 - The Prices

Skilpack Ltd introduces biodegradable banana fiber hair extensions as alternatives to synthetic hair extensions for hairdressing in salons and other fashion centers. This is all at affordable and competitive prices for both local and international customers compared to the current market prices for the synthetic hair extensions as presented in Table 2.2.

Table 2.2: Prices of Skilpack Ltd hair extensions and others on the market.

Supplier	Product	Price (UGX)
Skilpack Ltd	Hair extensions	30,000
	Wigs	100,000 – 500,000
	Pillowcases	10,000 – 20,0000
Darling Uganda	Flexi Rod Curls hair extensions	34,265
Cheveux Organique ⁹	Cheveux Organique Bio extensions	150,000
Local Salon	Synthetic short curly wig	50,000
Local Salon	Curly and Bob Twists Hair Wigs	180,000

Note: Local salon prices are based on Jiji online shopping; Darling Uganda prices are obtained from Jumia (Accessed 5 May 2024)

⁹ “Www.Monitor.Co.Ug/Uganda/News/National/Ugandan-Eager-to-Make-Plant-Based-Hair-Popular-4181962, Accessed 4 May 2024.”

2.5 - Competition –Analysis and comparison

Skilpack Ltd has conducted a comprehensive assessment of its competitors' processes and operations using SWOT analysis. The analysis has brought to light several threats and weaknesses, including low investment and a limited customer base within Uganda. Textile mills in the region are struggling to operate at full capacity due to high production costs and subdued demand for locally manufactured fabrics and garments. This is largely attributed to stiff competition from low-cost imports and second-hand products. To address this competitive landscape, emphasis will be placed on regulating competition, mainly focusing on companies involved in natural fiber textiles, such as cotton industries and banana fiber product dealers.

In addition to competitor analysis, industry environment encompasses economic factors such as customers, competitors, suppliers, buyers, and potential substitutes, all of which directly impact a specific industry (Pitts and Lei, 2007). In Figure 2.1, Porter's Five Forces Model provides a framework to analyze the industrial environment. These five forces shape the competitive landscape and influence the attractiveness of the industry, ultimately determining its potential profitability.

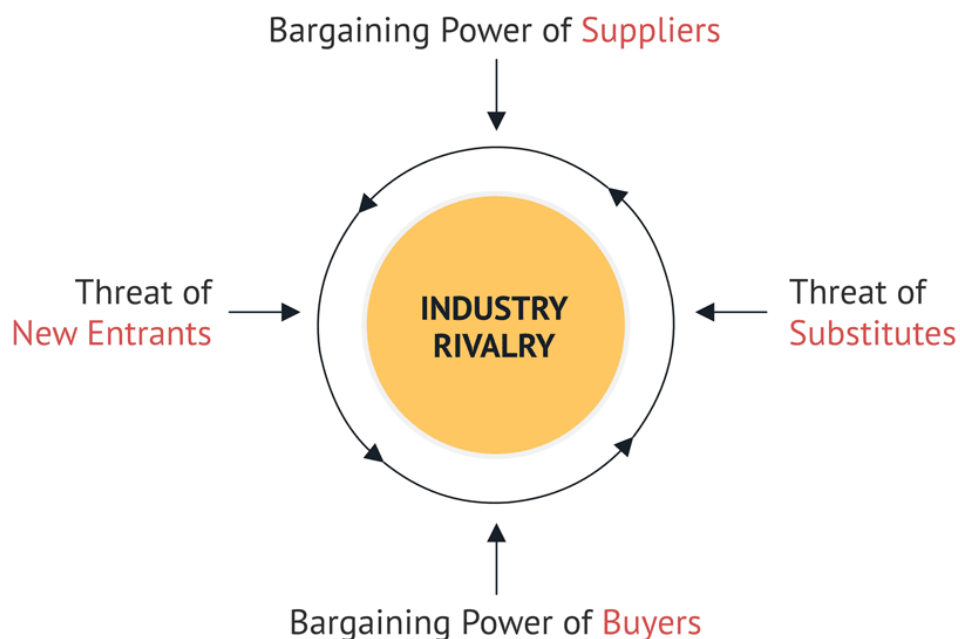


Figure 2.1: Porter's Five Forces Model¹⁰

¹⁰ Porter, "How Competitive Forces Shape Strategy."

a) Industry competitors

The intensity of competition within an industry is influenced by factors such as the number of firms, demand conditions, and exit barriers. In Uganda's banana textile industry, which is still in its early stages, there are relatively few players, resulting in limited rivalry. The primary competitive pressure comes from imported products and other textile or synthetic goods commonly found in large supermarkets.

With the rise of consumer interest in natural fiber products, particularly those made from banana fiber, and increasing environmental consciousness, there is a growing demand for innovative designs and high-quality production. However, despite this upward trend, the market for natural fiber products remains small compared to the overall textile sector. Many households have yet to fully grasp the value of utilizing natural fibers. Additionally, the number of small and medium enterprises operating in the banana textile sector is limited, with TEXFAD currently emerging as the market leader in this niche.

b) The threat of new entrance

Potential competitors could be local, national, or international, and the threat they pose depends on various barriers to entry. These barriers include scale economies enjoyed by established firms, their market or cost advantages over potential entrants, high capital requirements, superior access to distribution channels, government regulations, and brand loyalty.

In the banana textile industry, entry barriers are relatively weak. Capital requirements are minimal, as most value chain processes can be carried out using basic technology. However, as the industry expands, increased competition may arise as more players enter with new capacities and product offerings. This could lead to pricing pressures and impact profitability. As a new entrant, Skilpack Ltd must prioritize building its brand based on qualities such as superior quality, innovation, and reliability to maintain its competitive edge.

c) Threat of Substitutes

Substitute products set a ceiling on the price that producers can charge without losing customers to these alternatives. While banana textile products are highly valued by environmentally conscious consumers, the majority of customers remain indifferent when choosing between biodegradable and synthetic options. Their decisions often hinge on factors such as design and price. The primary competition arises from synthetic products, which are visually appealing at

times and may seem cost-effective. Given that many Ugandans prioritize affordability, they often opt for synthetic alternatives. In sum, the threat posed by substitute products can be deemed significant.

d) Power of buyers

Buyer power is influenced by both market channel structures and product characteristics. In Uganda, banana textile products primarily flow through craft shops, which represent a highly concentrated competitive environment.

Leading craft shops wield significant bargaining power in setting consumer prices. These prices are heavily influenced by suppliers (textile producers) and tailored to meet the purchasing power and preferences of end consumers. Moreover, consumers prioritize value for money and often seek high-quality products from retailers. Consequently, retailers demand premium quality goods to foster brand loyalty among their customers. This dynamic amplifies the influence buyers hold over the industry.

e) Power of Suppliers

Banana textile producers rely heavily on a single primary raw material: banana fiber. Fortunately, Uganda boasts abundant supplies of banana pseudo stems sourced from banana farms. However, the surplus of stems occasionally results in farmers accepting minimal prices due to a lack of market demand. Consequently, supplier power within the banana fiber industry can be viewed as relatively weak.

In summary, an assessment of competitive forces reveals that these five factors significantly shape the industry's appeal and profitability. Therefore, it is imperative to devise a strategic approach for the banana textile sector to effectively navigate industry competition and establish a competitive edge in the market.

2.6 - Marketing/Sales and Distribution programs/strategies

Skilpack Ltd serves two primary clienteles: suppliers, who provide the banana fiber raw material, and business partners, to whom it sells its products. These partners encompass export markets, contractor buyers, and institutional sectors such as development partners and government entities. Skilpack Ltd.'s focus is on delivering the right product to the market that aligns with customer needs and desires.

To fulfill customer demands effectively, Skilpack Ltd commits to:

- Ensuring the quality of banana textile products meets customer standards.
- Maintaining adequate stock levels to meet customer requests promptly.
- Enhancing packaging and labeling to ensure appropriate size, materials, and information.

Skilpack Ltd remains dedicated to the production and promotion of banana fiber products as its primary commercial endeavor. On the other hand, it will continue supporting initiatives such as skills development for women and youth, SME business incubation, and the 'Eco-friendly and Empowering' program. Additionally, Skilpack Ltd plans to establish a pilot plant capable of producing at least 15 kgs of hair extensions daily.

Skilpack Ltd will develop a competitive product mix tailored to both maintain and satisfy its clientele. Other details about the marketing and distribution strategies of Skilpack Ltd are summarized in Table 2.3.

Table 2.3: Marketing and distribution strategies of Skilpack Ltd

Product(s)	Existing market situation	Strategy Action(s)	Objective(s)
Banana fiber extraction	Few informal small groups using basic extraction methods, for either personal use or sale to other processors.	<ul style="list-style-type: none"> • Establish regional banana fiber extraction centers • Identify and Contract Suppliers of Banana Pseudo-Stem • Negotiate and Sign Agreements with Suppliers 	<ul style="list-style-type: none"> • Ensure consistent quality banana fibers production. • Secure a reliable supply of raw materials. • Formalize partnerships to ensure steady and sustainable supply chains.
Banana fiber hair extensions	A nascent market segment with limited players currently, poised for significant growth and competitiveness in the near future.	<ul style="list-style-type: none"> • Target wholesale and retail channels, including city beauty shops, supermarkets, and importers. • Offer varied and customized products, including wigs in various colors and lengths. 	<ul style="list-style-type: none"> • Seek trial supplies and advance towards securing supply contracts with urban retail channels. • Process and deliver products to urban retail channels and conduct promotional activities within targeted outlets.

Banana fiber yarns	Only a handful of players are engaged in the production of banana textile yarn.	<ul style="list-style-type: none"> • Target industrial and export markets suppliers and wholesalers for yarn utilization in their production processes. 	<ul style="list-style-type: none"> • Identify exporter markets and pre-qualified institutional suppliers. • Negotiate and sign sale agreements with identified exporter markets and pre-qualified institutional suppliers.
Handwoven banana fiber fabrics	Only a small number of players in this market segment, with these products being relatively new in the market.	Focus on reaching out to homeowners, interior designers, companies, contract buyers, and exporters.	<ul style="list-style-type: none"> • Pursue trial supplies and advance to securing supply contracts for interior designers and exporters. • Process and distribute products to urban retail channels such as supermarkets, interior design shops, and craft markets, and conduct in-house promotional activities at these targeted outlets.
Sanitary towels and nano-aerogel products	Only a small number of players in this market segment, with these products being relatively new in the market.	Focus on reaching out to pharmacies, hospitals, supermarkets and retail shops	<ul style="list-style-type: none"> • Get trial supplies and advance to securing supply contracts and exporters. • Process and distribute products to urban retail channels such as supermarkets, pharmacies, and hospitals, and conduct in-house promotional activities at these targeted outlets.

3.0 Technical Aspects

3.1 - Location – Description, accessibility, utilities

Skilpack Ltd is located in Njeru Municipality in Buikwe District. It is near an industrial hub shared by the Central and Eastern regions of Uganda near the river Nile. The company site is near the main access road from Kampala city to Jinja city. Both water and electricity supplies lines are within the company site proximity.

3.2 - Existing Infrastructure and assets

Skilpack Ltd has achieved significant milestones in its journey towards innovation and commercialization. Through diligent efforts, the company has successfully developed market-ready prototypes, is filing for patents, and contributed to various research publications. A dedicated website, www.skilpack.org, serves as a hub for its groundbreaking work.

Collaboration has been instrumental in Skilpack Ltd.'s progress, with multiple partners contributing their expertise. Notably, the company has engaged with key stakeholders in scientific research, business development, and management from both private and government sectors. This strategic alignment ensures a comprehensive approach to advancing its initiatives.

In preparation for the commercialization of banana fiber hair products, Skilpack has invested in essential resources. This includes the acquisition of some laboratory apparatus to enhance product quality control measures, further solidifying its commitment to delivering excellence.

3.3 - Projected Volume of Production/Enrolment/Occupancy Rates

Skilpack Ltd, a leader in sustainable product development, focuses on utilizing banana fiber for hair products. This section explores the company's projected production volume, highlighting its dedication to scaling operations sustainably.

Table 3.1: Projected production volume

Forecasted production			
Product(s)	Units sold annually	Average unit price (Ugx)	Anticipated Annual revenue per product (Ugx)
Banana Fibre hair	2,400 packets	30,000	72,000,000
Wigs	750 pieces	200,000	150,000,000
Pillowcases	126 pieces	10,000	1,260,000
Total (Anticipated)			223,260,000

3.4 - Production/Process Flow

Table 3.2: Step by step stages involved in the production of banana fibers

Process	Description of steps involved
Farm activities and collection	<ul style="list-style-type: none"> - Farmers grow various varieties of banana plants. - After harvesting mature fruits, pseudo-stems are typically discarded as waste. - Skilpack Ltd collaborates with suppliers and farmers to acquire the pseudo-stems. - The collected stems are centralized at a designated collection point. - Stems are sorted based on their variety to streamline further processing.
Transportation	<ul style="list-style-type: none"> - Skilpack Ltd arranges transportation of the collected stems using hired trucks. - Additionally, a select group of farmers are independently extracting banana fiber at their farms and selling it directly to Skilpack Ltd.
Preliminary preparation	<ul style="list-style-type: none"> - The collected stems are split into sheath layers . - The sheaths undergo a semi-drying process for 3 hours to reduce moisture content slightly.
Fibers extraction	<ul style="list-style-type: none"> - The banana sheaths are fed into the decorticator machine.

	<ul style="list-style-type: none"> - The decorticator machine extracts fibers from the banana sheaths through mechanical processing.
Drying and storage	<ul style="list-style-type: none"> - The extracted fibers are dried either in direct sunlight or a solar dryer for about 5 hours. - Once dried, the fibers are bundled into 1 kg bundles. - Dried fiber bundles are then packed into sacks and stored in a dry space to maintain their quality.
Hair extensions processing	<ul style="list-style-type: none"> - The dried banana fiber undergoes a degumming process, which involves treating it with a solution to render it soft and hair-like in texture.
Description of other processes for banana fiber products- Future perspective	
Cottonized banana fiber and Nano-aerogels	<ul style="list-style-type: none"> - The dried banana fiber undergoes a degumming process, where it is treated with a solution to render it soft and cotton-like or aerogel-like in appearance. - This soft material, with its versatile properties, can be utilized in various applications such as manufacturing sanitary pads, baby diapers, and wound dressings.
Yarns spinning	<ul style="list-style-type: none"> - For circular heavy carpets, fiber is twisted into ropes of various sizes, tailored to the weight specifications of the carpet being produced. - When intended for table mats, the fiber is twisted into thinner strands or plies to create a lighter product suitable for this purpose. - Banana fiber destined for handloom weaving undergoes spinning using a traditional spinning machine. - The resulting yarn is wound into balls using a ball winder and may be spun into two plies, depending on the intended final application.
Dyeing	<ul style="list-style-type: none"> - Depending on the intended products, banana fiber may undergo dyeing to achieve desired colors or patterns. - Handspun banana fiber yarn can also be dyed post-spinning to add color variations or enhance aesthetic appeal.

Carpet production	<ul style="list-style-type: none"> - Designs for carpets and rugs are determined either by client specifications or prepared by the company's designer, based on client preferences. - For warping, handloom dressing involves using a cotton warp to prepare the loom. - Hand weaving of carpets occurs by interlacing the banana fiber weft with cotton weft, resulting in a weft-based fabric with tapestry-like qualities. Weft packing is accomplished using a metal beater. - Upon completion of the weaving process, excess fibers are trimmed using scissors to achieve a uniform size and appearance for the carpet. - Finishing touches are applied by either tying tassels or hemming the edges to enhance the overall aesthetic appeal and durability of the carpet.
Cushions making and storage	<ul style="list-style-type: none"> - Waste fiber from the combing process is utilized by puffing it into cotton fabric to create cushions or pillows, providing a sustainable solution for waste management and product diversification. - Finished carpets undergo rolling and are stored in a well-lit and dry environment to maintain their quality and prevent damage.
Waste management and disposal	<ul style="list-style-type: none"> - At the finish level, fibers trimmed during production are collected and repurposed for crafting lampshades and other handmade products, demonstrating our commitment to sustainability and resourcefulness. - We prioritize a zero-waste approach throughout our production process, minimizing environmental impact and maximizing efficiency. - Treatment and disposal of wastewater are handled by competent personnel, ensuring adherence to environmental regulations and responsible management practices.

3.5 - Raw Materials and Labour Availability

Banana stems serve as the primary raw material source for our production processes.

Globally, Uganda is a top producer of plantains and cooking bananas globally with for instance 10.5 million tonnes of fruit produced in 2022. Uganda's production of plantains and cooking bananas from 2010 - 2022 is as shown in Figure 3.1 based on the FAO statistics.

From this fruit produce, about 32 MT of banana stem waste is generated. Out of this, some are used as manure or in art crafts while the rest are predominantly just left to decompose in the plantations. These banana stems waste can generate up to 2.8 MT of banana fibers. This shows the abundant availability of raw materials to support the production activities of Skilpack ltd.

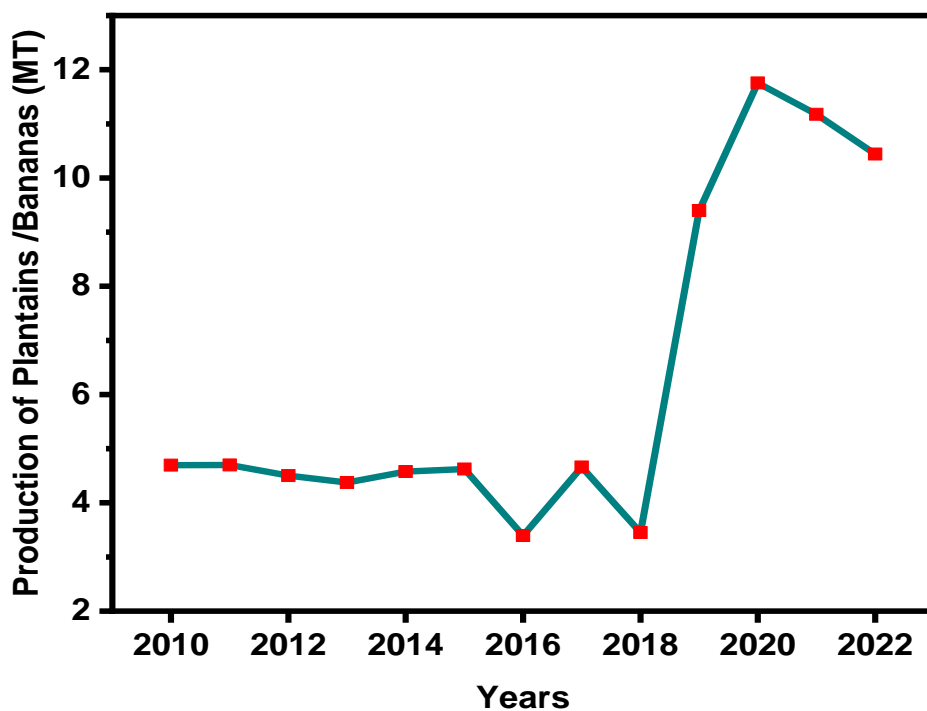


Figure 3.1: Bananas/Plantains production in Uganda (Based on FAO statistics)

Labor is readily available across the different parts of Uganda, both in rural and urban areas due to the country's youthful population and high unemployment rates. This avails abundant skilled graduates more so of textile specialty and related training schools. According to the UBOS statistics (2014 Census), about 22.5 % of the population are youth within the age bracket of 18 – 30 years.

4.0 Implementation

To ensure effective implementation and measure performance against our goals, Skilpack Ltd will utilize a comprehensive mix of quantitative and qualitative measures. Formal progress evaluations will be conducted every six months, with reports provided to the Board and all stakeholders. The following performance indicators have been identified for the project:

a) Sales

Skilpack Ltd teams will monitor sales volume and value every 3 months and provide management with insights for appropriate action.

b) Budget performance

Stringent measures will be implemented to ensure that all expenditure remains within the allocated budget. Quarterly and annual assessments will be conducted, with designated officers overseeing implementation activities.

c) Customer feedback

Continuous feedback will be gathered from customers regarding our products. Our marketing team will compile feedback from walk-in inquiries, website interactions, social media engagements, and call-ins on a weekly basis, forwarding the information to management for review.

d) Promotional tools

The effectiveness of promotional tools in raising awareness will be assessed biannually. Results will be presented to management for strategic adjustments.

e) Timely implementation

Each activity in the implementation schedule has been assigned a specific timeframe. Strict adherence to these timelines will enable us to measure plan performance. Efforts are underway to prevent activity overlap and ensure smooth progression to subsequent phases. In Table 4.1, a proposed implementation time plan for the period starting 2024 is presented.

Table 4.1: Skilpack Ltd.'s implementation Time plan for the banana fiber hair extensions project

Activity	Milestones	Expected month of completion	Verifiable Track Indicator	Source of verifiable track indicator
Intellectual property filing	Forms filling and reviewing	6 months after signing of the contract	Filled forms	Uganda registration Services Bureau database (URSB)
	Application submission			
	Examination			
	Patent publication			
Product optimization	Conducting market surveys and interviews	5 months after contract signing	Survey and interview forms	Business offices
	Customizing banana fiber hair extensions	6 months after contract signing	Various banana fiber hair extension colors, styles and length	Shops and market stores
	Quality control and testing Mini-laboratory	5 months after contract signing	Operational mini-laboratory units	Plant premises
Process optimization	Manufacturing premises and operations setup	3 months after contract signing	Process layouts	Plant premises
	Process wastewater treatment	8 months after contract signing	Wastewater treatment plant	Plant premises
Product diversification	Production of different hair extensions styles, colors and lengths	6 months after contract signing	Various banana fiber hair extension colors, styles and lengths	Shops and market stores
Mass production	Acquisition of high capacity processing machines	6 months after contract signing	Dyeing machines, combing unit, dryer, packing machine, Data color photo spectrometer, Gray scale.	Plant premises
Market expansion	Market survey analysis	3 months after the contract signing	Product prices	Shops and market stores
	Digital and physical marketing	4 months after contract signing	Flyers, billboards, media adverts, online payments	Radios, television stations, online sales visibility

5.0 Organization and Management

5.1 –Organization Structure

The organizational structure of Skilpack Ltd is designed to ensure efficient management and accountability at all levels. A schematic of the tentative organogram for Skilpack Ltd is shown in Figure 5.1.

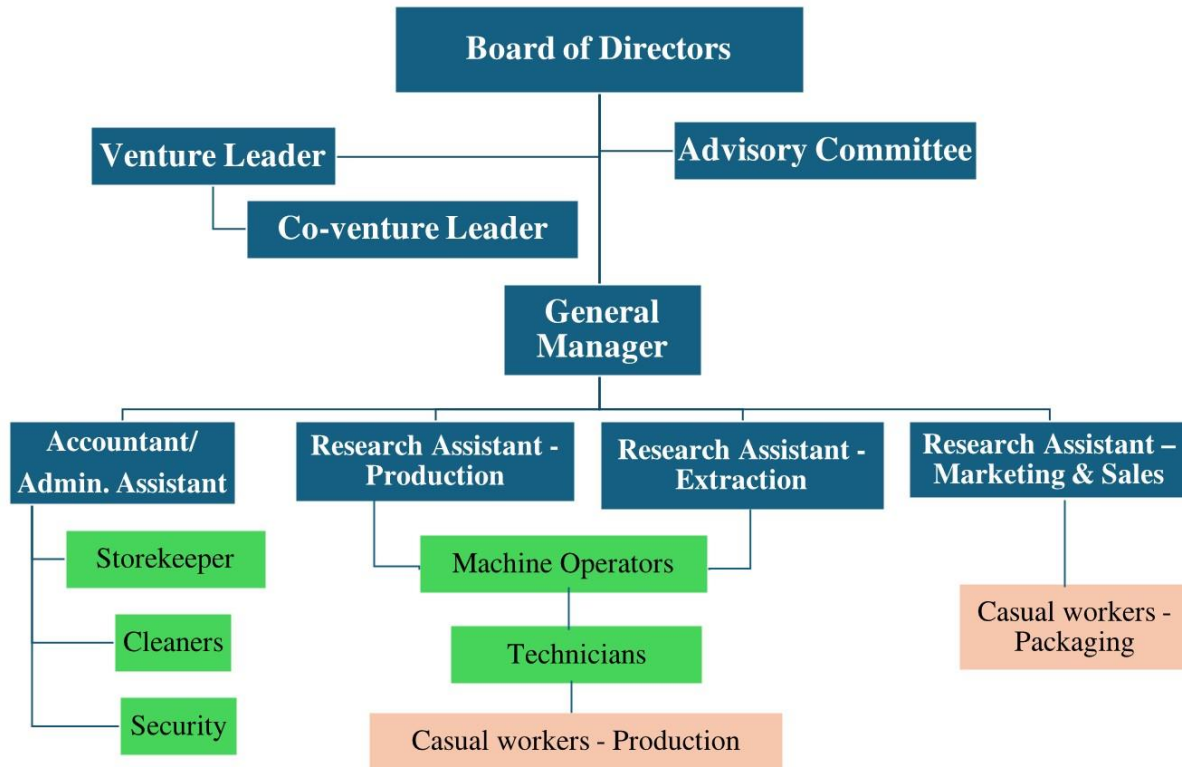


Figure 5.1: Tentative Skilpack Ltd organogram

5.2 - Management

5.2.1 Current management key personnel and main responsibilities

(a) Board of Directors

- Setting long-term strategic goals and objectives for the company.
- Reviewing and approving major business decisions and investments.
- Providing guidance and support to executive management.
- Monitoring financial performance and ensuring compliance with regulations.

(b) Advisory committee

- Conducting regular reviews of business performance metrics and providing recommendations for improvement.
- Assessing market trends and competitive landscape to inform strategic decision-making.
- Reviewing and advising on human resource policies and practices.
- Providing input on legal and regulatory compliance issues.

(c) Venture leader

- Developing and executing strategic plans to achieve business objectives.
- Building and maintaining partnerships with key stakeholders, including suppliers and distributors.
- Monitoring market trends and identifying opportunities for growth.
- Overseeing day-to-day operations and managing resources effectively.

(d) Co-venture leader

- Assisting the Venture Leader in strategic planning and execution.
- Supporting cross-functional collaboration and communication within the organization.
- Providing leadership and guidance to team members.
- Representing the company in meetings and negotiations as needed.

(e) Project administrator

- Coordinating research and development activities to support product innovation.
- Managing project timelines and budgets to ensure timely delivery and cost efficiency.
- Tracking and reporting project progress to stakeholders.
- Implementing quality control measures to maintain product standards.

(f) Research assistant - Extraction

- Optimizing extraction processes to maximize efficiency and minimize waste.
- Monitoring raw material inventory levels and coordinating procurement efforts.
- Conducting quality control tests to ensure product integrity.
- Implementing safety protocols to protect workers and equipment.

(g) Accountant/Administrative assistant

- Managing financial records and preparing financial reports for management review.
- Processing invoices, payments, and expense reimbursements.
- Assisting with payroll administration and employee benefits management.
- Providing administrative support to the project team as needed.

(h) Research assistant - Production

- Planning and coordinating production schedules to meet customer demand.
- Overseeing equipment maintenance and troubleshooting issues as they arise.
- Training production staff on proper procedures and safety protocols.
- Implementing continuous improvement initiatives to enhance operational efficiency.

(i) Research assistant - Marketing & sales

- Developing marketing strategies and campaigns to promote Skilpack Ltd products.
- Conducting market research to identify customer needs and preferences.
- Cultivating relationships with existing and potential clients through effective communication and follow-up.
- Analyzing sales data and trends to inform strategic decision-making.

(j) Machine operator

- Operating machinery according to safety protocols and standard operating procedures.
- Performing routine maintenance tasks to ensure equipment functionality.
- Troubleshooting equipment malfunctions and coordinating repairs with maintenance staff.
- Maintaining cleanliness and organization of work area.

(k) Store keeper

- Receiving and inspecting incoming shipments of raw materials and finished goods.
- Recording inventory transactions in the company's inventory management system.
- Organizing and maintaining inventory storage areas to optimize space and accessibility.
- Conducting periodic inventory to reconcile physical stock levels with system records.

(l) Technician

- Performing preventive maintenance inspections on equipment to identify potential issues.
- Conducting repairs and adjustments to equipment as needed to minimize downtime.
- Installing new equipment and ensuring it meets operational requirements.

- Documenting maintenance and repair activities for record-keeping purposes.

(m) Cleaner

- Sweeping, mopping, and vacuuming floors to maintain cleanliness and safety.
- Dusting and wiping down surfaces, including desks, countertops, and equipment.
- Emptying trash bins and disposing of waste properly.
- Cleaning and sanitizing restrooms and common areas.

(n) Security guard

- Monitoring surveillance cameras to detect security breaches or unauthorized access.
- Patrolling the premises to deter criminal activity and ensure the safety of employees & visitors.
- Responding to emergencies, such as fires or other incidents, and alerting appropriate authorities.
- Enforcing company security policies and procedures, including access control measures.

(O) Casual worker

- Assisting with assembly and packaging of products according to production schedules.
- Operating equipment or machinery under supervision to support production processes.
- Performing routine maintenance tasks, such as cleaning and organizing work areas.
- Providing additional support for other team members as needed to meet production targets.

5.2.2 Future management scheme and job descriptions

(a) Board of Directors

The Board of Directors, comprising seasoned professionals with expertise in research, business development and financial management, plays a pivotal role in setting strategic direction and overseeing corporate governance. Key responsibilities will include:

- Convening and implementing resolutions of shareholders' meetings.
- Decision-making on production and investment plans.
- Establishment and approval of internal management and basic management systems.
- Appointments and dismissals of senior executives and key personnel.

(b) Advisory Committee

Comprising trusted experts appointed by the Board, the Advisory Committee provides invaluable guidance on critical business decisions and performance evaluation. Responsibilities include:

- Providing insights and foresight to the Board on emerging trends and challenges.
- Conducting comprehensive assessments of business performance across various domains.
- Advising on strategies for enhancing operational efficiency and market competitiveness.

(c) Managing Director (Venture Leader)

The Managing Director, appointed by the Board, serves as the executive leader responsible for executing strategic plans and achieving business objectives. Key responsibilities include:

- Implementing Board directives and overseeing day-to-day operations.
- Organizing the implementation of annual work plans and new projects.
- Managing organizational structure and personnel appointments.
- Financial management, budget planning, and profit optimization.
- Strengthening corporate culture and community engagement initiatives.

(d) Administrative Office

Under the leadership of the Managing Director, the Administrative Office ensures efficient coordination and execution of administrative functions. Responsibilities include:

- Compliance with company policies and regulations.
- Coordinating interdepartmental activities and daily operations.
- Preparation of annual reports, work plans, and other corporate documents.
- Record-keeping, meeting coordination, and administrative support.

(e) Production Department

Led by the Production Manager, this department is responsible for overseeing all production activities and technical operations. Responsibilities include:

- Establishing technical management systems and quality standards.
- Implementing new projects and product development initiatives.
- Ensuring compliance with safety protocols and equipment maintenance.
- Productivity enhancement and continuous process improvement.

(f) Finance and Audit Department

Under the guidance of the Finance Manager, this department manages financial resources and ensures compliance with regulatory requirements. Responsibilities include:

- Budget planning, financial reporting, and analysis.
- Asset management, cost accounting, and audit coordination.
- Treasury management and cash flow optimization.
- Regulatory compliance and risk management.

(g) Research and Development Department

Tasked with driving innovation and information management, the Research and Development Department focuses on product development and market intelligence. Responsibilities include:

- Information resource development and utilization planning.
- Market research, trend analysis, and competitive intelligence.
- New technology adoption and product lifecycle management.
- Continuous improvement of product quality and customer satisfaction.

(h) Information Communications Technology (ICT) Department

Responsible for technological infrastructure and digital communications, the ICT Department ensures seamless integration of technology into business operations. Responsibilities include:

- System setup, maintenance, and user training.
- Network security, data management, and website administration.
- Automation of production processes and equipment configuration.
- Information technology support and troubleshooting.

(i) Human Resources Department

Under the leadership of the HR Manager, the Human Resources Department oversees talent acquisition, development, and management. Responsibilities include:

- Recruitment, selection, and onboarding of employees.
- Performance management, training, and career development.
- Compliance with labor laws, regulations, and employment standards.
- Employee relations, welfare programs, and grievance handling.
- Performance appraisals and benefits coordination.

(J) Quality Control Department

To uphold our commitment to quality and excellence, rigorous quality control measures will be implemented across all stages of production. The Quality Control Department will be responsible for;

- Conducting thorough inspections of finished products according to predefined standards and specifications.
- Implementing and maintaining quality assurance procedures to ensure adherence to quality standards throughout the production process.
- Continuously monitoring and evaluating production processes to identify and address any deviations or issues affecting product quality.
- Performing various tests and analysis on raw materials, in-process samples, and finished products to verify quality and performance characteristics.
- Maintaining detailed records of quality control activities, test results, and compliance documentation. Generate reports to communicate findings and recommendations.
- Identifying opportunities for process optimization and quality enhancement.
- Implementing corrective and preventive actions to address root causes of quality issues.
- Ensuring compliance with relevant regulations, standards, and industry requirements governing product quality and safety.
- Providing training and development programs to enhance the skills and knowledge of personnel involved in quality control activities.

(K) Maintenance Department

The Maintenance Department is primarily responsible for ensuring the reliability, safety, and efficiency of equipment and facilities. Key responsibilities include:

- Regular inspection, servicing, and repair of machinery to prevent breakdowns.
- Scheduled routines to address potential issues before they cause downtime.
- Overseeing upkeep of buildings and utilities for a safe working environment.
- Ensuring adherence to safety regulations and standards in maintenance activities.
- Promptly addressing equipment failures or safety hazards to minimize disruptions.

5.3 - Manpower Schedule and Remuneration

In order to ensure the efficient operation of the plant, a team of key personnel will be employed. Operations will take place six days a week, from Monday to Saturday, with occasional exceptions as needed upon notice. Each member of the team will receive an attractive remuneration package tailored to their specific roles and responsibilities. In Table 5.1, the different remuneration for the personnel are highlighted.

Table 5.1: Project manpower Schedule and Remuneration

S/N	Personnel	Key Responsibility	Department	Work days/week	Status	Remuneration (Monthly)
1	Venture leader	Serves as managing director	Administration	6	Full time	2300000
2	Co-venture leader	Assist managing director	Administration	6	Full time	1000000
3	General Manager	Oversees business operations	Administration	6	Full time	2110000
4	Research Assistant - Production	Monitors the hair extensions production floor operations	Production	6	Full time	2100000
5	Research Assistant - Extraction	Oversees fiber extraction operations	Extraction	6	Full time	1500000
6	Research Assistant-Marketing	Oversee sales and marketing	Sales and Marketing	6	Full time	910000
7	Machine operator processing	Operates the processing machines	Production	6	Full time	500000
8	Machine operator extraction	Operates the fiber extraction machines	Extraction	3	Part-time	170,000
9	Tailor	Operate stitching machines	Production	3	Part-time	150000
10	Technician	Repairs and maintenance of machines	Production	3	Part-time	200000
11	Security guard	Safeguard company premises	Security	7	Full time	300000

6.0 Financial Aspects

6.1 - Total Project/ Investment Costs

The total funding of the project is estimated at 450 million UGX inclusive of a returnable grant of 117 million UGX.

6.2 - Source of Financing

Funding for the project will be provided by the Science, Technology and Innovation Secretariat – Office of the President, in alignment with government initiatives aimed at promoting science, technology, and innovation in Uganda. The Uganda Development Bank (UDB) will oversee the management and disbursement of funds in accordance with the agreed work plan.

6.3 - Working Capital

The working capital will consist of machines, inputs and products in stores valued at 185,570,800 UGX.

6.4 - Assumptions of the financial projections

This funding arrangement described above will support the business's financial projections, guided by forecasts, revenues, return on investment, and operating and start-up expenses. Prepared financial statements, including income statements, balance sheets, cash flow statements, and accompanying notes, will provide crucial insights into the business's progress.

6.5 - Projected Profit

In the Figure 6.1, profit projections of Skilpack Ltd are illustrated.

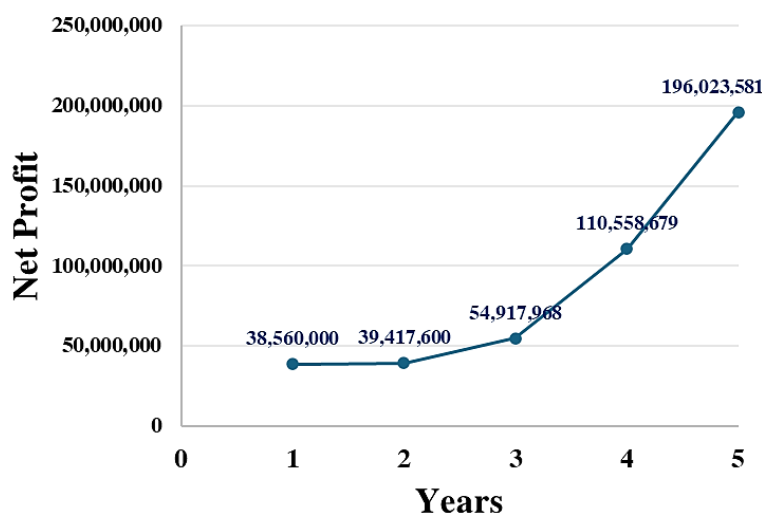


Figure 6.1: Profit projections

6.6 - Projected Cash Flow

Table 6.1: 5-year cash flows

Proposed cashflow projections for Skilpack ltd for 5 years					
Items	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues					
Opening Balance	0	38,560,000	39,417,600	54,917,968	110,558,679
Grant	333,000,000	-	0	0	0
Loan acquired	117,000,000	0	0	0	0
Hair extensions	17,200,000	69,400,000	91600000	93800000	116000000
Wigs	20,000,000	115,000,000	180,000,000	255,000,000	325,000,000
Extracted fiber	0	15,400,000	20,550,000	28,800,000	28,800,000
Waste hair pillows	1,360,000	3,720,000	4900000	5080000	16260000
Total Revenue	488,560,000	242,080,000	336,467,600	437,597,968	596,618,679
Expenditure					
Acquisition and start-up costs	297,980,000				
Cost of production	17140000	67782400	107669632	153159288.8	226715098.1
Returnable grant/Loan payment	0	0	39000000	39000000	39000000
Emoluments	84648000	84648000	84648000	84648000	84648000
Taxes	30000000	30000000	30000000	30000000	30000000
NSSF	20232000	20232000	20232000	20232000	20232000
Insurances	0	0	0	0	0
Total Expenditure	450,000,000	202,662,400	281,549,632	327,039,289	400,595,098
Profit	38,560,000	39,417,600	54,917,968	110,558,679	196,023,581

6.7 - Key Financial Indicators/Business Ratios

The enterprise will monitor performance using the indicators below;

- I. **Growth** to track how quickly sales are increasing. This will be determined using **Revenue Growth Rate** [$((\text{Current Period Revenue} - \text{Previous Period Revenue}) / \text{Previous Period Revenue}) \times 100$] and *Net Income Growth Rate* [$((\text{Current Period Net Income} - \text{Previous Period Net Income}) / \text{Previous Period Net Income}) \times 100$].
- II. **Profitability** to indicate how much money the business is making. This will be determined using the *Gross Profit Margin* [$(\text{Gross Profit} / \text{Revenue}) \times 100$], *Net Profit Margin* [$(\text{Net Profit} / \text{Revenue}) \times 100$] and *Return on Assets* [$(\text{Net Income} / \text{Total Assets}) \times 100$].
- III. **Liquidity** to show how much cash the company generates and has on hand. This will be determined using *Current Ratio* [$\text{Current Assets} / \text{Current Liabilities}$] and *Quick Ratio* [$(\text{Current Assets} - \text{Inventory}) / \text{Current Liabilities}$].
- IV. **Leverage** (Debt-to-Asset) will indicate the level of the company's short- and long-term debt.

7.0 Risk Analysis and Proposed Mitigation

7.1 - Market Risks

Risk	Likelihood	Background to assessment	Impact	Mitigating measures
Fluctuating Demand	High	Products such as hair extensions market can be volatile. Consumer preferences may change quickly. This can affect demand. This can lead to reduced sales or excess inventory	High	Market research to understand consumer preferences; Diversify product range; and Flexible production to adjust to demand
Seasonal Variations	Low	Seasonal demand for products like hair extensions can lead to fluctuating sales.	Low	Plan production and inventory based on seasonal trends and do promotions during off-seasons.
Consumer knowledge Risk	Low	Limited market knowledge or interest in banana fibre products such as hair extensions. Uncertainty if consumers will extensively accept and buy banana fibre hair extensions.	Medium	Skilpack Ltd will perform a thorough market analysis to assess market factors, the demand for a product or service, and customer behaviour. Conduction of market research to understand demand and preferences. Offer promotions to encourage trial.
Competition Risk	Low	There is a lot of research currently being undertaken in utilizing of banana fibre. New competitors can come on market any time offering similar products	Low	Skilpack Ltd will protect intellectual property by seeking patents to protect themselves from competitors. Differentiate products through unique selling propositions like sustainability and quality

7.2 - Political and Economic Condition

Risk	Likelihood	Background to assessment	Impact	Mitigating measures
Political Instability	Low	Uganda has not experienced periods of political unrest and instability in the past decades. Any disruption in operations, increased security costs can lead to potential loss of investments.	Low	Maintain good relations with local authorities, diversify supply chain to reduce dependency on single region.
Policy Changes	Medium	Changes in government policies related to agriculture or exports can impact the materials supply or export incentives. Increased costs and compliance challenges can reduce competitiveness.	Low	Stay updated with policy changes, engage with policymakers, diversify product range to adapt to new policies.
Economic Fluctuations	High	Uganda's economy is susceptible to external shocks and internal economic challenges. This can lead to reduced consumer spending, increased production costs, currency depreciation affecting import.	High	Maintain a flexible pricing strategy, hedge against currency risks, diversify customer base.
Infrastructure Challenges	Low	Inadequate infrastructure in some areas of Uganda where banana production is done can affect logistics and transportation. This can lead to delays in production and delivery, increased transportation costs	Medium	Build strong relationships with reliable logistics providers, consider setting up near major transportation hubs.

7.3 - Foreign Exchange Availability

Foreign exchange availability is an essential consideration for Skilpack Ltd. The operation of Skilpack Ltd will involve importing or exporting goods and services across international borders. Skilpack Ltd. Importation raw materials, such as chemicals for using in product processing, and possibly specialized equipment or machinery. These imports will require foreign currency payments. The availability of foreign exchange will determine the ease with which Skilpack Ltd. can source these essential inputs. Delays or difficulties in accessing foreign exchange could lead to operational disruptions or increased costs due to currency fluctuations.

Skilpack Ltd.'s part of revenue source will be from exporting its hair extensions to foreign markets. As the company earns foreign currency from these exports, it becomes crucial to have a mechanism to convert these earnings into Ugandan Shillings (UGX). A smooth and efficient foreign exchange market will enable Skilpack Ltd. to repatriate its foreign earnings without significant delays or unfavorable exchange rates. Skilpack Ltd.'s export activities will contribute positively to Uganda's Balance of Payments (BOP). By earning foreign currency through exports, Skilpack Ltd. will increase Uganda's foreign exchange reserves and improve its BOP position. Additionally, local production of products will lower importation of synthetic hair extensions, strengthening BOP further. A stronger BOP can lead to a more stable currency, lower inflation rates.

Risk	Likelihood	Background to assessment	Impact	Mitigating measures
Currency Fluctuations	High	Uganda's currency, the Ugandan Shilling (UGX), can be volatile due to factors like inflation, economic conditions, and global market trends. Significant increase in production costs, affecting profit margins.	High	Maintain a diversified portfolio of currencies.
Limited Access to Foreign Currency	Low	Uganda may not have all foreign currency reserves. There may be restrictions on currency conversion. This can lead Delays in importing of some raw materials.	Low	Establish strong relationships with banks for priority access to foreign currency.

Transaction Costs	High	High transaction costs due to currency conversion fees and other charges. This can lead to Reduced profitability due to increased costs. This can lead to difficulty in securing financing for business operations.	High	Negotiate with banks for lower transaction fees and Consolidating transactions to reduce frequency and costs.
Counterparty Risk	Low	Skilpack Ltd. may face counterparty risk when dealing with foreign suppliers or customers, particularly if they default on payments or fail to deliver goods/services as agreed. This may lead to loss of advance payments made to suppliers in foreign currency, disruption to production due to delays in receiving raw materials and non-payment or delayed payment by foreign customers leading to cash flow issues	Low	Conducting due diligence on potential suppliers and customers to assess their financial stability and reliability; Negotiating favorable payment terms and conditions, such as payment upon delivery or using letters of credit; and Obtaining credit insurance or guarantees to protect against non-payment by customers.

7.4 - Financial Risks

Risk	Likelihood	Background to assessment	Impact	Mitigating measures
Price Volatility	Medium	Fluctuations in the cost of banana fiber or other raw materials.	Medium	Secure long-term contracts with suppliers; maintain a diversified supply chain.
Production inefficiency	Medium	Inefficient production processes leading to high costs due to low benefit from economies of scale.	High	Invest in training for staff; optimize production processes through continuous improvement.
Sales Forecasting	Low	Overestimating or underestimating demand leading to inventory cost related issues.	High	Use market research and historical data for accurate forecasting; maintain flexible inventory management.

Capital Constraints	Low	Difficulty in securing additional funding or loans for expansion.	Low	Develop a solid business plan; explore alternative funding sources like investors.
Production Cost Overruns	Medium	Unexpected increases in production costs due to factors such as labour expenses, energy costs, or technology upgrades.	High	Regularly review and optimize production processes to identify cost-saving opportunities. Invest in automation or technology to improve efficiency and reduce labour dependency.
Marketing and Advertising Expenses	Medium	High costs associated with promoting and advertising the product.	Low	Develop a cost-effective marketing strategy. Utilize social media and influencer partnerships.

7.5 - Other risks if any

Risk	Likelihood	Background to assessment	Impact	Mitigating measures
Procurement process of Equipment May take longer than expected yet the equipment is key for operation	Medium	Procurement of items that are not locally available in Uganda can be bureaucratic	High	Procurement process will be initiated early enough.
Risk of accidents related to operation of machines	Low	Poor operation of machinery can lead to accidents. Chemicals used in the manufacturing process can be toxic to human	Low	Machinery shall include the necessary safety measures. Operators shall be trained and appropriate PPE will be put on during operation
Supply Chain Risks.	Medium	Banana fibre extraction has not yet been commercialized. Banana harvesting can be seasonal leading to inconsistent	Medium	Maintaining buffer stock. Build long-term relationships with suppliers.

		supply of fibre raw material. Difficulty in sourcing consistent and quality banana fibre.		Diversify suppliers to reduce dependency
Quality Control	Low	Inconsistent quality of hair extensions due to variations in banana fibre.	Low	Implement stringent quality control measures. Train staff on quality standards.

8.0 SWOT Analysis

The Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis of Skilpack Ltd was carried out to identify internal factors (weaknesses and strengths) and external factors (threats and opportunities) that may influence the success of Skilpack Ltd.’s operations. Table 8.1 shows the result of the SWOT analysis. This SWOT analysis provides details current position and potential strategic considerations of Skilpack Ltd. as it navigates the opportunities and challenges in the hair extension market using banana fiber in Uganda.

Table 8.1: SWOT analysis matrix for Skilpack Ltd

Strength	Weakness
<ul style="list-style-type: none"> • Local Availability: Uganda has abundant banana plantations this can ensure a consistent supply of banana fiber. • Low Cost of Raw Materials: Banana fiber might be cheaper compared to synthetic or other natural fibers. • Unique Selling Proposition: Hair extensions made from banana fibre can be marketed as eco-friendly and sustainable products. • Local Support: Potential for government support or grants for promoting sustainable and eco-friendly businesses. 	<ul style="list-style-type: none"> • Limited Experience: Being in the infant stage, the Skilpack Ltd may lack experience in the hair extension industry. • Limited Market Knowledge: Understanding consumer preferences and market trends for hair extensions may be lacking initially. • Production Challenges: Developing efficient production processes and techniques for working with banana fiber may pose challenges. • Limited Distribution Channels: Difficulty in establishing and expanding distribution channels both locally and internationally.
Opportunities	Threats
<ul style="list-style-type: none"> • Growing Demand for Sustainable Products: Increasing consumer awareness and demand for eco-friendly and sustainable hair products. 	<ul style="list-style-type: none"> • Competition: Entry of new competitors or existing players expanding their product lines with similar offerings. • Currency Fluctuations: Exposure to foreign exchange rate fluctuations can

<ul style="list-style-type: none"> • Export Potential: Opportunity to export unique and sustainable hair extensions to international markets. • Diversification: Potential to diversify product range by introducing other hair and beauty products made from banana fibre. • Collaborations and Partnerships: Forming partnerships with beauty salons, retailers, or eco-friendly brands to expand reach and distribution. 	<p>impact profitability, especially for exports.</p> <ul style="list-style-type: none"> • Regulatory Changes: Changes in regulations related to environmental standards, trade policies, or business operations in Uganda. • Supply Chain Disruptions: Potential disruptions in the supply of banana fibre due to weather conditions, diseases affecting banana plants, or other factors.
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9.0 Socio-Economic Aspects

9.1 – Employment

The project will benefit many people across the value chain ranging from banana farmers to production and marketing as presented in the table below.

Table. 9.1: Direct and indirect employment plan

Employment category	Direct jobs created	Indirect jobs created	Total
Administrative	4	10	14
Production staff	5	15	20
Retailers	100	200	300
Suppliers	20	30	50
Transporters	06	10	16
Distributors	06	10	16
Banana farmers	200	400	600
Total			1016

9.2 - Government Revenue

The government will generate revenue through imports of machinery needed by the pilot plant and exports of hair extensions. Skilpack Ltd will remit revenues to the government in terms of non-tax and tax revenues for example licenses, registrations, and product certification agencies.

10.0 Environmental Aspects

10.1 - Key Aspects of Environmental Concern

Banana growing is an essential part of rural agriculture communities that have the right conditions and soils to have it as a key food and cash crop. It allows communities in these areas to generate regular income unlike most other seasonal cash crops but it comes with serious environmental issues associated with banana waste disposal.

There are several methods employed in fiber extraction. There are various methods employed in banana fiber extraction, some of which may involve the use of toxic chemicals. The use of these chemicals can have adverse effects on the environment and human health if not managed and disposed of properly. Additionally, the transformation of banana fiber into final products may also involve the use of chemicals. Improper handling and disposal of these chemicals can lead to environmental pollution and pose risks to local ecosystems and communities.

Banana fiber production may require significant amounts. After fiber extraction, the fiber is cleaned using water. Significant amounts of water may be required for this process, leading to water wastage if not managed efficiently. The finished hair extensions will require packaging for storage, transportation, and sale. Poor selection of packaging materials, such as the use of non-biodegradable materials like polyethylene bags, can contribute to environmental pollution and the accumulation of non-biodegradable waste.

10.2 - Action to be undertaken by Promoter to address environmental concerns if any

Environmental Awareness: Engage with local communities to raise awareness about environmental issues and promote sustainable practices as well as providing training and education to employees on environmental best practices and their role in environmental conservation.

Stakeholder Engagement: Engaging with stakeholders, including local communities, government agencies, and environmental organizations, to gather input and support for environmental initiatives. In addition, Skilpack Ltd. will maintain transparency in environmental practices and performance by regularly reporting on environmental metrics and progress towards sustainability goals.

Sustainable Sourcing of Banana Fibre: Ensure that banana fibers are extracted in a sustainable manner without causing damage to the banana plants or the environment.

Water Usage: Efficient Water Management, implement water-efficient practices in production processes to minimize water wastage. Ensuring that wastewater from production processes is treated properly to avoid contamination of local water sources.

Waste Management: Implement recycling and reuse strategies for waste materials generated during production. Properly managing organic waste, through composting or other sustainable methods.

Packaging: Use eco-friendly and biodegradable packaging materials to minimize environmental impact and adopting minimalistic packaging designs to reduce waste and promote recycling.

Compliance with Environmental Regulations: Ensure compliance with local and national environmental regulations and standards. This will be accompanied with conducting environmental impact assessments to identify potential environmental risks and mitigation measures.

11.0 Final Observations

This Business Plan has provided critical evidence for Skilpack Ltd, to continue to operate the banana textile business. The business is financially viable as it has shown steady growth over the past 2 years, registering some profits every year and market ready prototypes.

The key recommendations are;

- i. Skilpack Ltd should strengthen the sensitization and training of banana farmers on the value of banana fiber and its extraction process.
- ii. Skilpack Ltd should strengthen its sales and marketing capability as well as its distribution network.
- iii. Farmers should be encouraged to extract the banana fibers and supply them to Skilpack Ltd.
- iv. Skilpack Ltd should emphasize strengthening its governance and management structure.