

## **THE KEY DRIVERS AND BARRIERS OF ECOPRENEURSHIP IN UGANDA A CASE OF GREEN BUSINESSES IN ARUA CITY**

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### **Abstract**

In recent years, the imperative for businesses to prioritize environmental conservation alongside economic and social values has grown, spurred by initiatives such as the United Nations' Sustainable Development Goals (SDGs). Sustainable development, crucial for meeting present needs without compromising future generations, hinges on balancing economic, social, and environmental factors in decision-making, requiring national-level financial incentives. Amidst this, there's a burgeoning recognition of the role of ecopreneurs in driving sustainable development, particularly evident in Uganda, where the government promotes sustainable entrepreneurship. However, challenges persist, with many small businesses contributing to environmental degradation. Despite increasing attention, research gaps remain in understanding the key drivers and barriers to adopting ecopreneurship practices, especially in regions like Uganda. Addressing these gaps will contribute to the literature on ecopreneurship and aid in developing more effective strategies for promoting sustainable entrepreneurship and environmental stewardship from a Ugandan perspective.

**Keywords:** Ecopreneurship; Drivers; Barriers

### **Introduction**

The need to conserve the environment and preserve natural resources has increased in recent years (Wassie, 2020). Several studies suggest that firms should orient their business activities towards providing value across three dimensions: economic, social, and environmental (Hart & Milstein, 2003; Doma'naska, Zukowska & Zajkowski, 2018). The United Nations (UN) came up with sustainable development goals (SDGs) that include ending poverty and hunger, improving health and education, making cities more sustainable, combating climate change and protecting oceans and forests (Leal, 2020). These Sustainable Development Goals (SDGs) seek to encourage businesses across the globe to prioritize both environmental and economic growth. These goals require entrepreneurs to search for opportunities to create value while considering the sustainable use of resources.

Sustainable development is influenced by the activities of large, small- and medium-sized businesses. Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Ruggerio, 2021). Meeting the needs of the future depends on how well we balance the three pillars of economic, social, and environmental when making business decisions today. According to Doma'naska et al. (2018), for firms to strike a balance between value creation across the social, economic, and environmental dimensions, there must be financial incentives at the national level. Entrepreneurship researchers have shifted their attention towards developing a better understanding of sustainable business practices, including the adoption of ecological entrepreneurship (Kirkwood and Walton, 2010; Gast, 2017). Adopting more ecological entrepreneurship practices, such as using cleaner production technologies and fewer resources, directly affects a firm's sustainability. At the same time, these innovations may generate ecological, economic, and social benefits (Klapper *et al.*, 2021).

Various scholars agree that entrepreneurs can help preserve our ecosystems, counteract climate change, improve fresh water supply, maintain biodiversity, and reduce environmental degradation and deforestation (Veleva, 2021; Volkmann *et al.*, 2021). However, efforts to address this problem have focused on how and why existing firms can become greener (Kim *et al.*, 2022; Schaper, 2016; Ristovska, 2010; York & Venkataraman, 2010). But, according to York and Venkataraman (2010), these efforts have not solved our environmental problems.

The world over, the need for ecopreneurs is growing since they are considered to be change drivers who have found new businesses based on the principles of ecology and sustainability (Chhabra, 2018; Kirkwood *et al.*, 2014; Pastakia, 2002; Walley & Taylor, 2002). Schaper (2002) further noted that the transition to sustainable development will need huge numbers of ecopreneurs. Huang, Ding, and Kao (2009) assumed that "green innovations are new technical improvements or administrative practices for improving the natural environmental performance and competitive advantage of an organization." They posit that environmental friendly innovation bring enormous benefits to an entity as it creates positive corporate image; enhancing regulations; attracting low taxes; creating collaboration; and improves key performance indicators

Accordingly, the government of Uganda is currently promoting sustainable entrepreneurship through industrialization as a catalyst for inclusive growth, employment and wealth creation in Uganda (Uganda National Planning Authority, 2021). However, evidence shows that most small businesses (SMEs) in Uganda pose social and environmental challenges (Sendawula *et al.*, 2020; Komakech *et al.*, 2016). Such businesses are in the manufacturing, hotel and restaurant trade sectors. For instance, small businesses use firewood and charcoal to satisfy over 60% of Ugandans without electricity access (Aarakit *et al.*, 2021). It is a common practice for such businesses to cut trees without replacement, resulting in climate change and environmental degradation.

Researchers like Harte *et al.* (2020), Fitria and Situmorang (2020), and Juma *et al.* (2022) recognized that several studies had been conducted to study ecopreneurship. However, scanty research has examined the motivational factors for adopting ecopreneurship practices (Perera & Ekanayake, 2022). According to Gunawan *et al.* (2021), knowledge of the drivers of adopting ecopreneurial practices is scarce and scattered. Studying how key actors such as consumers, distributors, and producers respond to this transition towards a more sustainable and ecological model is of interest (John *et al.*, 2019). Therefore, there is a research gap in analyzing the key drivers and barriers to ecopreneurship. In addition, most studies on ecopreneurship have focused on defining the concept in theoretical terms, and these studies were carried out in developed countries (Dixon & Clifford, (2007); McEwen, (2013); Chopra, (2014); Nikolaou *et al.*, (2011)]. This study responds to calls from numerous scholars to further analyze environmentalism and entrepreneurship in the business setting (Gunawan *et al.*, 2021; Rodríguez *et al.*, (2019); Nikolaou *et al.*, 2011; Dixon & Clifford, 2007; Schaper, 2002). Given the current environmental challenges facing the world, including Uganda, it is clear that past strategies used to address these challenges have failed to prevent environmental degradation. It is, therefore, important to pay attention to the role that entrepreneurs can play in solving our environmental problems. This prompted various stakeholders in the economy, including entrepreneurs, to achieve sustainable development for the country. Thus, it is paramount to understand the key drivers and barriers to ecopreneurship and suggest strategies to address the barriers.

## **Literature review**

Critical review of relevant literature

Ecopreneurship according to Schaltegger (2002), refers entrepreneurship through an environmental lens and ecopreneurs as actors and companies making environmental progress in their core business processes. He continues his wide definition by dividing ecopreneurship into a company's start-up phase, when ecopreneurs constitute and shape the 'face' of their company and ecopreneurship within established firms, as the process of creating substantial market success with environmental products and services. This aligns with Walley, E., & Taylor, D (2002) who define ecopreneurship as concept that tries to create an understanding of green concept in business and incorporating environmental sustainability production processes.

An ecopreneur in this context is an entrepreneur whose business efforts are not only driven by profit, but also by a concern for the environment (Schuyler, 1998).

### **Drivers of ecopreneurship**

Pastakia (2002) considered the key drivers of ecopreneurship to be the power of the discerning investor, the power of the discerning consumer, the assertion of sustainability values, the competitive advantage of eco-friendly products and processes, the power of judicial activism and civil society and the power of regulatory and enabling policies. According to him the key Stakeholders are the investors, the consumers, the producers, the Citizens, and the government.

The increasing awareness of environmental issues has motivated stakeholders to be more liable to the environment (Huang, Ding & Kao, 2009). The formulation of ISO 14000 about environmental actions for business enterprises worldwide sets the standards to be more sustainable in both, business and the environment. Probably due to the many still unrecorded small and medium enterprises in Indonesia, the country has difficulties monitoring and controlling their performance by strictly applying the standard.

More entrepreneurs became aware of the opportunity for eco-friendly products and services as the consumers' demand increased (Kirkwood & Walton, 2010). The drivers of ecopreneurs have been cited to include:

Green value; According to Kirkwood and Walton (2010), the ecopreneurs were strongly motivated by spreading their green values to others. They were motivated to spread the word about their business and environmentalism in several forums. Much of this occurs through the educational strategies that ecopreneurs use as core to their businesses. They did this through websites, visiting markets and expositions, and word of mouth.

In addition, the existence of a gap in the Market whereby ecopreneurs identified a personal need that was currently unmet in the market and that spurred them to start the business. According to Kirkwood & Walton (2010), the gap in the market was identified through their awareness of environmental issues rather than purely commercially based opportunity recognition. Cohen and Winn (2007) and Freimann et al. (2005) stated that these findings mirror the few existing studies on ecopreneurs' motivations, which show ecopreneurs taking advantage of market imperfections and opportunities. Ecopreneurs exhibited typical entrepreneurial behaviours in terms of opportunity recognition. Interestingly, they did not tend to have prior experience in the area in which they started the business, as prior studies of entrepreneurs in general have found to be most common.

Also, making a Living is a motivator to carrying out ecopreneurship. In their study, Kirkwood & Walton (2010), stated that entrepreneurs noted that monetary motivations were apparent. The owners of Enigami Paper that deal in paper waste recycling and reusing spoke very little about being profit-driven but more about wanting to earn a living or cover their costs. They

said that the most important thing is their contribution to the community. They believe that if they pursue their contribution to the community, money will come to them by itself. Profit is important, and they agree to pay attention to it. But that's not their main goal.

More so, passion of actors as cited in the research by Kirkwood & Walton (2010) which indicated that most ecopreneurs were passionate about the environment and wanted to play a part in reducing environmental degradation. They also had a similar passion for their product or service, illustrating the close link between this passion and the ecopreneurs' green values. It may not be easy to separate the two motivators (passion and green values) for ecopreneurs.

### **Barriers to Ecopreneurship**

According to Gunawan (2012), the barriers to ecopreneurship development differ based on the enterprises' geographical location. Indeed, in rural areas, the barriers he identified are limited technology, lack of knowledge, lack of government support, too many financial risks and unstable business development. In urban areas, the barriers are a lack of awareness of environmental sustainability, lack of consumer support, lack of incentives, lack of willingness to innovate and too many competitors. Based on this observation, we can say that the misunderstanding of the purpose and outcome of ecopreneurship development is the main reason that leads to the barriers observed by many scholars who have researched the topic.

Scholars such as Schick, Marxen, and Freimann (2002) and Yaacob (2010) have identified several barriers to sustainability in the start-up process, including a lack of information, limited knowledge and willingness to share information on ecological issues, lack of awareness by start-up entrepreneurs on the potential market of environmentally friendly businesses and limited public funding available for promoting sustainable enterprises.

In an interview conducted by "The Lionesses of Africa (2020)" with Dr. Gladys Kalema-Zikusoka, an ecopreneur, a founder of Gorilla Conservation Coffee, she started her business by providing premium coffee prices to farmers living around gorilla-protected areas to improve the health of the people and the gorillas while encouraging an attitude of ecological conservation. The concept was that as farmers obtain better coffee prices, this redeems their time, encroaching less on the gorilla habitats to obtain coffee. She mentions that the biggest challenge faced at the start of the business was financing to get the business going, "We need to look for additional financing to have enough working capital to engage all the farmers that we have now in our network.

In developing countries such as Uganda, ecopreneurship has not gained traction despite the optimistic prognosis. The factors influencing ecopreneurship in Uganda and its ability to promote sustainable development and environmental conservation are still little known (Gunawan et al., 2021). The necessity for this study has been exacerbated by the absence of a well-defined theoretical framework to understand the drivers and obstacles to ecopreneurship. This study, therefore, aims to create a framework for the motivations behind and obstacles facing ecopreneurship in Uganda.

### **Method**

#### **Research design**

This research adopted a qualitative research design using the grounded theory approach as described by Creswell (2009). This approach was adopted because it provided a systematic inductive process of qualitative inquiry required for theory development.

The grounded theory approach allows the continuous development of theorized ideas from open coding to selective coding processes, specifically to categorize codes as in tables 1 to 3 below. This was achieved through memo writing and allowing themes to emerge as the interviews progressed until theoretical saturation was established.

**Sampling strategy and procedure**

The researchers employed a purposive sampling technique to obtain the study respondents. The choice of purposive sampling technique was based on Morse (2000), who states that the sampling technique is commonly used because it enables specific targeting of people meeting the criteria for the study. These consisted of the proprietors of green businesses such as solar, briquettes, seedlings, eco stoves, nursery beds, among others and policymakers. These categories were chosen because their engagement in and with green businesses gives them considerable knowledge on issues surrounding green businesses, including the key drivers as well as barriers they face. Based on the above criteria, proprietors of green businesses and two policy makers who included the city commercial officer and the city planner were selected for the study. A data base of businesses was obtained from the city commercial office and 35 businesses met the criteria of being termed green. Data was collected from the respondents using interviews and theoretical sampling was employed to determine at what point interviews stopped, as guided by Glaser & Strauss (1967). In this study, theoretical saturation was attained by the eighth (8<sup>th</sup>) interview.

**Data Analysis and Presentation of Results**

Data was analyzed qualitatively using the grounded theory approach, following three processes which included open coding, axial coding, and selective coding processes until theoretical saturation was achieved (Glaser & Strauss, 1967).

As shown in Table 1, the axial coding process was obtained from an open coding process (See appendices - Table 6). The grouping of codes then resulted in the development of categories that explain the drivers and barriers of ecopreneurship in Arua City, Uganda.

In analyzing the responses in line with objective 1, six (6) categories emerged as the key drivers of eco-preneurship. From the analysis in Table 2, the key drivers of eco-preneurship are financial factors, market factors, entrepreneurs' characteristics, external support, raw materials and employment. Accordingly, 90% of the respondents noted that behavioural factors are key drivers of eco-preneurship. It should also be noted that high demand and job creation will spur eco-preneurship, which was the view of about 50% of the respondents. Similarly, 40% of the respondents stated that the availability of funds and the fact that it is cheap to start are key considerations in eco-preneurship. Availability of raw materials and government support are available to drive eco-preneurship, and this view was expressed by 30% and 20% of the respondents, respectively. Existing literature on drivers of ecopreneurship presents the business owner's values, internal closeness, and sense of duty towards their staff and communities as key motivators that impact how sustainable small and medium-sized enterprises (SME) are (De Steur et al., 2020; Vives, 2006). One of the primary adoption drivers for renewable energy adoption by German SMEs was the entrepreneurs' perceived internal responsibility for the environment, which was represented in their personalities (Rahbauer et al. 2016).

**Table 1: Axial coding process from open codes to categories**

Interview question	Open code	Categories
What are the factors that drove you to become an ecopreneur?	Available Funds (AF)	Financial factors
	Cheap to Start (CS)	
	Financial incentives (FI)	
	Profits (Pr)	
	Government Support (GS)	External support
	Civil Society Support (CSS)	
	Low Competition (LC)	

	Available Market (AM)	Market factors
	High Demand (HD)	
	Fill a gap (FG)	
	Cheap Raw Materials (CRM)	Raw materials
	Available Raw material (AR)	
	Green Values (GV)	Entrepreneurs characteristics
	Competence (C)	
	Behavioural factors	
	Own Boss (OB)	Employment
	Job Creation (JC)	
Earning a living		

Source: Field data, (2024)

**Table 2: Selective coding process.**

Emergent/categories	Sub-categories	Rating	Select cat/%
Financial factors	Available Funds (AF)	40%	AF, CS/FF,40%
	Cheap to Start (CS)	40%	
	Financial Incentives (FI)	10%	
	Profits (Pr)	20%	
Market factors	Low Competition (LC)	30%	
	Available Market (AM)	40%	
	High Demand (HD)	50%	HD,/MF,50%
	Fill a Gap (FG)	10%	
Entrepreneurs characteristics	Competence (C)	50%	
	Behavioral Factors (B)	90%	B/EC,90%
	Green Value (GV)	10%	
External support	Government Support (GS)	20%	GS, CSS/ES,20%
	Civil Society Support (CSS)	20%	
Raw materials	Available raw Materials (AM)	30%	AR/RM,30%
	Cheap raw Materials (CRM)	20%	
Employment	Job Creation (JC)	50%	JC/E,50%
	Own Boss (OB)	20%	
	Earn a living (EL)	10%	

Source: Field data, (2024)

The results from the analysis of the responses in line with objective 2, four (4) categories emerged as the barriers to eco-preneurship. From the analysis in Table 4, the factors that emerged as barriers included institutional factors, behavioural factors, market factors, and financial factors. Accordingly, 100% of the respondents stated that institutional factors are the main impediments to eco-preneurship and 90% believed that behavioural factors are the obstacles to eco-preneurship in Uganda. Similarly, 80% of the respondents said market factors are a barrier to ecopreneurship and 60% believed that financial factors are responsible for the low adoption of ecopreneurship.

**Table 3: Downsizing and refinement**

Interview question	Open code	Categories
What are the factors that drove you to become an eco-preneur?	Appropriate Technology (AT)	Technology
	Expensive Machines (EM)	
	Limited Technology (LT)	
	Limited Incentives (LI)	Finance
	Financial Risk (FR)	
	Funding Opportunity (FO)	
	Limited Skills (LS)	Competence
	Limited knowledge (LK)	
	Expensive Products (EP)	Market factors
	Consumer Awareness (CA)	
	Uncertain market conditions	
	Consumer attitude (AC)	
	High competition (HC)	
	Limited Passion (P)	Behavioral factors
	Unclear Vision (UV)	
Profit Focus (PF)		
Fear (F)		
	Government Support (GS)	Government
	Government Commitment (GC)	
	Limited Guidance (LG)	
	Policy (P)	Institutional factors
	Regulations (R)	
	Standards (S)	

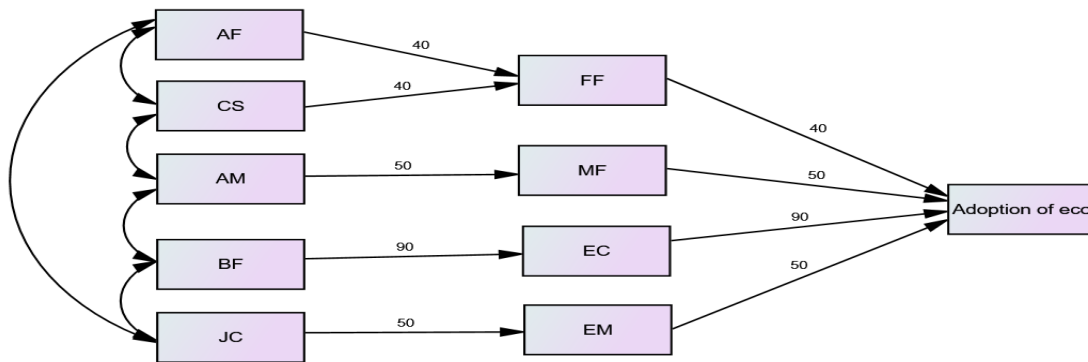
**Table 4: Selective coding process.**

Emergent/categories	Sub-categories	Rating	Select cat/%
Internal factors	Competence (C)	40%	B/IF,90%
	Technological Factors (T)	20%	
	Behavioral factors (BF)	90%	
External factors	Institutional factors (I)	100%	I/EF,100%
	Market Factors(M)	60%	F/EE, 80%
	Financial Factors(F)	80%	M/EE, 60%

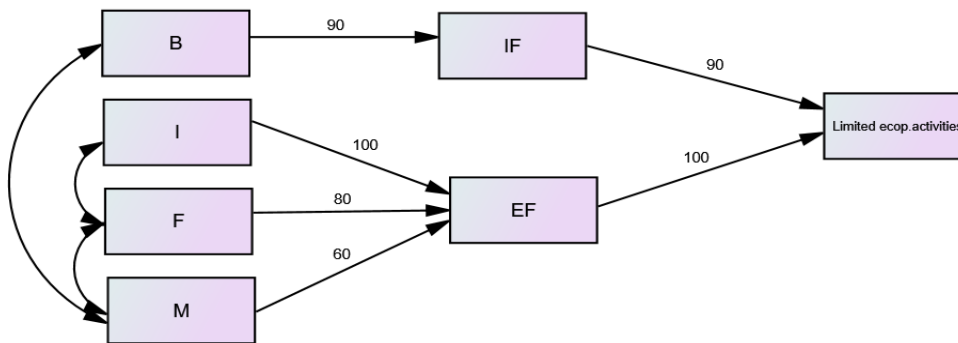
**Source: Field data (2024)**

The emerged categories and relationships were used to conceptualize models grounded on the interview data. The credibility of the data and subsequent findings were established through concurrent data collection and analyses and member checks (Birks & Mills, 2011; Charmaz, 2006; Glaser, 2002b; Elliott and Lazenbatt, 2005; Glaser and Strauss, 1967). This process led to the conclusion that the adoption of ecopreneurship can be explained by four categories including financial factors (FF), market factors (MF), entrepreneurs' characteristics (EC), and employment (EM). as shown in the model below:

**Figure 1: Drivers of Ecopreneurship**



**Figure 2: Barriers to Ecopreneurship**



**5.0 Conclusion and Recommendations**

Based on Pareto's rule that the highest-ranked factors have the greatest influence, it can be concluded that the entrepreneur's characteristics, market factors and financial factors are key drivers of eco-preneurship. Similarly, institutional factors and behavioural factors are the main barriers to eco-preneurship in Uganda. These results are essential for practitioners as they will help increase the chances of eco-preneurship success in Uganda. This theory is grounded on empirical data collected from the proprietors of green businesses (Solar, Briquettes, Seedlings, Eco stoves, nursery beds etc), and policymakers. It has provided a first attempt to theorise the drivers of ecopreneurship in Uganda. It provides a solid framework for building interventions geared towards increasing the adoption of ecopreneurship in Uganda. We recommend further research to test the models developed.

**Implications**

There is need for increased awareness through education and training in order to develop people's passion and vision towards ecopreneurship.

There is need for supportive regulations and action from Government for green businesses by providing attractive incentives

More so practitioners should partner with government and development partners to popularize the regulations and incentives so that more ecopreneurs can pick interest.



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**Appendices**

**Table 5: TRANSCRIBING -Interviews on the key driving factors of eco-preneurship**

<b>Business 1 (B1)</b>	<b>Business 2 (B2)</b>
<ul style="list-style-type: none"> <li>• Willingness to adopt new technology</li> <li>• My desire to create employment</li> <li>• Government focus on environmental protection</li> <li>• Funds are easily accessible for ecofriendly enterprises</li> <li>• I am passionate about environmental conservation</li> <li>• I have a lot of knowledge of my eco-enterprise</li> <li>• The community is becoming aware of the benefits of supporting green products/technology.</li> </ul>	<ul style="list-style-type: none"> <li>• The desire to create employment for myself</li> <li>• I desired to run a business to contribute to the overall well-being of the community</li> <li>• Increasing demand for green products</li> <li>• I want to contribute to environmental conservation</li> <li>• There are many financial incentives for environmentally friendly enterprises</li> <li>• Few businesses in my area are engaged in eco-friendly enterprises</li> </ul>

<p><b>Business 3 (B3)</b>          I love to create employment for myself and the youth in my area          I am passionate about the preservation of the shea trees          Availability of market for shea nut products          A lot of opportunity exists in the area of green business          The business is profitable</p>	<p><b>Business 4 (B4)</b>          I am passionate about bee-keeping          I have the requisite knowledge and skills in bee-keeping          Numerous funding opportunities exist for beekeepers          I have always desired to create jobs for the women and youth in my area          I desire to conserve the environment          Bee-keeping is easy to establish          There are a lot of profits from bee-keeping</p>
<p><b>Business 5 (B5)</b>          Few people engage in green businesses          High demand for green products          Desire to contribute to a healthy society          Creation of employment          Readily available market          I believe in running an environmentally friendly business</p>	<p><b>Business 6 (B6)</b>          Available market          Available capital for start-up          Increased government support for green businesses          I have the knowledge and skills to make the products          Green businesses are cheap to start          I have a huge desire to conserve the environment.</p>
<p><b>Business 7 (B7)</b>          Increasing health concerns among the people          Cheap to startup          Available raw materials          I had the desire to create jobs for the youth in my area          Increasing demand for products          I love to conserve the environment          Support from Civil society organizations for green businesses</p>	<p><b>Business 8 (B8)</b>          The desire to protect the environment          I wanted to create jobs          The market is readily available for bee/hive products          Beekeeping requires little capital to start          There are grants available to bee-keepers          Government initiative          There are many advocacy programs run by CSOs in environmental conservation and protection</p>
<p><b>Business 9 (B9)</b>          Creating jobs for the women and youth around me          There are few green businesses          Funding opportunities for green businesses are many          Availability of raw materials          Cheap materials          The desire to protect the environment</p>	<p><b>Business 10 (B10)</b>          Availability of raw materials          They are cheap to start because they use locally available materials          I am passionate about environmental conservation          There is a high demand for the products          Readily available market          I have the knowledge and skills to make the products</p>

Source: field data (2024)

**Table 6: Open codes and an analysis for theoretical saturation**

Respondent No.	Responses	Codes	Abrev.	Status
B1	Willingness to adopt new technology My desire to be my boss Fill a gap in the market Funds are easily accessible for ecofriendly enterprises I am passionate about environmental conservation	Willingness Own Boss Fill a gap Available funds Passion Knowledge	W OB FG AF P K	

	I have a lot of knowledge of my eco-enterprise High demand for my products	High Demand	HD	
B2	The need to earn a living I desired to run a business to contribute to the overall well-being of the community Increasing demand for green products I want to contribute to environmental conservation/ There are many financial incentives for environmentally friendly enterprises Few businesses in my area are engaged in eco-friendly enterprises	Earn a living Passion  High Demand Passion Financial incentives  Low competition	EL P  HD P FI  LC	N - - - N N
B3	I love to create jobs for myself and the youth I am passionate about the preservation of the shea trees Availability of market for shea nut products The business is profitable I have knowledge in shea processing	Job creation Passion Available market Profits Knowledge	JC P AM Pr K	N - N N -
B4	I am passionate about bee-keeping I have the requisite knowledge of bee-keeping I have skills in bee keeping I always desired to be my own boss I desire to conserve the environment There are a lot profits from bee keeping	Passion Knowledge Skills Own Boss Passion Profit	P K S OB P Pr	- - N - - -
B5	Few people engage in green businesses High demand for green products Desire to contribute to a healthy society Creation of employment Readily available market I believe in running an environmentally friendly business We have locally available materials	Low competition High Demand Passion Job creation Available market Green value Cheap raw materials	LC HD P JC AM GV CRM	- - - - - N N
B6	Available market Available capital for start-up Increased government support for green businesses I have the knowledge I have the skills make products Green businesses are cheap to start I have a huge desire to conserve the environment.	Available Market Available funds Government support Knowledge Skills Cheap to start Passion	AM AF GS K S CS P	- - N - - N -
B7	Cheap to start-up Available raw materials I had the desire to create jobs for the youth Increasing demand for products I love to conserve the environment Support from Civil society organizations for green businesses	Cheap to Start Available Raw materials Job Creation High Demand Passion Civil society Support	CS AR JC HD P CSS	- N - - - N
B8	The desire to protect the environment I wanted to create jobs The market is readily available for bee/hive products Bee-keeping requires little capital to start There are grants available to bee-keepers Government initiative There is a lot of support from CSO's to green business	Passion Job Creation Available market Cheap to Start Available Funds Government support Civil society support	P E AM CS AF GS CSS	- - - - - - -
B9	Creating jobs for the women and youth around me There are few green businesses	Job creation Low Competition	JC LC	- -

	Funding opportunities for green businesses are many Availability of raw materials The raw materials can be obtained cheaply The desire to protect the environment	Available funds Available Raw materials Cheap raw materials Passion	AF AR CM P	- - - -
B10	Availability of raw materials They are cheap to start because they use locally available materials I am passionate about environmental conservation I know how to make the products well There is a high demand for the products Readily available market I know my products	Available Raw materials Cheap to start Passion Skill High Demand Available Market Knowledge	AR CS P  S HD AM K	- - -  - - - -

Source: Field data (2024)

**Table 7: CROSS CASE COMPARISON**

Emergent/ categories	Sub-categories	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	Rating
Financial factors	Available Funds (AF)	1	0	0	0	0	1	0	1	1	0	4/10
	Cheap to Start (CS)	0	0	0	0	0	1	1	1	0	1	4/10
	Financial Incentives (FI)	0	1	0	0	0	0	0	0	0	0	1/10
	Profits (Pr)	0	0	1	1	0	0	0	0	0	0	2/10
Market factors	Low Competition (LC)	0	1	0	0	1	0	0	0	1	0	3/10
	Available market (AM)	0	0	1	0	1	1	0	1	0	1	5/10
	High Demand (HD)	1	1	0	0	1	0	0	0	0	1	4/10
	Fill a Gap (FG)	1	0	0	0	0	0	0	0	0	0	1/10
Entrepreneurs characteristics	Competence (C)	1	0	1	1	0	1	0	0	0	1	5/10
	Behavioral Factors (B)	1	1	0	1	1	1	1	1	1	1	9/10
	Green Value (GV)	0	0	0	0	1	0	0	0	0	0	1/10
External support	Government Support (GS)	0	0	0	0	0	1	0	1	0	0	2/10
	Civil Society Support (CSS)	0	0	0	0	0	0	1	1	0	0	2/10
Raw materials	Available raw materials	0	0	0	0	0	0	1	0	1	1	3/10
	Cheap raw materials	0	0	0	0	1	0	0	0	1	0	2/10
Employment	Job creation	0	0	1	0	1	0	1	1	1	0	5/10
	Own boss	1	0	0	1	0	0	0	0	0	0	2/10

	Earn a living	0	1	0	0	0	0	0	0	0	0	1/10
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Source: Field data (2024)

Objective 2: To explore the barriers of ecopreneurship in Arua City; Ugamda

Table 8: TRANSCRIBING -interviews on the barriers to eco-preneurship

<p><b><u>Business 1 (B1)</u></b></p> <ul style="list-style-type: none"> <li>➤ The lack of appropriate technology</li> <li>➤ Expensive green products as compared to the alternative paper bags</li> <li>➤ The machines required are expensive</li> <li>➤ Limited government commitment towards environmental sustainability</li> <li>➤ Limited funding opportunities for eco-preneurship</li> <li>➤ Unstable business environmental</li> <li>➤ Double standard Policies</li> <li>➤ Limited producer awareness of policies about eco-enterprises.</li> <li>➤ Fear of no profits from green businesses</li> </ul>	<p><b><u>Business 2 (B2)</u></b></p> <ul style="list-style-type: none"> <li>➤ High financial risk</li> <li>➤ Unclear vision</li> <li>➤ Lack of balance between profits and environmental protection</li> <li>➤ Lack of clear environmental standards</li> <li>➤ Uncertain environmental regulations</li> <li>➤ Too much focus on profits</li> <li>➤ Consumers find green products expensive</li> <li>➤ Funding is limited</li> <li>➤ Lack of standardisation of green products</li> </ul>
<p><b><u>Business 3 (B3)</u></b></p> <ul style="list-style-type: none"> <li>➤ Weak enforcement of environmental regulations</li> <li>➤ Obsolete environmental standards</li> <li>➤ Limited guidance on the implementation of the existing standards</li> <li>➤ Limited motivation to run a non-profit-oriented enterprise</li> <li>➤ Unclear policies regarding green business</li> <li>➤ Limited incentives for green businesses</li> <li>➤ Fear of no profits from green businesses</li> <li>➤ Limited producer awareness of policies about eco-enterprises</li> </ul>	<p><b><u>Business 4 (B4)</u></b></p> <ul style="list-style-type: none"> <li>➤ High competition from alternative products and technologies</li> <li>➤ Lack of awareness of consumers on eco-friendly products/technologies</li> <li>➤ Policies that do not support eco-preneurship</li> <li>➤ Limited government commitment towards environmental sustainability</li> <li>➤ Limited funding opportunities for ecopeneurship</li> <li>➤ Obsolete environmental standards</li> <li>➤ Policies of green businesses are not clear</li> </ul>
<p><b><u>Business 5 (B5)</u></b></p> <ul style="list-style-type: none"> <li>➤ Limited knowledge of my products</li> <li>➤ limited technology</li> <li>➤ Limited technical know-how</li> <li>➤ Limited Passion</li> <li>➤ Limited producer awareness of policies about eco-enterprises.</li> <li>➤ High financial risk</li> <li>➤ Unclear vision</li> <li>➤ Poor attitudes of consumers towards eco-friendly products/technologies</li> <li>➤ Limited guidance on the implementation of the existing standards</li> </ul>	<p><b><u>Business 6 (B6)</u></b></p> <ul style="list-style-type: none"> <li>➤ High financial risk</li> <li>➤ Unclear vision</li> <li>➤ Lack of balance between profits and environmental protection</li> <li>➤ Lack of clear environmental standards</li> <li>➤ Uncertain environmental regulations</li> <li>➤ Too much focus on profits</li> <li>➤ Fear of no profits from green businesses</li> <li>➤ Weak enforcement of environmental regulations</li> <li>➤ High competition from alternative products</li> <li>➤ Limited guidance on the implementation of the existing standards</li> <li>➤ Unstable business environment</li> </ul>
<p><b><u>Business 7 (B7)</u></b></p> <ul style="list-style-type: none"> <li>➤ Lack of balance between profits and environmental protection</li> <li>➤ Lack of clear environmental standards</li> </ul>	<p><b><u>Business 8 (B8)</u></b></p> <ul style="list-style-type: none"> <li>➤ Lack of clear environmental standards</li> <li>➤ Uncertain environmental regulations</li> <li>➤ Too much focus on profits</li> </ul>

<ul style="list-style-type: none"> <li>➤ Uncertain environmental regulations</li> <li>➤ Too much focus on profits</li> <li>➤ Fear of no profits from green businesses</li> <li>➤ Weak enforcement of environmental laws</li> <li>➤ Obsolete environmental standards</li> <li>➤ Limited motivation to run a non-profit-oriented enterprise</li> <li>➤ Unclear policies regarding green business</li> <li>➤ Limited incentives for green businesses</li> <li>➤ High competition</li> </ul>	<ul style="list-style-type: none"> <li>➤ Fear of no profits from green businesses</li> <li>➤ Weak enforcement of environmental regulations</li> <li>➤ Obsolete environmental standards</li> <li>➤ Limited guidance on the implementation of the existing standards</li> <li>➤ Limited motivation to run a non-profit-oriented enterprise</li> <li>➤ Unclear policies regarding green business</li> </ul>
<p><b><u>Business 9 (B9)</u></b></p> <ul style="list-style-type: none"> <li>➤ Limited Passion</li> <li>➤ Limited producer awareness of policies about eco-enterprises.</li> <li>➤ High financial risk</li> <li>➤ Unclear vision</li> <li>➤ Lack of balance between profits and environmental protection</li> <li>➤ Lack of clear environmental standards</li> <li>➤ Uncertain environmental regulations</li> <li>➤ Too much focus on profits</li> </ul>	<p><b><u>Business 10 (B10)</u></b></p> <ul style="list-style-type: none"> <li>➤ Unclear policies regarding green business</li> <li>➤ Limited incentives for green businesses</li> <li>➤ High competition from alternative products and technologies</li> <li>➤ Lack of awareness of consumers on eco-friendly products/technologies</li> <li>➤ Poor attitudes of consumers toward eco-friendly products/technologies</li> <li>➤ Policies that do not support eco-preneurship</li> <li>➤ Limited government commitment towards environmental sustainability</li> <li>➤ Limited funding opportunities for eco-preneurship</li> <li>➤ Unstable business environment</li> <li>➤ Double standard Policies</li> </ul>

Source: Field data (2024)

**Table 9: Open codes and Analysis for theoretical saturation**

Respondent No.	Responses	Codes	Abr	Status
B1	The lack of appropriate technology Expensive green products as compared to the alternative paper bags The machines required are expensive Limited government commitment towards environmental sustainability Limited funding opportunities for eco-preneurship Unstable market conditions Weak Policies Fear of no profits from green businesses Poor attitudes of consumers toward eco-friendly products	Appropriate Technology Expensive products Expensive machines Gov't Commitment Funding opportunities Market conditions Weak Policies Fear Consumer attitude	AT EP EM GC FO MC WP F AC	



B2	High financial risk Unclear vision Lack of balance between profits and environmental protection Uncertain environmental regulations Too much focus on profits Consumers find green products expensive Funding is limited Lack of standardisation of green products	Financial risk Unclear vision Unclear vision Environmental laws Profit focus Expensive products Limited funding Unclear Product standards	FR UV UV ER PF EP LF UPS	N N - N N - N N
B3	Weak enforcement of environmental regulations Obsolete environmental standards Limited guidance on the implementation of the existing standards Limited motivation to run a non-profit-oriented enterprise Unclear policies regarding green business	Weak enforcement Obsolete standards Limited guidance Profit focus Unclear policies Limited incentives Fear	WE OS LG PF UP LI F	N N N - N N -
B4	High competition from alternative products and technologies Lack of awareness of consumers on eco-friendly products/technologies Limited government support for eco-preneurship Limited gov't commitment toward environmental sustainability Obsolete environmental standards Policies of green businesses are not clear Limited technical know-how	High competition Consumer awareness Government support Government commitment Obsolete standards Unclear policies Limited skills	HC CA GS GC OS UP LS	N N N - - - -
B5	Limited knowledge of my products Limited technology Limited Passion Limited producer awareness of policies about eco-enterprises. High financial risk Unclear vision	Limited knowledge Limited technology Limited passion Limited knowledge Financial risk Unclear vision Limited guidance	LK LT LP LK F UV LG	N N N - - - -
B6	High financial risk Unclear vision Lack of balance between profits and environmental protection Lack of clear environmental standards Uncertain environmental regulations Too much focus on profits Fear of no profits from green businesses Weak enforcement of environmental regulations High competition from alternative products Limited guidance on the implementation of the existing standards Unstable business environment Limited producer awareness of policies about eco-enterprise	Financial risk Unclear vision Unclear vision Unclear Environmental standards Environmental regulations Profit focus Fear Weak enforcement High competition Limited guidance Market conditions Limited knowledge	FR UV UV UES ER PF F WE HC LG MC LK	- - - N - - - - - - - - -

B7	Lack of balance between profits and environmental protection Lack of clear environmental standards Uncertain environmental regulations Too much focus on profits Fear of no profits from green businesses Weak enforcement of environmental regulations Obsolete environmental standards Limited motivation to run a non-profit-oriented enterprise Unclear policies regarding green business	Unclear vision Unclear standards Environmental regulations Profit focus Fear Weak enforcement Obsolete standards Profit focus Unclear policies Limited incentives High competition	UV UES ER PF F WE OS PF UP LI HC	- - - - - - - - - - -
B8	Lack of clear environmental standards Uncertain environmental regulations Too much focus on profits Fear of no profits from green businesses Weak enforcement of environmental regulations Obsolete environmental standards Limited guidance on the implementation of the existing standards Limited motivation to run a non-profit-oriented enterprise	Environmental standards Environmental regulations Profit focus Fear Weak enforcement Obsolete standards Limited guidance Profit focus Unclear policies	ES ER PF F WE OS LG PF UP	- - - - - - - - -

Source: Field data (2024)

**Table 10: Axial coding process from open codes to categories**

Interview question	Open code	Categories	
What are the barriers to eco-preneurship?	Appropriate technology (AT)	Technology	
	Expensive Machines (EM)		
	Limited Technology (LT)		
	Unclear policies (UP)	Policy	
	Weak Policies (WP)		
	Limited incentives (LI)	Finance	
	Financial Risk (FR)		
	Funding opportunity (FO)		
	Limited Skills (LS)		
	Limited knowledge (LK)	Competence	
	Expensive Products (EP)		
	Consumer Awareness (CA)	Market factors	
	Uncertain market conditions		
	Consumer attitude		
	High competition (HC)		
	Limited Passion(P)		Behavioral factors
	Unclear vision		
Profit focus			
Fear			
	Government support	Government	

	Government commitment	
	Limited Guidance	
	Unclear environmental standards (UES)	Standards
	Unclear Product Standards (UPS)	
	Obsolete Standards (OS)	
	Unclear -Regulations (UR)	Regulations
	Weak Enforcement (WE)	

Source: Field data (2024)

**Table 10: Cross case comparison**

Sub-categories	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	Rating
Competence (C)	0	0	0	1	1	1	0	0	1	0	4/10
Technological factors (T)	1	0	0	0	1	0	0	0	0	0	2/10
Behavioral Factors (B)	1	1	1	0	1	1	1	1	1	1	9/10
Institutional Factors(I)	1	1	1	1	1	1	1	1	1	1	10/10
Market factors (M)	1	1	0	1	0	1	1	0	0	1	6/10
Financial Factors (F)	1	1	1	0	1	1	1	0	1	1	8/10

Source: Field data (2024)