

Original Article

# Balancing People, Profit, and Planet: Sustainable Entrepreneurship Practices for Social, Economic, and Environmental Impact in Developing Economies" A Case Study of Iringa, Tanzania

Yohana Tweve

Department of Management Science and Procurement, Ruaha Catholic University, Iringa, Tanzania.

Corresponding Author : [yohanatweve@yahoo.com](mailto:yohanatweve@yahoo.com)

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**Abstract** - This study explores the integration of sustainability in entrepreneurial practices within the Iringa region of Tanzania. Using a sample size of 140 respondents, the research examines how local entrepreneurs navigate the challenges of balancing profitability with social and environmental responsibility. The study employs a mixed-method approach, combining quantitative surveys and qualitative interviews to gather insights on how regional businesses align with sustainable development goals. Key findings indicate that while economic growth remains a priority for most entrepreneurs, there is a growing awareness of the importance of environmental conservation and social welfare in business operations. However, several constraints hinder broader adoption, including limited access to capital, inadequate policy support, and a lack of awareness about sustainable practices. The study concludes that achieving a balance between economic, social, and environmental goals requires concerted efforts from entrepreneurs, policymakers, and the broader community. It recommends that local governments and financial institutions actively promote sustainable business practices through capacity building, incentives, and stronger regulatory frameworks. The findings contribute to the ongoing discourse on sustainable entrepreneurship in developing economies and provide practical insights for fostering inclusive and environmentally-conscious business growth in rural regions like Iringa.

**Keywords** - Sustainable entrepreneurship, Environmental sustainability, Developing economies, Triple bottom line, Sustainable development goals (SDGs).

## 1. Introduction

Sustainable entrepreneurship has gained significant attention recently, particularly in developing economies where the need to balance economic growth with social and environmental responsibilities is increasingly critical. The challenge of achieving a harmonious balance between people, profit, and the planet has led to the emergence of business practices that aim to generate economic value while addressing pressing social and environmental issues. In Iringa, a region marked by its agrarian economy and evolving entrepreneurial landscape, the integration of sustainable practices has the potential to drive transformative change. However, entrepreneurs in this region often face challenges such as limited access to resources, inadequate infrastructure, and policy gaps, which hinder their ability to embrace sustainable business models fully. This research sought to examine the practices of sustainable entrepreneurship in Iringa, focusing on the social, economic, and environmental impacts of such initiatives. By exploring

the experiences and strategies of local entrepreneurs, this study aimed to provide insights into the opportunities and obstacles that exist in promoting sustainability within developing economies. The findings of this study hold relevance not only for Iringa but also for other regions with similar socio-economic contexts, where sustainable entrepreneurship could catalyze inclusive growth and environmental stewardship.

The evolution of entrepreneurial approaches integrating social and environmental considerations into business strategies has gained significant attention in recent decades. This shift reflects a growing recognition of the need to address pressing global issues like climate change and social inequity [1]. The traditional focus on wealth creation has evolved towards sustainable development, with entrepreneurs increasingly seen as change agents for solving societal challenges [2, 3]. Social entrepreneurship education has emerged to foster sustainable businesses by developing



students' knowledge, skills, and attitudes to address social and environmental challenges through entrepreneurial solutions [4]. However, research in this field has been bifurcated into separate social and environmental entrepreneurship domains, leading to potential redundancies and unrealized synergies [3]. A more integrated approach is needed to effectively balance economic goals with environmental and social concerns in business strategies [1].

The triple bottom line (TBL) concept, encompassing profit, people, and planet, has become central to sustainable entrepreneurship and economic development [5, 6]. This approach recognizes that long-term economic success is intertwined with environmental stewardship and social well-being [7]. Sustainable entrepreneurship, which integrates these elements, has emerged as a key strategy for addressing challenges in developing economies [8]. Research suggests that the TBL components are integrated sequentially rather than simultaneously in the entrepreneurial process [7]. Environmental dimensions, including green and non-green initiatives, are crucial in achieving entrepreneurs' sustainable goals [8]. Adopting TBL principles requires a paradigm shift in metrics beyond traditional profitability measures [5]. As sustainable entrepreneurship evolves, it presents opportunities for advancing theory and practice in economic development [6].

Sustainable entrepreneurship has emerged as a crucial force in addressing global environmental and social challenges, aligning with the United Nations' Sustainable Development Goals (SDGs) [9]. This approach integrates economic, social, and ecological objectives, emphasizing green business practices and eco-innovation [10]. Research indicates that sustainable entrepreneurship significantly impacts SDGs 11, 12, and 8, focusing on sustainable cities, responsible consumption, and economic growth [9]. However, entrepreneurs face challenges such as market acceptance, regulatory constraints, and financial implications [10]. Small and medium-sized enterprises (SMEs) play a crucial role in this transition, striving to act as "good corporate citizens" by sustaining the environment and caring for society [11]. Despite these efforts, existing institutional structures often favor unsustainable businesses, necessitating institutional changes initiated by entrepreneurs [12].

Sustainable entrepreneurship has gained traction in developed economies as a response to environmental and social challenges, presenting business opportunities and moral imperatives [12, 13]. Consumers are increasingly aware of the implications of their purchasing decisions, prompting companies to adopt sustainable practices [10]. Digital technologies play a crucial role in this transformation, enhancing the integration of social and environmental considerations into business strategies [14]. The literature highlights the importance of collaboration among

stakeholders to foster sustainable entrepreneurship while addressing barriers such as market acceptance and regulatory constraints [10, 12]. Overall, the intersection of innovation, technology, and sustainability is pivotal for businesses aiming to reduce their ecological footprints and align with consumer expectations [10, 13].

Recent studies have explored the complex relationship between sustainability and profitability in various sectors. While some research suggests a negative correlation between sustainability reporting and profitability in Indonesian banks and non-banks [15], other studies indicate a more nuanced relationship. A global analysis of over 5,000 companies across 10 sectors found that financial performance and sustainability are interrelated, with varying connection strengths depending on the industry [16]. In the agri-food sector, top-performing sustainable companies tend to improve future profitability. At the same time, lower-performing firms should focus on specific initiatives like responsible products and eco-innovation to enhance profitability [17]. The link between competitiveness and sustainability is not straightforward, as being sustainable can contribute to competitiveness, but the reverse is not necessarily true [18]. These findings highlight the importance of sector-specific approaches when examining the sustainability-profitability relationship.

Sustainable entrepreneurship in developing economies presents both opportunities and challenges. These regions face poverty, unemployment, and inadequate infrastructure while vulnerable to climate change and environmental degradation [19]. Sustainable entrepreneurship integrates social and environmental aspects with entrepreneurial activities, offering a potential solution to break the "vicious circle" between poverty and environmental deterioration [19, 20]. Research on sustainable entrepreneurship in emerging economies is still nascent, with studies focusing on individual, organizational, institutional, and cultural factors [21]. There is a growing interest in the reciprocal relationship between sustainable development and entrepreneurship in these countries [22]. Governments and policymakers should promote entrepreneurial activity while controlling negative environmental impacts to achieve sustainable development goals [20, 22].

Sustainable entrepreneurship is emerging as a powerful tool to address social and environmental challenges while promoting economic growth in developing economies [23, 24]. However, sustainable entrepreneurs face unique obstacles, including institutional barriers such as limited financial, administrative, and informational support [25]. They also experience a higher fear of personal failure due to complex stakeholder relations [25]. Despite these challenges, sustainable entrepreneurship based on frugal innovation can lead to positive social outcomes like female empowerment, improved healthcare access, and environmental benefits

through sustainable products and production techniques [23]. Research on sustainable entrepreneurship in emerging economies is still nascent, with key themes including individual, organizational, and institutional factors and cultural and social influences [21].

Sustainable entrepreneurship in Africa presents both challenges and opportunities for inclusive growth and development. While informal entrepreneurship currently contributes to environmental degradation, higher levels of innovation and institutional quality can positively impact sustainability [26]. African countries have made significant progress in economic reforms, improving macroeconomic management, and creating a conducive environment for private investment and entrepreneurship [27]. Governments play a crucial role in fostering business sustainability, particularly in the agribusiness sector, by implementing robust policy frameworks, removing constraints in agricultural value chains, and providing critical infrastructure [28]. To achieve sustainable and inclusive growth, African nations must focus on formalizing the informal sector [26], identifying niche markets for specific commodities [28], and continuing to integrate into the global economy [27].

Entrepreneurship in Africa has shown significant growth, driven by factors such as urbanization, connectivity, and government initiatives [10]. However, entrepreneurs face numerous challenges, including inadequate infrastructure, limited access to credit, and weak regulatory environments [25, 29]. Sustainable entrepreneurs, in particular, perceive more institutional barriers and fear personal failure due to complex stakeholder relations [25]. Despite these obstacles, sectors like renewable energy, eco-tourism, and sustainable agriculture are promising for addressing economic and environmental challenges [29]. African countries have made progress in economic reforms and integration into the global economy, creating a more conducive environment for entrepreneurship [27]. However, understanding the complexities of entrepreneurship in Africa remains challenging, and there is a need for comprehensive strategies to address context-specific impediments and foster sustainable economic development [10].

Sustainable agriculture and entrepreneurship are gaining importance in Tanzania's economic development. Conservation Agriculture (CA) has shown the potential to improve food security and rural livelihoods by controlling erosion and producing stable yields [30]. Tanzania's diverse agro-ecological zones present varying challenges and opportunities for agricultural sustainability, with efficient practices increasing crop yields and improving farmers' livelihoods [31]. Social entrepreneurship is emerging as a crucial factor in addressing social problems, reducing unemployment, and empowering vulnerable individuals despite facing challenges such as poor infrastructure and

limited funding [32]. Entrepreneurship training has been found to positively impact the sustainability of SMEs, particularly in areas such as customer service, opportunity identification, and record keeping. However, high costs often prevent entrepreneurs from accessing this training, highlighting the need for government interventions to improve accessibility and affordability [33]. These efforts collectively contribute to balancing economic growth with environmental preservation and social development in Tanzania.

Tanzania's agricultural sector is crucial in its economic development and poverty reduction efforts [34]. The government has prioritized sustainable agriculture and industrialization in its Vision 2025, aiming to achieve middle-income status [34]. There is growing interest in promoting sustainable agricultural practices, including agroecology and climate-smart agriculture (CSA). Agroecology has shown potential for creating inclusive and sustainable agricultural livelihoods in the Uluguru Mountains [35]. Evidence from Tanzania supports the potential of CSA, demonstrating positive impacts on productivity and mixed effects on resilience [36]. The country's diverse agro-ecological zones present varying potentials and challenges for agricultural sustainability. Efficient agricultural practices have increased income and food security by 50% in resilient and 10% in vulnerable zones [31]. Improved agronomic practices, such as animal manure fertilization, have significantly increased crop yields, benefiting about 70% of Tanzanian farmers [31].

Tanzanian entrepreneurs face challenges in adopting sustainable business practices, including limited market access, inadequate knowledge, and financial constraints [37, 38]. However, progress is evident in renewable energy initiatives, particularly solar energy projects in rural areas [39]. Entrepreneurs employ creative and bricolage methods to address sustainability, contributing to waste management, recycling, and job creation [38]. Entrepreneurship training has positively impacted SME sustainability, with customer service, opportunity identification, and record-keeping skills being crucial [33]. Nevertheless, high costs often prevent access to such training [33]. The adoption of solar PV technology faces barriers, including limited finance access, weak policy enforcement, and technical capacity issues [39]. To overcome these challenges and promote sustainable business practices, interventions from the government and other authorities are necessary to improve access to training and resources [33, 39].

This study's research gap lies in the limited understanding of how sustainable entrepreneurship practices could be effectively implemented in developing economies, particularly in balancing social, economic, and environmental impacts. While the global discourse on

sustainability had gained momentum, much of the existing research focused on developed nations, leaving a gap in knowledge regarding the unique challenges and opportunities entrepreneurs face in regions such as Africa and Tanzania. Additionally, previous studies often emphasized the environmental or economic aspects of sustainability, overlooking the interconnectedness of the social dimension. There was also a lack of empirical evidence on how entrepreneurs in developing economies navigated financial constraints, regulatory challenges, and market access while trying to adopt sustainable practices.

The study explored how sustainable entrepreneurship practices could balance developing economies' social, economic, and environmental impacts. Specifically, the study aimed to examine entrepreneurs' implementation of the "people, profit, planet" framework in these regions, focusing on understanding the unique challenges and opportunities they faced. It sought to analyze how entrepreneurs in developing economies, particularly in Africa and Tanzania, navigated issues such as limited access to resources, financial constraints, and regulatory challenges while striving to adopt sustainable business models. Additionally, the study aimed to provide empirical evidence on the role of sustainable entrepreneurship in promoting inclusive growth, environmental conservation, and social equity. By doing so, the study intended to offer insights into the effectiveness of sustainable practices in driving long-term economic development and environmental sustainability in regions where traditional business models had often fallen short.

The significance of the study was rooted in its potential to contribute valuable insights into the role of sustainable entrepreneurship in developing economies. It aimed to address critical knowledge gaps by highlighting how entrepreneurs could balance social, economic, and environmental objectives, thus offering a more holistic approach to development. The study's findings were expected to inform policymakers, business leaders, and development practitioners about the challenges and opportunities associated with implementing sustainable business models in regions like Africa and Tanzania. By focusing on the "people, profit, planet" framework, the research aimed to demonstrate the potential of sustainable entrepreneurship to foster inclusive economic growth, reduce poverty, and enhance environmental conservation. Additionally, the study was significant in providing practical recommendations to entrepreneurs facing financial and regulatory challenges, encouraging adopting sustainable practices. Eventually, the study sought to promote long-term resilience and sustainability in regions often affected by unsustainable business practices.

## 2. Methodology of the Study

The methodology of this study was designed to investigate how sustainable entrepreneurship practices could

balance social, economic, and environmental impacts in the developing economy of Tanzania, specifically within the Iringa region. The study employed a mixed-methods approach, combining quantitative and qualitative techniques to gather comprehensive data.

### 2.1. Research Design

A descriptive cross-sectional design was used to examine the region's current state of sustainable entrepreneurship practices. This design enabled data collection at a specific time, allowing the researcher to capture trends and patterns in sustainable business activities among entrepreneurs in Iringa.

### 2.2. Population and Sample

The study population consisted of entrepreneurs operating in the Iringa region across diverse sectors, including agriculture, manufacturing, and services. A purposive sampling technique was used to select 140 entrepreneurs who were either already engaged in or were actively transitioning toward sustainable business practices. The sample was chosen to ensure representation across different sectors and business sizes. Entrepreneurs were selected from urban and rural areas to capture the diversity of entrepreneurial activities within the region.

### 2.3. Data Collection

Quantitative data were collected through structured questionnaires distributed to the 140 selected entrepreneurs. The questionnaires sought to gather information on business operations, the challenges entrepreneurs faced in implementing sustainable practices, and their businesses' social, economic, and environmental impacts. The structured format allowed for easy data comparison and statistical analysis. Qualitative data were gathered through semi-structured interviews with a subset of 20 entrepreneurs from the original sample. These interviews provided deeper insights into their experiences, motivations for adopting sustainable practices, and strategies to overcome challenges. Key stakeholders, including local government officials and business support organizations, were also interviewed to understand the regulatory environment and the level of support for sustainable entrepreneurship in Iringa.

### 2.4. Area of Study

The study was conducted in the Iringa region, a key area in Tanzania known for its agricultural activities and growing industrial sector. The region was chosen due to its strategic importance to Tanzania's economic development, making it an ideal case for studying the interplay between sustainability and entrepreneurship.

### 2.5. Data Analysis

Quantitative data were analyzed using descriptive statistics to summarize demographic characteristics, types of businesses, and the extent of adoption of sustainable

practices. For qualitative data, thematic analysis was employed. Interview transcripts were coded and analyzed to identify recurring themes related to the motivations, barriers, and strategies for achieving sustainability in business. This method allowed for identifying common challenges and unique approaches specific to the entrepreneurs in the Iringa region.

This mixed-methods approach thoroughly explored sustainable entrepreneurship practices in the Iringa region, combining statistical insights with personal narratives. By integrating both quantitative and qualitative data, the study provided a comprehensive understanding of how entrepreneurs in a developing economy spanned the balance between people, profit, and the planet.

### 3. Results and Discussions

In this section, the results and discussion of the findings are presented. They begin with simple demographic information of 140 respondents followed by main indicating factors in the form of social impact, economic impact, environmental impact, adoption of sustainable practice and challenges in adopting sustainability.

#### 3.1. Demographic Information of the Respondents

This part presents general information of the respondents, such as gender, age, education levels, experience in entrepreneurship, Business sector of respondents, Geographical distribution of respondents, access to finance and motivation for sustainable entrepreneurship. All this information has been obtained from respondents approached with interviews and questionnaires.

##### 3.1.1. Gender of respondents

The analysis of gender distribution among respondents revealed a significant imbalance between male and female participants as stipulated in figure 1. Out of a total sample size of 140 respondents from the Iringa region, 98 were male, constituting 70% of the total. This marked predominance of male participants highlighted the gender dynamics in entrepreneurial activities within the region. Historically, men in many developing economies, including those in Tanzania, were more likely to dominate formal and informal business sectors due to societal structures that often-favored male leadership and control over resources. This could have reflected the cultural, social, and economic conditions where men were traditionally perceived as primary breadwinners or business leaders, thus actively engaging in entrepreneurial ventures. In contrast, only 42 participants, or 30% of the total sample, were female, indicating the underrepresentation of women in sustainable entrepreneurship practices. This disparity may have been influenced by several factors, such as limited access to capital, fewer opportunities for training, and societal norms that restricted women's roles in business and entrepreneurship. While women in the Iringa region

might have been engaged in economic activities, their participation in sustainable entrepreneurship, especially in ventures that balanced social, economic, and environmental objectives, appeared to be limited. The data suggested that more efforts were needed to support women in overcoming barriers to entrepreneurship, particularly in promoting sustainable practices that could benefit the economy, environment, and social well-being. The gender imbalance observed in this study underlined the importance of fostering inclusive entrepreneurship that empowers both men and women. Sustainable entrepreneurship requires the participation of all gender groups to effectively address the challenges of balancing profit, social impact, and environmental sustainability.

##### 3.1.2. Age of Respondents

An analysis of the age distribution among the respondents in the Iringa region revealed a diverse range of age groups participating in sustainable entrepreneurship. The largest age group represented was the 30–39-year range, with 56 respondents constituting 40% of the total sample, as shown in figure 1. This age group was often considered to be at the peak of their professional lives, balancing experience with energy and adaptability. Individuals in this range likely developed entrepreneurial ventures after gaining substantial experience and capital, positioning them well to adopt sustainable practices. Their relatively high participation indicated a willingness to engage in economic activities that had the potential to balance profit with social and environmental concerns.

The second largest group was those aged 40–49, comprising 42 respondents or 30% of the total. This group likely included more established entrepreneurs who had been running businesses longer. Their participation suggested that mid-career entrepreneurs were actively involved in sustainable business practices, perhaps driven by the desire to integrate environmental and social considerations into their enterprises after years of operating within more traditional business models. The experience accumulated by this group could have contributed to their ability to navigate the complexities of sustainable entrepreneurship, balancing long-term profitability with the need for social and environmental responsibility.

The youngest group, aged 18–29, accounted for 15% of the sample, with 21 respondents in figure 1. This relatively small proportion might have reflected younger entrepreneurs' challenges in accessing the resources and networks needed to engage in sustainable entrepreneurship. However, their involvement was significant, as younger entrepreneurs were often seen as more open to innovation and the adoption of sustainable practices. Their presence in the study pointed to the growing interest among younger generations in business models prioritising profit and social and environmental impact.

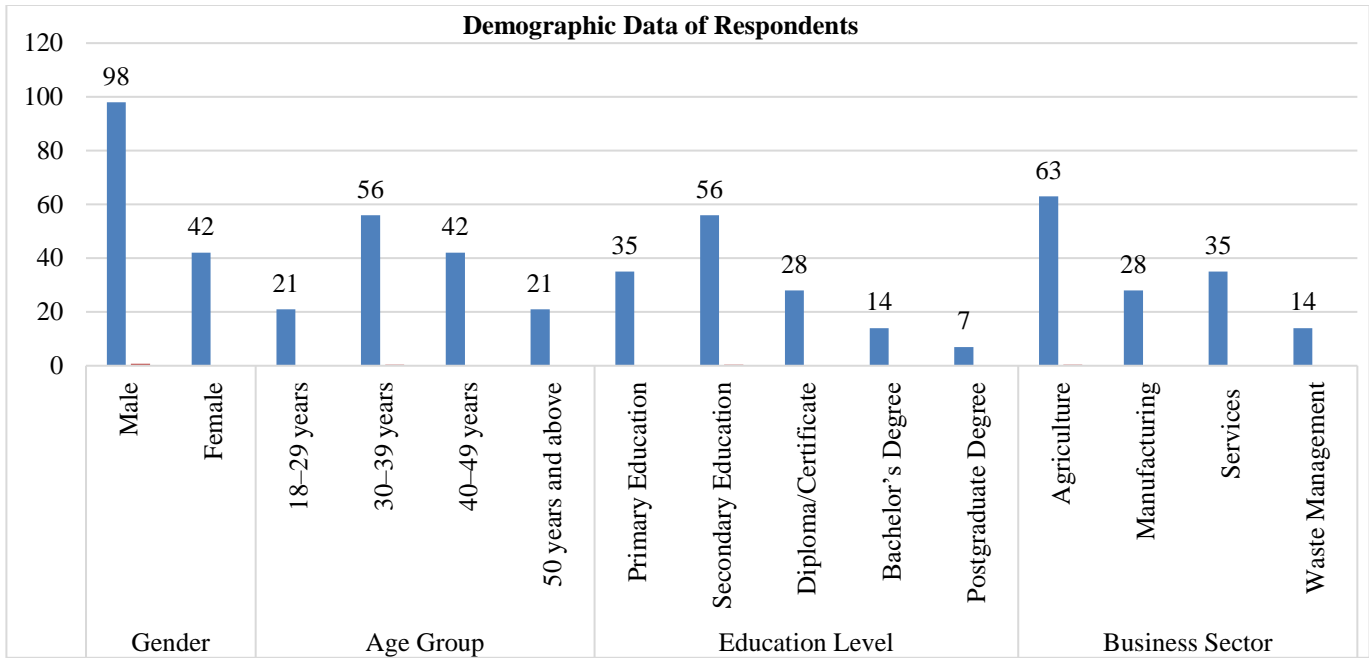


Fig. 1 Demographic Information on Gender, Age, Education and Sector

Similarly, participants aged 50 years and above also comprised 15% of the sample, with 21 participants. Entrepreneurs in this age group were likely to have had extensive experience in business. However, their smaller representation could have been due to various factors, such as the difficulty of shifting long-established business practices toward sustainability or a tendency to retire from active entrepreneurship. However, their participation indicated that even older entrepreneurs were beginning to recognize the importance of sustainability in modern business practices, balancing their accumulated wealth and influence with the need to contribute to social and environmental causes. Overall, the diverse age distribution in the Iringa region was not confined to any single age group. Instead, people across various stages of life were engaging in efforts to balance people, profit, and the planet. However, younger and older entrepreneurs face unique challenges in integrating sustainability into their business models.

3.1.3. Education Level of Respondents

The educational background of respondents provided key insights into how individuals approached sustainable entrepreneurship. Figure 1 shows the largest group of participants, 56 respondents or 40%, had completed secondary education. This suggested that many entrepreneurs in the Iringa region had a basic educational foundation, enabling them to participate in entrepreneurial activities. However, they may have lacked advanced knowledge in sustainability. With secondary education, these entrepreneurs were likely familiar with fundamental business concepts. However, they might have struggled to fully grasp the complexities of balancing social, environmental, and

economic goals in their ventures. Following this group, 35 respondents, or 25% of the sample, had only attained primary education. This group represented a substantial portion of the local entrepreneurial population, highlighting that many business owners operated with limited formal education. Despite these limitations, entrepreneurs with primary education played a crucial role in the local economy and demonstrated that practical experience could compensate for a lack of formal education in entrepreneurship. However, their lower educational attainment likely constrained their ability to implement sophisticated sustainable practices.

The third-largest group consisted of 28 respondents, or 20%, who had earned a diploma or certificate. This group had likely received specialized vocational training, equipping them with practical skills that could be directly applied to entrepreneurship. Entrepreneurs with diplomas or certificates were probably better prepared to integrate sustainable business practices into their operations than those with only primary or secondary education. Their specialized knowledge and skills allowed them to address environmental and social challenges more effectively, indicating the value of technical education in promoting sustainable entrepreneurship. A smaller group of respondents, comprising 14 individuals or 10%, had obtained a bachelor's degree. These individuals were likely to have been more familiar with advanced business concepts and sustainability frameworks. Their higher education would have enabled them to approach entrepreneurship strategically, focusing on long-term sustainability goals alongside profit-making. The relatively low percentage of degree holders suggested that higher education was still limited among entrepreneurs in the Iringa region. However, those with degrees were better

positioned to lead in sustainable business innovation. Lastly, 7 respondents, or 5%, held postgraduate degrees. This highly educated group represented the smallest portion of the sample but likely had the greatest capacity to implement complex sustainable practices. Their advanced education gave them critical analytical skills and a deeper understanding of the interplay between economic, social, and environmental factors. Despite their small numbers, these entrepreneurs were pivotal in demonstrating how education at higher levels could drive sustainable entrepreneurship.

Generally, the educational diversity in the study emphasized the importance of tailoring support for entrepreneurs based on their educational background. While many operated with basic education, those with more advanced qualifications were better positioned to lead sustainable business practices. Expanding access to education and training on sustainability could help bridge the gap and enable all entrepreneurs to contribute meaningfully to sustainable development.

#### 3.1.4. Business Sector of Respondents

The business sector distribution among respondents highlighted key economic activities contributing to sustainable entrepreneurship in the region, as shown in Figure 1. Agriculture emerged as the dominant sector, with 63 respondents representing 45% of the total sample. This prominence of agriculture was unsurprising, as Iringa is a predominantly rural area where farming is the backbone of the local economy. Entrepreneurs in the agricultural sector were likely engaged in both subsistence and commercial farming, with sustainability practices centered around efficient resource use, soil conservation, and balancing profit with environmental stewardship. The strong presence of agriculture suggested that efforts to promote sustainable practices in this sector could have far-reaching social, economic, and environmental impacts, as it employed a large portion of the population and directly influenced food security and rural livelihoods.

The services sector, encompassing retail, hospitality, and other related businesses, followed with 35 respondents, making up 25% of the sample. This sector was critical to the local economy, as it provided essential goods and services to both the rural and urban populations in Iringa. Entrepreneurs in services likely faced challenges in adopting sustainable practices, particularly in waste management, resource efficiency, and balancing profit with social responsibility. However, the services sector also had significant potential for fostering sustainable development, as it directly impacted consumer behavior and could promote environmentally friendly products and practices. For example, hospitality businesses might have been encouraged to adopt green practices such as energy conservation and waste reduction, contributing to the region's broader goals of sustainable entrepreneurship.

Manufacturing was another significant sector, accounting for 28 respondents, or 20% of the total. While smaller than agriculture and services, the manufacturing sector was critical in driving industrial development in Iringa. Entrepreneurs in this sector likely faced distinct challenges related to sustainable production processes, such as energy efficiency, reducing waste, and sourcing raw materials responsibly. However, the potential for sustainability in manufacturing was substantial, as small and medium enterprises in the region could adopt eco-friendly technologies and practices that minimized environmental impact while maintaining profitability. The presence of this sector highlighted the importance of integrating sustainability into industrial development to balance economic growth with environmental protection.

Though representing the smallest sector with 14 respondents (10%), waste management played an essential role in the region's sustainability efforts. Entrepreneurs in waste management were at the forefront of addressing environmental challenges by developing innovative solutions for waste reduction, recycling, and promoting a circular economy. Their businesses directly contributed to the environmental pillar of sustainability by reducing pollution, managing waste streams, and creating green jobs. Despite being a smaller sector, waste management was pivotal in supporting the region's broader goals of achieving environmental sustainability and balancing the needs of people, profit, and the planet. Therefore, the distribution of business sectors in the study reflected the diversity of the local economy in Iringa. While agriculture dominated, services, manufacturing, and waste management were critical in promoting sustainable entrepreneurship. Each sector faced unique challenges but also had significant opportunities to contribute to the region's social, economic, and environmental impact.

#### 3.1.5. Years of Entrepreneurial Experience

The respondents' years of entrepreneurial experience varied, offering a comprehensive view of how experience influenced sustainable business practices. The majority of respondents, as shown in Figure 2, 56 individuals or 40%, had between 5 to 10 years of entrepreneurial experience. This group represented a critical segment of entrepreneurs who had likely transitioned from startup phases to more stable business operations. Having navigated the early challenges of entrepreneurship, these individuals were likely more capable of integrating sustainable practices into their businesses. Their moderate experience allowed them to strike a balance between profitability and sustainability, as they had accumulated knowledge of the market and could make informed decisions about the long-term benefits of environmentally and socially responsible practices. Following this group were those with less than 5 years of entrepreneurial experience, accounting for 25% of the sample, or 35 respondents. This group consisted of newer

entrepreneurs, likely in the early stages of building their businesses. Entrepreneurs with limited experience often face a steep learning curve, especially when implementing sustainable practices while managing the challenges of starting and growing a business. These individuals might have been more focused on achieving short-term profitability to ensure business survival, potentially at the expense of integrating sustainability into their operations. However, their early involvement in entrepreneurship also presented an opportunity to introduce sustainable practices from the beginning, as they were still shaping their business models and could be more open to adopting new approaches.

The third largest group, comprising 28 respondents (20%), had 11 to 15 years of experience. These entrepreneurs were likely well-established and had weathered numerous business cycles. Their endurance in the business world suggested a level of resilience and adaptability that could facilitate the adoption of sustainable practices. Entrepreneurs with this experience often deeply understood their industries and were better positioned to incorporate long-term sustainability goals into their operations. Their businesses might have reached a stage where they could invest in sustainability, such as improving resource efficiency or developing products with a lower environmental impact, without threatening their financial stability.

Finally, 21 respondents, representing 15% of the sample, had over 15 years of entrepreneurial experience. This group of seasoned entrepreneurs had likely built strong networks, acquired substantial business acumen, and established their companies as stable enterprises within the region. With their extensive experience, they were well-positioned to lead in sustainable entrepreneurship, having the knowledge and resources to implement advanced sustainability practices that balanced social, economic, and environmental concerns. However, it was also possible that some long-standing entrepreneurs might have been slower to adopt sustainability due to traditional business models or resistance to change. Nevertheless, their potential to influence the broader business community toward more sustainable practices was significant, as their leadership and experience could set important examples for newer entrepreneurs. Generally, respondents' range of entrepreneurial experience indicated that while newer entrepreneurs faced challenges in integrating sustainability, more experienced individuals were better equipped to balance profit, people, and planet. The findings emphasized the importance of experience in fostering sustainable entrepreneurship, with each group contributing differently to the region's broader sustainability goals.

### 3.1.6. Geographical Locations of Respondents

The geographic distribution of respondents revealed a critical distinction between urban and rural entrepreneurial landscapes. The results in Figure 2 show that most

respondents, 84 individuals or 60%, were based in urban areas, particularly Iringa Town. Entrepreneurs in urban settings likely had better access to infrastructure, markets, and resources, which allowed them to adopt more formal business practices and potentially integrate sustainability more effectively. Their proximity to consumer markets and support services enabled them to operate more efficiently and capitalize on growth opportunities. Urban entrepreneurs might have been more exposed to information and training on sustainable business practices, thus placing them at an advantage in balancing social, economic, and environmental objectives.

On the other hand, 56 respondents, representing 40% of the sample, were located in rural areas, such as Kilolo and Mufindi. Entrepreneurs in these regions faced challenges and opportunities different from those of their urban counterparts. Rural businesses were more likely to be involved in agriculture and natural resource-based activities, which made sustainability practices particularly relevant, given the direct interaction with the environment. However, rural entrepreneurs often had limited access to markets, technology, and capital, which could have hindered their ability to implement sustainable practices fully. Despite these challenges, rural entrepreneurs were crucial to promoting local economic development and environmental stewardship. Their businesses often played a vital role in supporting rural livelihoods. They could serve as key players in fostering sustainability within their communities, even though they may have required additional support and resources to embrace sustainable entrepreneurship fully. This geographic distribution highlighted the contexts in which sustainable entrepreneurship was practiced, with urban areas offering more formal growth and innovation opportunities. At the same time, rural areas faced unique challenges but also held huge potential for sustainability in resource-based industries.

### 3.1.7. Access to finance

Access to finance emerged as a critical factor influencing the ability of entrepreneurs to engage in sustainable business practices. In Figure 2, the data revealed that 84 respondents, or 60%, relied on personal savings or informal sources of finance, such as loans from friends, family, or microfinance institutions. This significant reliance on informal financing underlined entrepreneurs' challenges in securing formal financial support, particularly in rural and underserved areas. Entrepreneurs depending on personal savings or informal networks were likely constrained by limited capital, which may have restricted their ability to invest in sustainable innovations or expand their businesses in ways that balanced profit with social and environmental goals. Informal financing often came with fewer requirements, but it also limited the capital available, making it harder for entrepreneurs to scale their operations or adopt more sustainable technologies that required higher upfront costs.



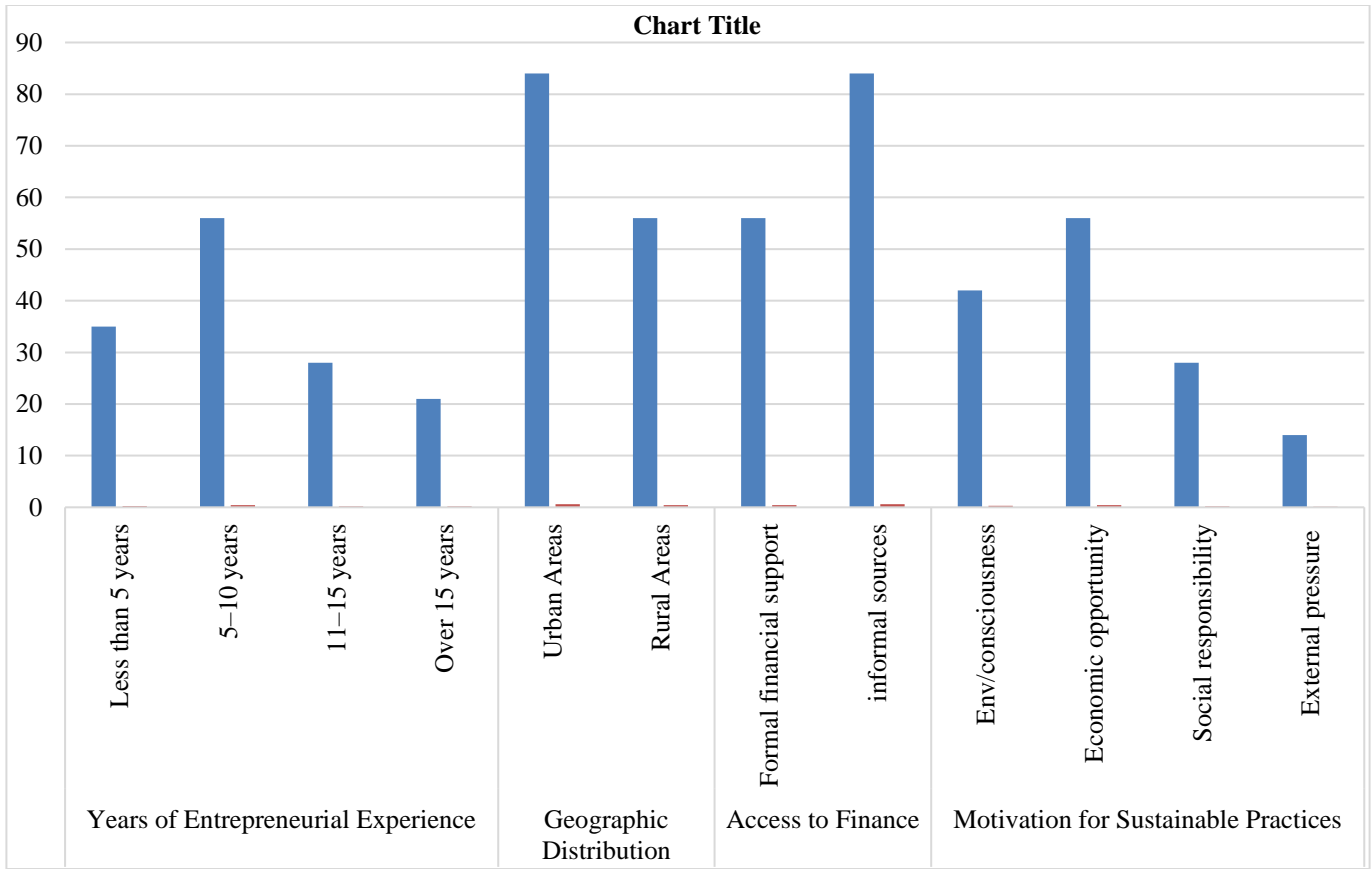


Fig. 2 Demographic information on Experience, Geographic, Access to Finance and Motivation practice

On the other hand, 56 respondents, representing 40% of the sample, accessed formal financial support, including bank loans and grants. Entrepreneurs with access to formal financial institutions had the advantage of larger capital pools and potentially lower interest rates, enabling them to make more significant investments in sustainability. Access to formal finance likely gave them the resources needed to improve their operations, adopt eco-friendly technologies, and implement long-term sustainability strategies. However, this group still constituted a minority, indicating that many entrepreneurs in the Iringa region faced difficulties meeting the severe requirements for formal financial support, such as collateral or credit history. Those who did manage to secure formal financing were better positioned to balance the needs of people, profit, and the planet, as they could more easily integrate sustainability into their business models. Overall, the reliance on informal sources of finance painted the need for more accessible formal financial solutions to support sustainable entrepreneurship in developing regions like Iringa. Expanding access to credit and grants, especially for rural and smaller-scale entrepreneurs, would be key to fostering sustainable business practices.

### 3.1.8. Motivation for Sustainable Practices

The entrepreneurs' motivations for adopting sustainable practices varied, reflecting diverse drivers behind their

commitment to balancing environmental, social, and economic concerns, as indicated in Figure 2. Economic opportunity emerged as the most significant motivator, with 56 respondents, or 40%, citing it as their primary reason for embracing sustainability. Entrepreneurs were likely drawn to the financial benefits that sustainable practices could offer, including cost savings from energy efficiency, waste reduction, and resource optimization. The growing demand for environmentally friendly products and services also created new market opportunities. Entrepreneurs motivated by economic gains were likely focused on aligning sustainability with profitability, recognizing that sustainability could enhance their competitive advantage and improve their bottom line.

Environmental consciousness motivated 42 respondents, representing 30% of the sample. These entrepreneurs were driven by a deep concern for the environment and the long-term impact of their business activities on natural resources. They likely adopted sustainable practices out of a sense of responsibility to reduce their ecological footprint and contribute to environmental conservation. For these individuals, sustainability went beyond economic incentives; it was a core value that guided their business decisions. Entrepreneurs motivated by environmental consciousness might have been more willing to invest in green

technologies, even if the immediate financial benefits were unclear, as their primary concern was preserving the planet for future generations.

Social responsibility was the driving force for 28 respondents, or 20%, who were motivated to improve community welfare and create employment opportunities. These entrepreneurs viewed sustainability as a way to contribute positively to society, particularly by creating jobs, supporting local communities, and ensuring that their business practices had a positive social impact. They likely focused on social sustainability by prioritizing fair wages, ethical labor practices, and community engagement. For them, sustainability was not just about profit but also about contributing to the well-being of people in their communities. Lastly, external pressure, such as regulatory requirements and customer demand, motivated 14 respondents, representing 10% of the sample.

These entrepreneurs may have adopted sustainable practices due to government regulations, industry standards, or the growing expectations of consumers for environmentally and socially responsible products. While this group represented the smallest portion of respondents, external pressures were still significant in pushing some entrepreneurs to adopt sustainable practices, even if their initial motivations were not intrinsically aligned with sustainability goals.

Regulatory frameworks and evolving consumer preferences shaped their approach to business, compelling them to adjust their operations to meet external demands. In summary, Iringa's motivations for sustainable practices were varied, with economic opportunity leading the way, followed by environmental consciousness, social responsibility, and external pressure. These motivations influenced how entrepreneurs approached sustainability and balanced their focus on people, profit, and the planet differently.

**3.2. The social Impact of Entrepreneurship**

The social impact of entrepreneurship was evaluated through various dimensions, revealing significant contributions to the local community. Job creation was the most prominent social impact, as shown in figure 3, with 100 respondents, or 71%, indicating that their businesses had generated employment opportunities. An industry manager highlighted this aspect by stating:

*“Our businesses have created jobs and empowered local families, enabling them to improve their living standards.”*

This emphasis on job creation highlighted entrepreneurs' critical role in driving economic stability and enhancing the quality of life in the region. Additionally, community development projects supported by local businesses were significant, with 85 respondents reporting their involvement in such initiatives. Many entrepreneurs actively engaged in projects that benefitted their communities, ranging from infrastructure improvements to health and education programs. A local government leader noted,

*“The partnership between businesses and the community has fostered development projects that uplift everyone. When businesses succeed, the entire community thrives.”*

This collaboration between entrepreneurs and community members highlighted the interconnectedness of economic success and social progress. Gender equality in employment was another important social impact aspect, with 45 respondents, or 32%, indicating that their businesses employed female workers. This statistic illustrated a growing awareness of the importance of gender inclusivity in the workplace. A farmer shared,

*“By hiring women, we not only bring diverse perspectives to our operations but also help families prosper. Gender equality is essential for sustainable growth.”*

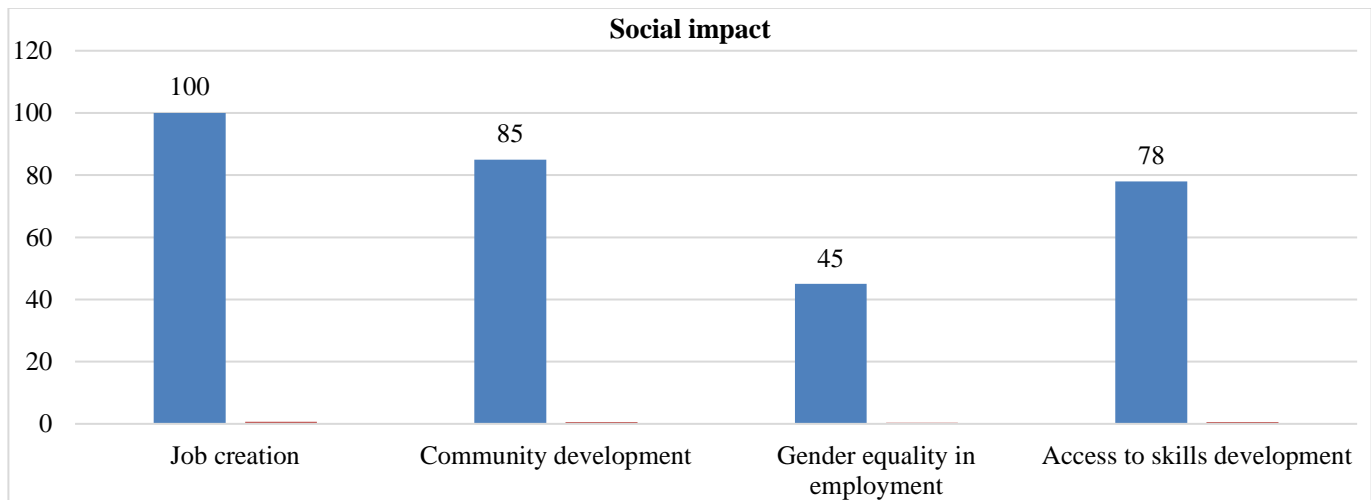


Fig. 3 Social Impact

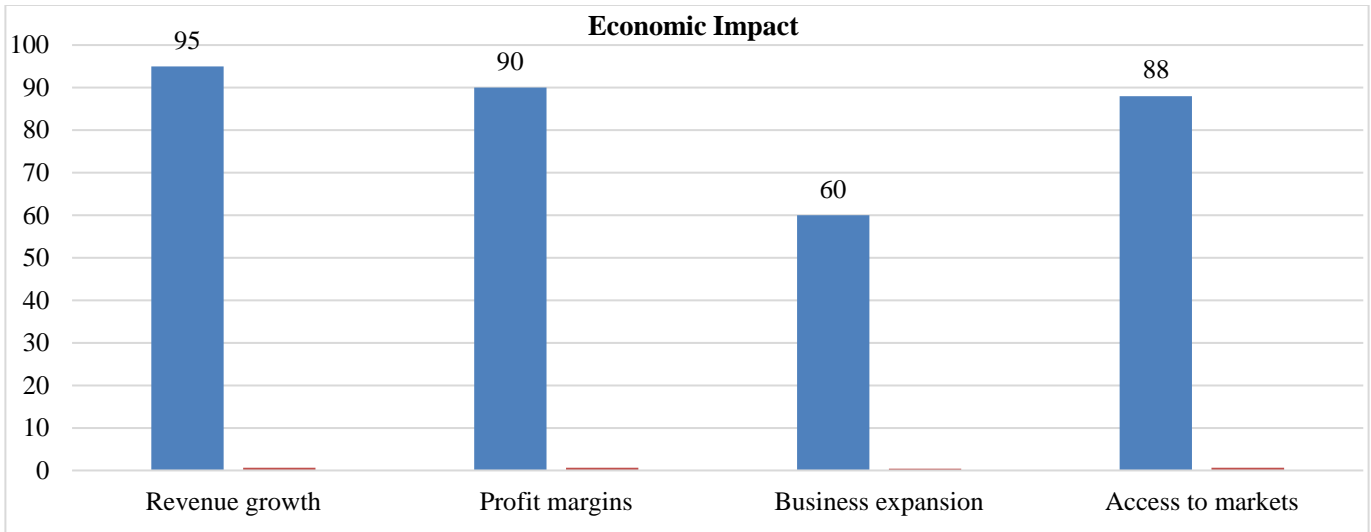


Fig. 4 Economic Impact

This acknowledgement of the benefits of diverse workforces reflected a broader commitment to social equity within the entrepreneurial community. Access to skills development and employee training was also vital to social impact, with 78 respondents, or 56%, providing such opportunities. Entrepreneurs recognized that equipping their employees with skills and training was crucial for both individual and business success. A business owner remarked,

*“Investing in our employees’ skills is not just good for business; it creates a more capable workforce that can drive innovation and sustainability.”*

This focus on skills development highlighted the importance of continuous learning in fostering a productive and adaptable workforce. In summary, the research revealed that the social impacts of entrepreneurship in the Iringa region extended beyond job creation to encompass community development, gender equality, and skills training. The combined efforts of local entrepreneurs contributed significantly to enhancing the social material of the community, demonstrating that sustainable business practices could lead to meaningful social change.

### 3.3. Economic Impact of Entrepreneurship

The economic impact of local entrepreneurship was assessed through various indicators highlighting businesses' contributions to the region's economic landscape, as shown in figure 4. Revenue growth emerged as a significant factor, with 95 respondents, or 68%, reporting increased revenues over the past three years. This upward trend in revenue indicated a strong local economy driven by the entrepreneurial spirit of businesses in Iringa. An industry manager remarked,

*“The consistent revenue growth we’ve observed is a testament to the resilience and innovation of our local*

*entrepreneurs. They have adapted well to market demands and have found ways to prosper.”*

This perspective emphasized entrepreneurship's vital role in stimulating economic activity and enhancing financial stability in the region. Profit margins also demonstrated a positive economic impact, with 90 respondents, or 64%, indicating their profit margins were above the industry average. This achievement suggested that many local businesses had optimised their operations and implemented cost-effective strategies that led to greater profitability. A business owner shared:

*“Maintaining profit margins above the industry average has not only allowed us to reinvest in our business but also to support community initiatives, creating a win-win situation.”*

This statement illustrated how financial success could directly contribute to broader social benefits, emphasizing the interconnectedness of economic performance and community development. Business expansion was another significant economic indicator, with 60 respondents, or 43%, reporting that they had opened new branches or introduced new services in recent years. This expansion indicated a growing confidence among entrepreneurs in the Iringa region. A local government leader commented:

*“The growth of businesses in our town reflects a healthy economic environment. When entrepreneurs feel secure enough to expand, it signals to others that the market is feasible.”*

This perspective highlighted the positive feedback loop created by successful businesses, where expansion reinforced the individual company and contributed to local economic growth and job creation.

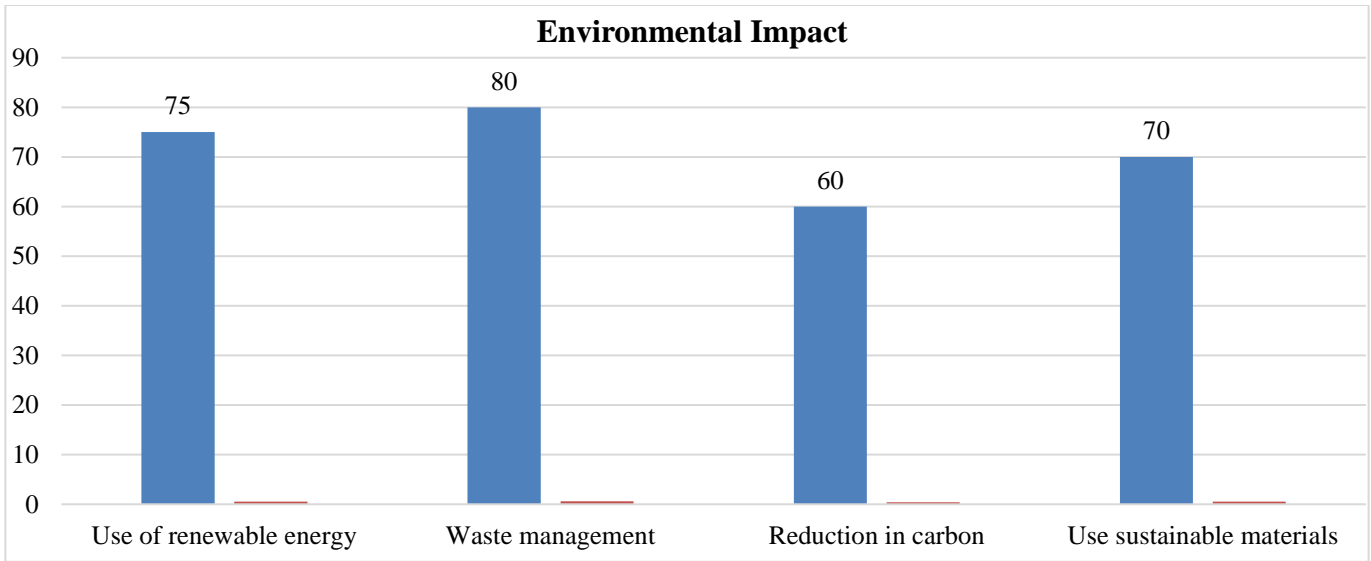


Fig. 5 Environmental Impact

Access to local and international markets played a critical role in shaping the economic impact of entrepreneurship, with 88 respondents, or 63%, indicating that they had successfully penetrated new markets. This access allowed businesses to diversify their customer base and mitigate risks associated with relying solely on local sales. A representative from a business support organization at Mafinga noted:

*“Facilitating access to markets has been key for our entrepreneurs. Those who tap into international markets have greater opportunities for growth and can showcase the quality of products from our region.”*

This statement emphasized the importance of market access in enabling local businesses to thrive, emphasizing that entrepreneurship was not just about local trade but also global opportunities. The economic impact of entrepreneurship in the Iringa region illustrated a complex landscape where revenue growth, profit margins, business expansion, and market access were interlinked. These factors contributed to a dynamic economic environment supporting sustainable practices while promoting social welfare. The insights from industry managers, farmers, business owners, and local leaders highlighted that the success of local businesses extended beyond financial metrics; it fostered community development and resilience. In the end, the findings underlined the critical role of entrepreneurship in driving economic progress and its potential to create lasting positive impacts on both the local economy and the broader community.

### 3.4. Environmental Impact of Entrepreneurship

The environmental impact of local entrepreneurship was evaluated through various practices that demonstrated a commitment to sustainability. The use of renewable energy

sources, such as solar and wind, was reported by 75 respondents, or 54%, as shown in Figure 5.

This transition to renewable energy highlighted an increasing awareness among entrepreneurs of the importance of reducing reliance on fossil fuels. An industry manager at Kilolo remarked:

*“By investing in solar energy, our businesses have not only cut operational costs but also made a positive impact on the environment. It’s a step towards a more sustainable future.”*

This perspective emphasized that integrating renewable energy was both an economic and environmental decision, reflecting a growing trend among local businesses. Waste reduction and management strategies were also crucial to the environmental impact, with 80 respondents, or 57%, indicating they had implemented measures to minimize waste. Effective waste management contributed to cleaner environments and improved operational efficiency. A business owner at Kilolo shared:

*“Implementing waste reduction strategies allowed us to streamline our processes and significantly cut costs. It’s remarkable how much we can save by simply being more mindful of our waste.”*

This statement emphasized that environmental stewardship could align with financial benefits, illustrating how sustainability practices could enhance business performance. 60 respondents, or 43%, reported reducing carbon footprints through eco-friendly production methods. This practice demonstrated a commitment to minimizing environmental impacts through more sustainable operational practices. A farmer noted:

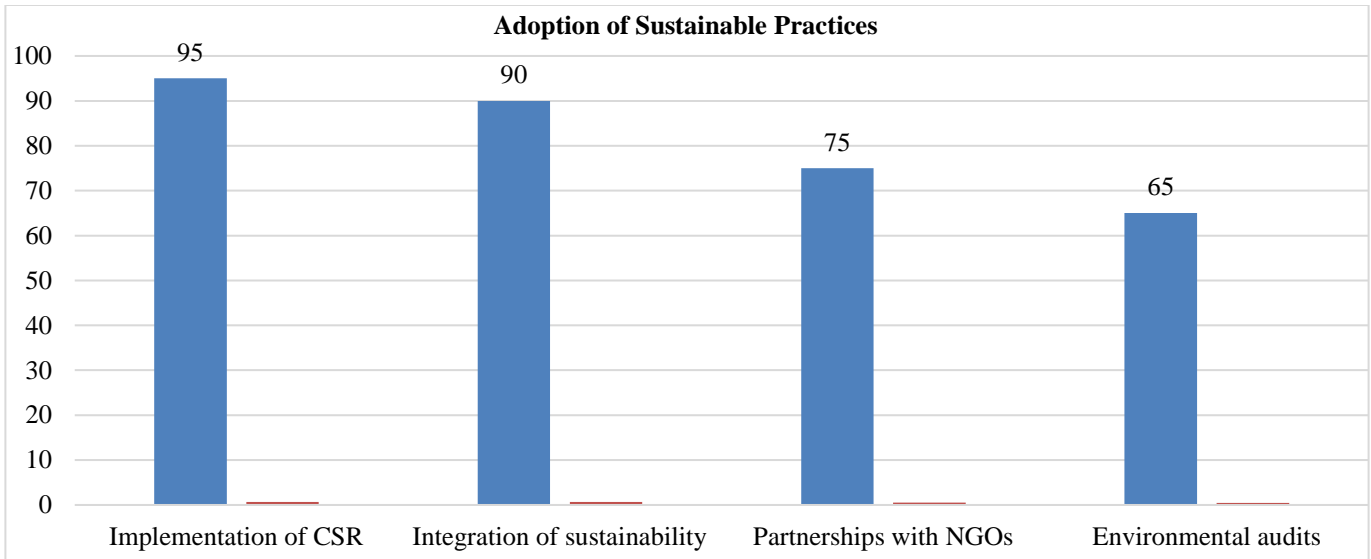


Fig. 6 Adoption of sustainable practices

*“Shifting to eco-friendly production methods has made a noticeable difference in our carbon emissions. We are not just contributing to the environment; we are also meeting the growing consumer demand for sustainably produced goods.”*

This recognition of consumer preferences highlighted the intersection of environmental responsibility and market dynamics, showing how eco-friendly practices could cater to changing consumer values.

Additionally, the use of sustainable raw materials was acknowledged by 70 respondents or 50%. Entrepreneurs increasingly recognized the importance of sourcing environmentally friendly and responsibly produced materials. A representative from a business support organization stated:

*“Encouraging the use of sustainable raw materials has been vital in our efforts to promote environmentally responsible practices. It’s encouraging to see local businesses commit to this, as it lays the groundwork for a more sustainable economy.”*

This emphasis on sustainable sourcing indicated a broader shift toward responsible production, reflecting a commitment to environmental integrity throughout the supply chain. Overall, the environmental impact of entrepreneurship in the Iringa region revealed a complicated approach to sustainability.

The integration of renewable energy, waste reduction strategies, eco-friendly production methods, and sustainable raw materials showcased the commitment of local businesses to environmental stewardship. The findings underlined the potential of local entrepreneurship to drive positive environmental change while balancing the needs of people, profit, and the planet.

### 3.5. Adoption of Sustainable Practices Among Local Entrepreneurs

The adoption of sustainable practices among local entrepreneurs was examined through key indicators that reflected a growing commitment to sustainability, as shown in figure 6. Implementing corporate social responsibility (CSR) programs emerged as a significant aspect, with 95 respondents, or 68%, indicating that they had established such initiatives. This strong engagement in CSR highlighted a broader understanding among entrepreneurs of their roles in promoting social welfare and environmental stewardship. An industry manager at Mafinga emphasized this point by stating:

*“Our CSR programs have allowed us to give back to the community while also enhancing our brand image. It is a win-win situation for everyone involved.”*

This perspective illustrated how CSR contributed positively to the community and added value to the businesses themselves. Integrating sustainability into business strategy was another crucial factor, with 90 respondents, or 64%, reporting that they had woven sustainability into their core operations and planning. This integration signalled a shift in how businesses approached their long-term goals, recognizing that sustainable practices could drive profitability and innovation. A business owner at Iringa commented:

*“By embedding sustainability into our business strategy, we have been able to differentiate ourselves in the market and attract customers who prioritize environmental responsibility.”*

This acknowledgement demonstrated that sustainability was becoming a competitive advantage for local businesses,

aligning financial success with ethical considerations. Partnerships with NGOs or governments for sustainability initiatives also played a vital role, with 75 respondents, or 54%, indicating their involvement in collaborative efforts to promote sustainability.

These partnerships were essential for leveraging resources, expertise, and support to implement effective sustainability practices. A local government leader noted:

*“Collaborating with businesses and NGOs has created a supportive environment for sustainability initiatives. Together, we can achieve more than we could alone.”*

This collaboration emphasized the importance of collective action in addressing sustainability challenges and fostering a culture of responsibility within the community. Additionally, regular environmental audits or assessments were reported by 65 respondents, or 46%, reflecting a proactive approach to monitoring and improving environmental performance. These assessments provided entrepreneurs with valuable insights into their operations, enabling them to identify areas for improvement and implement necessary changes. A representative from a business support organization stated:

*“Conducting regular environmental audits has been instrumental in helping our entrepreneurs understand their impact and make informed decisions toward sustainability.”*

This emphasis on accountability highlighted the role of continuous improvement in fostering a sustainable business culture. Generally, the findings from the research indicated that the adoption of sustainable practices among entrepreneurs in the Iringa region was not merely a trend but rather a fundamental shift in how businesses operated. The strong engagement in CSR programs, integration of sustainability into business strategies, partnerships for

sustainability initiatives, and regular environmental audits demonstrated a commitment to balancing economic, social, and environmental objectives. Therefore, it became clear that adopting these practices paved the way for a more sustainable and resilient economic landscape in the region.

### 3.6. Challenges in Adopting Sustainability

The challenges faced by entrepreneurs in adopting sustainable practices were critically analyzed. A significant challenge was identified as the high cost of sustainable technology, as shown in Figure 7, with 85 respondents, or 61%, expressing concerns about the financial implications of implementing such technologies. An industry manager pointed out:

*“Investing in sustainable technologies often requires substantial costs, which can be a significant barrier for many small and medium-sized enterprises.”*

This statement emphasized that while the long-term benefits of sustainability could be substantial, the initial financial burden remained a substantial obstacle for many businesses.

Furthermore, the lack of financial support or investment was a major challenge for 95 respondents or 68%. Many entrepreneurs struggled to secure funding to transition to more sustainable practices. A business owner shared:

*“Without adequate financial backing, our ability to invest in sustainable initiatives is severely limited. We often have innovative ideas but lack the capital to bring them to life.”*

This reflection emphasized the critical need for accessible financing options and support mechanisms that could empower local businesses to embrace sustainability more effectively.

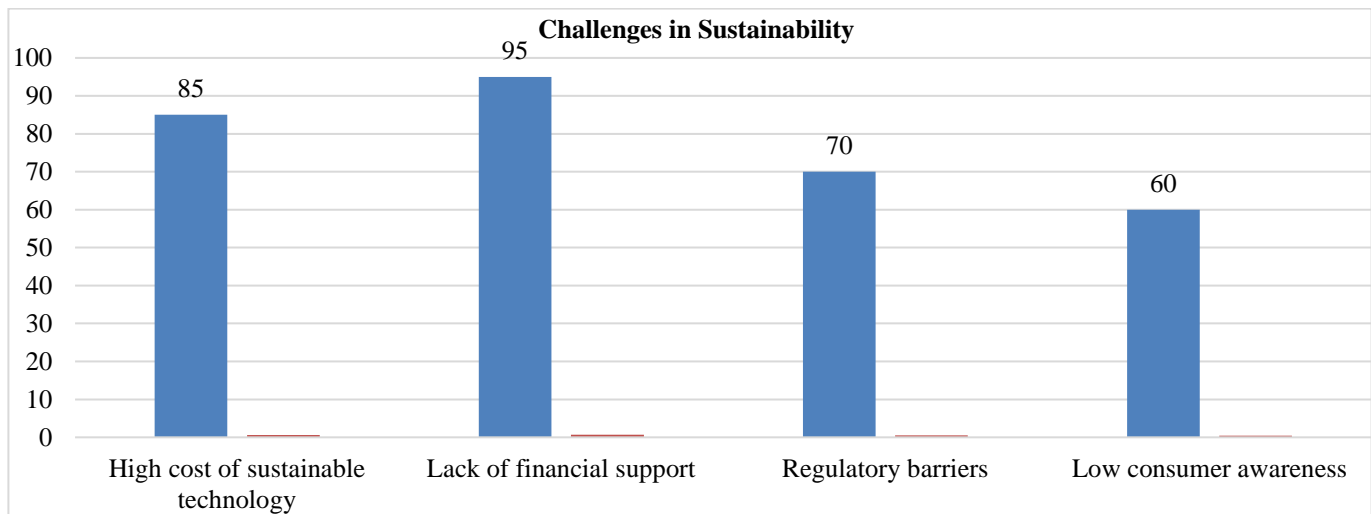


Fig. 7 Challenges in sustainability

Regulatory barriers and a lack of incentives also posted significant challenges, with 70 respondents, or 50%, citing these issues. Entrepreneurs often found that existing regulations did not sufficiently encourage or support sustainable practices. A local government leader noted:

*“While we have some policies in place, there is still a need for stronger incentives that promote sustainable practices among businesses. We need to create an environment where sustainability is not just encouraged but actively rewarded.”*

This perspective highlighted the role of government in shaping the sustainability landscape, suggesting that stronger policies could facilitate a smoother transition for businesses. Moreover, low consumer awareness and demand for sustainable products were cited as challenges by 60 respondents, or 43%. Many entrepreneurs noted that despite adopting sustainable practices, they struggled to find a market for their products. A farmer at Kilolo commented:

*“Even when we implement sustainable farming practices, consumers often prioritize price over sustainability. There needs to be greater awareness about the importance of supporting eco-friendly products.”*

This statement indicated that consumer behavior significantly influenced the market for sustainable products, suggesting that education and outreach efforts were essential to foster a more informed customer base. In summary, the findings from the research revealed that the challenges in adopting sustainable practices for entrepreneurs in the Iringa region were complex and multilayered. The high costs of sustainable technology, lack of financial support, regulatory barriers, and low consumer awareness combined to create a challenging environment for those striving to implement sustainable practices. Insights from respondents illustrated that overcoming these challenges would require coordinated efforts from various stakeholders, including government support, financial institutions, and educational initiatives. By addressing these barriers, the potential for fostering a more sustainable and resilient entrepreneurial ecosystem in Iringa could be significantly enhanced, benefiting both businesses and the wider community.

#### 4. Conclusion and Recommendation

The study provided a comprehensive analysis of the region's sustainable entrepreneurship state. The findings highlighted a growing commitment among local entrepreneurs to adopt sustainable practices, driven primarily by economic opportunities, including cost savings and increasing market demand for eco-friendly products. However, several challenges hindered these efforts, notably the high costs associated with sustainable technologies, a significant lack of financial support, regulatory barriers, and low consumer awareness regarding the benefits of

sustainable products. Despite these obstacles, the enthusiasm for corporate social responsibility and community welfare demonstrated a positive shift towards recognizing the broader implications of sustainable practices. Entrepreneurs expressed a strong desire to contribute positively to their communities while ensuring environmental stewardship, indicating a general approach to business that encompasses social responsibility. The understandings gathered from industry managers, farmers, business owners, and local government leaders revealed that while the path toward sustainability is fraught with challenges, it also presents unique opportunities for innovation and growth. Ultimately, this study emphasized the importance of fostering a supportive environment that encourages sustainable entrepreneurship. By addressing the identified challenges and leveraging the motivations for sustainability, the Iringa region can create a strong framework for businesses that seek profitability and prioritize social and environmental well-being. Such an approach can contribute to local enterprises' long-term resilience and success, benefitting both the economy and the community.

The study recommends the following;

- Developing targeted financial support programs that provide grants, low-interest loans, or subsidies to entrepreneurs seeking to adopt sustainable technologies is vital.
- Initiatives to increase consumer awareness about the benefits of sustainable products should be prioritized.
- Local governments should consider revising existing regulations to include stronger incentives for sustainable practices.
- Encouraging partnerships between businesses, NGOs, and government agencies can facilitate sharing of resources and knowledge.
- Establishing training programs for entrepreneurs on sustainable practices and technologies can enhance their ability to integrate sustainability into their business models effectively.
- Continuous research and assessment of sustainability practices and their impacts should be prioritized. This will help identify emerging challenges and opportunities, enabling stakeholders to adapt and respond effectively to the evolving landscape of sustainable entrepreneurship.

In the future, further studies should be carried on;

- Understanding of the return on investment for adopting sustainability.
- Understanding the factors influencing purchasing decisions would help entrepreneurs tailor their offerings to meet consumer expectations.
- Explore specific barriers to adopting sustainable technologies, such as technological literacy, access to information, and infrastructure challenges.

- Examine the effectiveness of educational programs aimed at promoting sustainability among entrepreneurs and consumers.
- Analyze the effectiveness of existing policies and regulations related to sustainability in the region.
- Conducting in-depth case studies of businesses in the region that have successfully implemented sustainable practices.
- Investigating the dynamics of partnerships between businesses, NGOs, and government agencies in promoting sustainability.
- Exploring how local cultural values and beliefs impact the adoption of sustainable practices.
- Research how climate change affects local businesses and the adaptations they are making in response.

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