

Sustainable Entrepreneurial Mindsets and Process: A Case Study of Smallholder Farms in Eswatini

Yingying Zhang Zhang
International University of Japan

Zanele Penelope Phiri
Alumnus 2021
International University of Japan

March 2025

IUJ Research Institute
International University of Japan

These working papers are preliminary research documents published by the IUJ research institute. To facilitate prompt distribution, they have not been formally reviewed and edited. They are circulated in order to stimulate discussion and critical comment and may be revised. The views and interpretations expressed in these papers are those of the author(s). It is expected that the working papers will be published in some other form.

Sustainable Entrepreneurial Mindsets and Process: A Case Study of Smallholder Farms in Eswatini

Zanele Penelope Phiri^{1,2}, Yingying Zhang Zhang¹

1. Graduate School of International Management, International University of Japan

2. Southern Africa Nazarene University, Eswatini

ABSTRACT

Smallholder farms are vital to Eswatini's agricultural economy, blending traditional knowledge with entrepreneurial principles to drive sustainability and innovation. This study examines the entrepreneurial journey of eleven smallholder farmers, exploring their traits, processes, and competencies essential for sustainable agribusiness. Despite limited formal training, these agri-entrepreneurs demonstrate resilience, adaptability, and strategic thinking in opportunity recognition, venture creation, and business growth. Key competencies identified include business and managerial skills, market understanding, innovation adoption, interpersonal abilities, risk management, and sustainability orientation. Findings reveal that while smallholder farmers are motivated by both opportunity and necessity, their approach to entrepreneurship is often reactive rather than proactive, with limited use of feasibility assessments and structured financial planning. Additionally, access to capital remains a challenge, with a preference for equity funding over debt financing. The study highlights the role of government and institutional support in enhancing entrepreneurial capabilities, advocating for targeted training, financial incentives, and infrastructure improvements. By bridging theory with practice, this research contributes to the discourse on sustainable agricultural entrepreneurship and offers practical recommendations for fostering innovation and resilience among smallholder farmers in Eswatini and beyond.

KEYWORDS

Sustainable Agriculture, Agri-Entrepreneurship, Smallholder Farmers, Innovation and Resilience, Eswatini Agriculture

INTRODUCTION

According to Food and Agriculture Organization (FAO) of the United Nations, most of the 90% of the world's 570 million farms are owned by families, small, and located in the developing world. While many of these smallholder farmers poor, taking informal economic activities, they contribute to food production to a substantial proportion of the world's population. Therefore, a sustainable agriculture to tackle the challenges that agri-entrepreneurs face is of need (FAO, n.a.). In developing countries like Eswatini, located in the African continent, smallholder farms play a pivotal role in the economy, blending traditional knowledge with forward-thinking entrepreneurial approaches. The World Bank underscores that agricultural development is a powerful tool to end extreme poverty, boost shared prosperity, and feed a projected 9.7 billion people by 2050, highlighting the sector's economic, environmental, and social significance. (World Bank, 2024). Despite limited formal knowledge of entrepreneurial tools, these smallholder farms and agri-entrepreneurs exhibit an innate entrepreneurial mindset marked by adaptability, resilience, and practical problem-solving skills, enabling them to sustain their farm businesses effectively and being responsible (Gomez y Paloma et al., 2020; Smith et al., 2020). Their approach to business planning extends beyond financial considerations, incorporating strategic growth, environmental stewardship, and long-term sustainability (FAO, 2017).

This study synthesizes the concept of entrepreneurial sustainability within the agricultural sector, particularly in the Sub-Saharan African context. It examines both the entrepreneurial traits and how entrepreneurial processes—opportunity recognition, venture creation, and business growth — that manifest in Eswatini. While innovation and technology adoption are acknowledged, agri-entrepreneurs prioritize accessible and locally relevant solutions (Riesgo et al., 2016). Six key competencies essential for fostering sustainable entrepreneurship in agriculture are identified: business and managerial competence, market

understanding and strategic vision, innovation and technology adoption, social and interpersonal competence, risk management and resilience, and sustainability-oriented competence (Fan et al., 2013).

By showcasing the entrepreneurial mindset for sustainability, this study highlights how creativity, persistence, and adaptability enable agri-entrepreneurs to navigate challenges and seize growth opportunities. The case study offers valuable insights into the entrepreneurial skills and sustainable practices that drive economic development within the agricultural sector. These insights provide meaningful guidance for future agri-entrepreneurs, demonstrating how smallholder farm owners can contribute to the growth of agricultural sector while balancing innovation, resilience, and sustainability (World Bank, 2025).

LITERATURE REVIEW

Sustainable Agricultural Entrepreneurship

Sustainable agriculture is a multidimensional approach that integrates economic, ecological, and social strategies to enhance farming practices while safeguarding farmer welfare and environmental integrity (Kamakaula, 2024). Unlike conventional farming, sustainable agriculture balances industrial efficiency with ecological preservation (Shelef et al., 2018). It adheres to four core principles—land management, resource management, human interaction, and ecosystem integration—ensuring long-term resilience (Shelef et al., 2018). Sustainable agroecosystems positively contribute to natural, social, and human capital, whereas unsustainable practices lead to resource depletion, threatening future agricultural viability (Pretty & Bharucha, 2014; Kamakaula, 2024).

Key Competencies for Sustainable Agricultural Entrepreneurship at the Individual Level

The success of sustainable agricultural ventures at the individual level largely depends on the competencies of the agri-entrepreneur. Lans (2009) suggests that entrepreneurial competence goes beyond technical farming knowledge and includes the skills needed to navigate the complexities of business operations, grow, and sustain the business despite challenges. Lans et al. (2014) highlight the importance of entrepreneurial competence during the discovery and startup phases, where the entrepreneur's ability to identify market opportunities and effectively leverage resources is critical. As the business grows, social skills and the ability to collaborate become equally important, as entrepreneurial performance is increasingly shaped by group dynamics. Six key competencies essential for sustainable entrepreneurship in agriculture:

1. Business and Managerial Competence

A fundamental competency for any entrepreneur is the ability to effectively manage and operate a business. This includes understanding financial management, marketing, and operations, which are essential for sustainability. Lans et al. (2014) stress that during the start-up phase, business goals and the owner-manager's competence awareness are critical for setting a solid foundation for growth. Entrepreneurial managers must be adept at developing business plans, managing cash flow, securing financing, and understanding market trends. In agriculture, these skills are particularly important as they help entrepreneurs adjust to fluctuating commodity prices, changing weather conditions, and evolving consumer preferences. The ability to integrate sustainable practices into business operations, such as waste reduction, resource optimization, and eco-friendly farming techniques, also contributes to long-term success.

2. Market Understanding and Strategic Vision

Entrepreneurs must also have a strong understanding of the market environment in which they operate. This includes identifying gaps in the market, understanding customer needs, and

knowing how to position their products or services to meet those needs. Iwara and Netsandama (2019) highlighted the importance of personal experience and market awareness in the success of small to medium agribusinesses, particularly for women entrepreneurs in South Africa. Strategic vision is also critical, as agri-entrepreneurs must foresee market trends, potential risks, and emerging opportunities to remain competitive. Sustainable entrepreneurs in agriculture need to recognize the broader context of their business, considering factors such as climate change, consumer demand for organic products, and government policies that impact agricultural practices.

3. Innovation and Technology Adoption

Innovation is a key driver of sustainability in agriculture. Robson, Haugh, and Acqu (2009) observe that agri-entrepreneurs' ability to adopt new technologies is closely linked to their education and training. This is particularly relevant as the agricultural sector faces pressures from climate change, resource depletion, and the need for higher food production. Entrepreneurs must be open to adopting new farming techniques, such as precision farming, renewable energy solutions, and climate-smart agricultural practices, that contribute to both environmental sustainability and business profitability. The ability to innovate and integrate technologies like precision farming into agricultural practices allows entrepreneurs to optimize productivity while minimizing negative environmental impacts (Kehinde et al., 2024).

4. Social and Interpersonal Competence

As entrepreneurial performance is increasingly influenced by social interactions, the ability to collaborate and network is a crucial competence for sustainable agricultural entrepreneurs. The entrepreneurial journey is rarely a solo endeavour, and the ability to build and maintain relationships with clients, suppliers, partners, and other stakeholders is essential for long-term success. Trust, transparency, and communication skills are central to maintaining healthy business relationships. Iwara and Netsandama (2019) note that trustworthiness, punctuality,

and commitment were essential traits in high-performing agribusiness women, which are also important for cultivating collaborative relationships. In agriculture, these interpersonal skills extend to working with local communities, fostering partnerships for innovation, and ensuring fair business practices that contribute to sustainable development.

5. Risk Management and Resilience

Entrepreneurs in agriculture must be resilient and able to navigate the inherent risks in the sector, such as market volatility, environmental hazards, and financial uncertainty. Henning (2019) emphasized the importance of risk-taking, particularly for entrepreneurs who are keen to expand or diversify their agricultural ventures. Successful agricultural entrepreneurs must evaluate potential risks and develop strategies to mitigate them. This involves not only understanding the financial and environmental risks associated with farming but also being prepared to adapt to changes in the business environment. The ability to bounce back from setbacks, such as crop failure or market downturns, is a crucial competence in sustaining a business in the agricultural sector.

6. Sustainability-Oriented Competence

Finally, a key competence for sustainable agricultural entrepreneurship is a deep commitment to sustainability. Entrepreneurs must understand the environmental, social, and economic dimensions of sustainability and incorporate them into their business strategies. This involves adopting sustainable farming practices, ensuring environmental stewardship, and considering the long-term implications of business decisions. Henning (2019) suggests that farm owners should possess unique skills to survive the harsh agricultural environment and provide food security for the population, implying that sustainability is not only a business imperative but also a social responsibility. Entrepreneurs need to integrate practices that reduce their ecological footprint, such as organic farming, water conservation, soil health management, and waste reduction, into their business models to achieve lasting success.

Sustainable Entrepreneurship at the Farm Level

At the farm level, the size of the farm does not affect entrepreneurial activity. However, Sokolova and Litvinenko (2020) report that smaller farms often benefit from unionizing, as this collective approach can attract larger investments for driving innovation and yielding the triple-bottom-line benefits of sustainable ventures. This has been observed in initiatives such as agri-hub marketing groups, which promote entrepreneurship among female vendors in South Africa, and increase entrepreneurs' knowledge of emerging markets, products, and technologies (Yan & Yan, 2016). While collective entrepreneurship can have positive effects, it can also be detrimental to innovation if social structures hinder individual entrepreneurship. Adobor (2020) observed that strong group cohesion can sometimes limit the search for new ideas, as shared resources and central decision-making structures reduce the incentive to explore new avenues for growth.

Sustainable Entrepreneurship at the Institutional Level

The successful implementation of sustainable agriculture depends on strong policy support, access to technology and markets, and comprehensive education and training (West, 2024). Adobor (2020) notes that the lack of institutional support, such as training on new technologies and value chain management, hinders innovation among farmer groups. The government has a critical role in fostering innovation through appropriate policies and support for agri-entrepreneurs. Herrington and Coduras (2019) argue that policies should be aimed not only at improving entrepreneurial rates but also at stimulating economic development through institutional reforms. Similarly, Sobrate and Bodhanya (2017) highlight the need for policymakers to adopt leadership styles that address the complex and dynamic challenges facing young farm owners in Africa.

Government intervention is particularly crucial in Low Development Countries (LDCs), where budgetary constraints require targeted support based on the prevailing business environment. Brixiova (2010) emphasizes that government interventions must focus on supporting productive entrepreneurship, especially in emerging agricultural sectors. Table 3 summarizes policy instruments that can support productive entrepreneurship in Africa's LDCs, including initiatives to stimulate entrepreneurial searches, improve the availability of skilled workers, and reduce start-up costs.

Table 3: *Policy Instruments to Support Productive Entrepreneurship*

Stimulating the search for entrepreneurs (by raising expected net profit)	Improving the availability of skilled workers (through training)	the	Improving the matching process (by facilitating mobility and information exchange).
Improving the business environment.	Co-financing education.	higher	Supporting entrepreneurs search through training.
Reducing SME taxation.	Co-financing training.	adult	Improving information at the skilled labour market
Reducing start-up costs.	Improving information on types of available skilled jobs.		Removing barriers to mobility through language training, housing.

Source: Brixiova (2010, p. 8)

The Entrepreneurial Mindset for Sustainable Development

Entrepreneurship is fundamentally associated with innovation, adaptability, and the ability to navigate uncertainty. Sarasvathy (2014) argues that entrepreneurs think effectually, focusing on shaping a future rather than predicting it, emphasizing adaption over rigid planning. Spinelli

and Adams (2012) similarly content that the entrepreneurial mind serves as the driving force behind developing a personal entrepreneurial strategy for new venture creation. Sathe (1989, p. 20) describes entrepreneurship as “the recognition and exploitation of new business opportunities involving new products, markets, and technologies”.

Entrepreneurship remains a multifaceted process involving the discovery, evaluation, and exploitation of opportunities to introduce innovative goods and services (Alemany & Andreoli, 2018; Shane & Venkataraman, 2000). Other prominent scholars (e.g., Frederick, Kuratko, & O'Connor, 2016; Nieman & Nieuwenhuizen, 2014; Scarborough & Cornwall, 2018) define entrepreneurship as the art of transforming ideas into a viable and sustainable businesses.

Existing literature suggests that entrepreneurship requires initiating economic enterprise within formal framework to achieve profitability and sustainability (Barringer & Ireland, 2010; Zimmerer, Scarborough, & Wilson, 2008). It involves identifying and pursuing opportunities despite resource limitations (Nieman & Nieuwenhuizen, 2014). Consequently, entrepreneurship can be seen as a risk-taking endeavour that includes recognizing opportunities, generating innovations, and managing initiatives to create value in both profit-driven and sustainability-focused enterprises.

In this study, agri-entrepreneurs are defined as individuals who integrate agricultural activities with entrepreneurial principles to create sustainable agribusiness ventures. This aligns with Otache's (2017) definition of Agripreneurs as those apply innovation and business strategies to enhance agricultural productivity. Agripreneurship contribute to social and economic development by generating employment, income, and poverty reduction while improving nutrition and food security. (Bairwa et al., 2014).

Henning (2019) asserts that the characteristics commonly attributed to entrepreneurs also apply to the agricultural sector. Innovation also plays a crucial role in agribusiness,

demonstrating an entrepreneurial orientation within agriculture. Nonetheless, Sokolova and Litvinenko (2020) highlight barriers to innovation in agriculture, particularly in Africa, where inadequate staff competence, prohibitive costs, and limited applicability of technologies hinder breakthroughs.

The Entrepreneurship Processes for Achieving Sustainability

For sustainable development of entrepreneurial activities, Nieman and Nieuwenhuizen (2014) outline four key stages in the entrepreneurial process: Stage 1: identifying and evaluating Opportunities; Stage 2: developing a business plan; Stage 3: determining and acquiring resources; and Stage 4: launching and managing the Enterprise. When applied to sustainable entrepreneurship, these stages combine economic viability with social and environmental responsibility, fostering long-term success while reducing adverse effects on natural resources and communities. These four stages summarize how sustainable entrepreneurship integrates economic, social, and environmental priorities, ensuring that new ventures contribute to a more resilient and inclusive economy (See Table 1).

Table 1 *The Four Stages of the Entrepreneurship Process*

Steps	Definition
Identify and evaluate the opportunity.	Creativity and innovation to identify the window of opportunity.
Develop a business plan.	This a working document that should be reviewed regularly and adapted to the business circumstances.
Determine the resources required.	Resources are things that an entrepreneur uses to pursue a business opportunity.
Start and manage the enterprise.	The process of starting and managing a business is based on the fundamentals of management.

Source: Adapted from Nieman and Nieuwenhuizen (2014, p.15-16)

Stage 1: Identifying and Evaluating Opportunities: Sustainable entrepreneurship begins with identifying business opportunities that align with environmental conservation, social well-being, and economic profitability. This stage involves creativity, innovation, and feasibility analysis (Nieman & Nieuwenhuizen, 2014). Sokolova and Litvinenko (2020) illustrate how a leading agricultural firm integrated infrastructure improvements, process management systems, and corporate culture transformation to enhance sustainability. Scarborough and Cornwall (2019) highlight six key enablers of sustainable innovation: passion, customer connection, agility, resource limitation, information sharing, and collaboration.

For agri-entrepreneurs, sustainable entrepreneurship fosters climate resilience and resource efficiency, allowing them to respond to external environmental changes more effectively (Lans et al., 2014). Entrepreneurs must also recognize the “window of opportunity”—a favourable period for launching a sustainable venture (Nieman & Nieuwenhuizen, 2014). Market needs must align with eco-friendly innovations and sustainable supply chains, and responsible business models (Barringer & Ireland, 2010). However, distinguishing between an idea and a viable sustainable opportunity remains a challenge, requiring rigorous feasibility analysis (Leach & Melicher, 2018; Scarborough & Cornwall, 2019). In fact, Leach and Melicher (2018) estimate this process may take up to 1.5 years, reinforcing the need for thorough sustainability assessments before venture initiation.

Stage 2: Developing a Sustainable Business Plan: A business plan serves as a strategic guide and roadmap for sustainable value creation and long-term resilience (Nieman & Nieuwenhuizen, 2014). Scarborough and Cornwall (2019) argue sustainable business plans should not only seek financial backing but also embed environmental and social responsibility into the core strategy. Entrepreneurs must integrate eco-friendly production methods, ethical labour practices, and efficient resource utilization into their business models.

A sustainable business plan must also be flexible, adapting to market fluctuations, regulation changes, environmental policies, and community needs (Leach & Melicher, 2018). This phase involves structuring an organization and defining revenue models aligned with sustainability principles.

Stage 3: Determining and Acquiring Sustainable Resources: Resource mobilization in sustainable entrepreneurship extends beyond financial capital to include renewable resources, human capital, and circular economy strategies (Leach & Melicher, 2018). Entrepreneurs must prioritize environmental responsible resource sourcing, adopt green technologies, and minimize waste (Nieman & Nieuwenhuizen, 2014).

Agri-entrepreneurs often rely on personal savings, community investments, and alternative financing, such as impact investing and green microfinance (Scarborough & Cornwall, 2018). This stage underscores resource efficiency and waste reduction to ensure long-term environmental and economic sustainability (Robson, Haugh, & Acqu, 2009).

Stage 4: Launching and Managing a Sustainable Business: The final stage focuses on sustaining growth while balancing financial performance with social and environmental goals. Entrepreneurs must implement sustainable market expansion strategies, eco-friendly technologies, ethical supply chains, and strong financial management systems (Nieman & Nieuwenhuizen, 2014). Effective operations management helps businesses remain competitive while reducing carbon footprints and promoting circular business models (Barringer & Ireland, 2010).

Sustainable entrepreneurship in agriculture integrates social responsibility and family-oriented agricultural practices, where success is measured not just by profit but also by community well-being and environmental stewardship (Henning, 2019). Leach and Melicher

(2018) highlight that during this growth stage, businesses increase in value as revenue rises. However, Family-oriented agricultural business often prioritizes land conservation and intergenerational wealth creation, making sustainability essential for long-term success.

Leach and Melicher (2018) expand on this framework by adding a fifth stage, where entrepreneurs ensure the long-term sustainability of their venture for early maturity. Frederick, Kuratko, and O'Connor (2016) also emphasize the “harvesting period”, where entrepreneurs and investors realize financial returns. Table 2 shows the five life stages and activities in the entrepreneurial process according to Leach & Melicher (2018).

Table 2 Life Cycle Stages and Associated Activities

Life cycle stage	Entrepreneurial activities
Development stage	Developing opportunities
Start-up stage	Gathering resources
Survival stage	Gathering resources, managing and building operations
Rapid growth stage	Managing and building operations
Early maturity stage	Managing and building operations toward sustainability

Source: Adapted from Leach & Melicher (2018, p. 25)

CONTEXT OF SUB-SAHARAN AFRICA AND ESWATINI

The agricultural sector in Sub-Saharan African (SSA) countries is predominantly composed of smallholder farmers who often face significant barriers to accessing innovative farming practices and advanced technologies (Kinyili & Ndunda, 2022). These farmers rely heavily on rain-fed agriculture, and frequently employ unsustainable farming methods. Coupled with challenging economic conditions, these factors have resulted in a slower rate of agricultural productivity growth compared to other global regions (Kamara et al., 2019).

Moreover, the SSA region is grappling with elevated temperatures and increasingly erratic rainfall patterns, further exacerbating existing agricultural difficulties and reinforcing the need for sustainable farming practices.

The agriculture sector in most developing countries lags in innovation, with limited solutions to stimulate entrepreneurial activities (Adobor, 2020). Schaltegger and Wagner (2011) define sustainable entrepreneurship as the pursuit of market opportunities that foster both business success and ecological balance. Dean and McMullen (2007) emphasize the importance of identifying, creating, and exploiting market imperfections related to sustainability, positioning them as key drivers for economic and environmental progress. Sustainable entrepreneurship in agriculture, must, therefore, focus on fostering innovative business models and farming techniques that enhance productivity while preserving natural resources, reducing environmental impact, and promoting social equity.

Smallholder farms constitute the overwhelming majority of the agricultural sector in Africa, producing up to 90% of the food in each country (Sobratee & Bodhanya, 2017). Research suggests that SSA possesses favourable conditions for developing an entrepreneurial economy (Robson, Haugh, & Acqu, 2009). Scholars such as Brixiova (2010), Herrington and Coduras (2019), and Iwara and Netsandama (2019) reckon the crucial role of entrepreneurship in economic development within developing countries. However, despite its potential, the actual impact of entrepreneurship to economic growth and poverty alleviation in SSA remains a subject of debate. Herrington and Coduras (2019) and Robson et al. (2009) allege that limited scholarly contributions and high data collection costs have led to the exclusion of the majority of SSA nations from the Global Entrepreneurship Monitor (GEM), thereby restricting a comprehensive understanding of the region's entrepreneurial landscape.

Agricultural entrepreneurship in SSA remains largely informal, with most agri-entrepreneurs unregistered. Their contribution to GDP varies between 25% and 65 %, while

their role on employment ranges from 60 % to 90%, depending on the country (Herrington & Coduras, 2019). National entrepreneurial frameworks in some SSA nations tends to favour large private enterprises, particularly in South Africa, where they are the major economic contributors.

Despite all, over the past decade, entrepreneurship in SSA has evolved rapidly, transitioning toward an innovation-based economy (Herrington & Coduras, 2019). Entrepreneurship in African agriculture is often associated with the introduction of incremental technology advancements (Robson, Haugh, & Acqu, 2009; Sobrate & Bodhanya, 2017), rather than the creation of disruptive innovation. However, agri-entrepreneurs in SSA face significant challenges, including a shortage of skilled labour, limited financial access, unfavourable government policies, and inadequate education in in entrepreneurship (Brixiova, 2010; Herrington & Coduras, 2019; Robson, Haugh, & Acqu, 2009; Sokolova & Litvinenko, 2020). Compared to their counterparts in Latin America and Asia, African agri-entrepreneurs tend to underperform (Herrington & Coduras, 2019).

Sustainable Agricultural Entrepreneurship in SSA

Sustainable entrepreneurial activities in agriculture can be categorized at three levels: individual, farm, and institutional level (Fitz-Koch, Nordqvist, Carter, & Hunter, 2018). This section focuses on entrepreneurial activities at the individual level, which forms the foundation of sustainable agricultural ventures. Hennings (2019) categorizes African agricultural entrepreneurs into three groups:

1. Growth-Oriented and Risk-Taking Entrepreneurs. This category comprises highly ambitious entrepreneurs seeking to expand or diversify their agricultural businesses by exploring new markets, adopting innovative practices, or integrating value-added activities. They are willing

to take calculated risks to achieve high rewards, such as investing in precision agriculture, renewable energy, or organic farming techniques. These entrepreneurs prioritize efficiency and resource optimization, ensuring that their business models generate economic value while promoting environmental sustainability and social well-being.

2. *Emerging agri-entrepreneurs.* This group includes young or inexperienced individuals entering agribusiness for the first time or diversifying their existing operations. These entrepreneurs are eager to learn, experiment with sustainable farming methods, and adopt new technologies. They often seek training and mentorship to enhance their managerial and technical skills. Sustainable entrepreneurship within this group involves understanding market opportunities, building resilience against agricultural risks, and gradually integrating environmentally friendly practices to ensure long-term business viability.

3. *Traditional and Risk-Averse agri-entrepreneurs.* These entrepreneurs prioritize stability over expansion and innovation. They are generally content with the status quo and show little interest in expanding their operations or adopting new business strategies. They are typically reluctant to take risks associated with market expansion or new technologies. While some may practice sustainability to some extent through traditional methods (e.g., soil conservation or organic techniques passed down through generations), they do not actively pursue new sustainable entrepreneurship opportunities. Encouraging their transition to more sustainable models may require targeted incentives, financial support, and awareness programs highlighting the long-term benefits of sustainable agriculture.

Agricultural Entrepreneurship in Eswatini

As part of the SSA region, Eswatini exhibits many of the agricultural challenges common to the region. As a low-income country African nation, Eswatini relies heavily on agriculture, with farming serving as a critical source of both food security and livelihoods for approximately 75% of its rural households (WFP, 2025). Eswatini has a dual land tenure system (Dlamini & Masuku, 2011), comprising: Traditional Tenure System is the land held in trust by the king, also known as Swazi Nation Land (SNL), which dominates the country's landholding structure but exhibits lower agricultural productivity; Title Deed Tenure system is privately owned land registered under formal titles, termed Title Deed Land (TDL), which tends to be more productive. For consistency with the terminology familiar to the majority of farm owners surveyed in this study, we adopt the locally prevalent terms—SNL and TDL. In the past, these SNL farmers were usually operated by illiterate owners; they were not formally registered and faced financial and technological challenges.

Historically, smallholder farmers in Eswatini have been often illiterate and largely operated informal, with many lacking formal registration, financial resources, modern technologies, and access to market. According to FAO and International Fund for Agricultural Development (IFAD), these farmers have faced significant barriers to improving their agricultural productivity, including financial constraints, limited technical knowledge, and a lack of institutional support (Kinyili & Ndunda, 2022). The Government of Eswatini's 2017 agricultural census highlights that the sector is predominantly characterized by informal practices. Moreover, much of the available data relies on reports from supporting institutions (Eswatini Government, 2024).

However, recent observations and extensive sectoral experience suggest that Eswatini's agricultural landscape is undergoing a significant transformation. The profile of smallholder farmers is shifting, with a growing number of young, literate, and entrepreneurial individuals

entering the sector. Many of these new farm owners have prior employment experience, including retired civil servants, and they bring a fresh, entrepreneurial perspective to farming. Sobrate and Bodhanya (2017) note that across Africa, young people are increasingly driving agricultural innovation, actively managing farm operations, and enhancing productivity on family farms. This generational shift in Eswatini presents a critical opportunity for its agribusiness sector. Unlike traditional smallholder farmers, emerging agricultural entrepreneurs are more inclined to adopt modern farming techniques, integrate technological advancements, and implement sustainable agricultural practices. This shift aligns with broader entrepreneurial trends across SSA, making Eswatini an opportunity as research labs for understanding the evolving role of Agri-entrepreneurs in the region.

METHODOLOGY

A case study methodology was adopted given the limited understanding of study context in Eswatini. We conducted case studies using primarily first-hand data. Due to the challenges in data access in the region, researchers approached through the institutional and personal networks to contact potential collaborators in smallholder farms. Only eleven out of fifteen contacts were finally successfully finalized the data collection process due to various challenges. The study was conducted during the period of COVID-19 when the face-to-face (F2F) interviews were infeasible due to the travel restrictions imposed by COVID19. Thus, an initial contact was first made by social network systems, such as WhatsApp or Messenger, depending on the target interviewees individual's preferential social media usage. After a brief explanation, an email with the open-ended questionnaire was sent to fill in. Beside first-hand data, secondary data such as local media report on the farm or the farm owners were also collected to supplement the data sources for analysis. Additionally, third-party industrial experts and observers' opinions were also consulted to triangulate the data reliability.

Table 4: Profile of the Studied Agri-Entrepreneurs

Farm	Type of farm activity	Established	Resgistered	Land size	Land ownership	Revenue/year (\$)	Employees	Seasonal workers
1	Fruit trees, fish pond, chickens	2017	No	2 Ha	Swazi Nation Land	32,000.00	> 10	>10
2	Indigenous chickens	2011	Yes	5 Ha	Swazi Nation Land & Farm rental	216,000.00	10-30	0
3	Vegetables	2011	Yes	2 Ha	Farm rental	36,000.00	10-30	>10
4	Vegetables & Piggery	2014	No	2 Ha	Swazi Nation Land	45,000.00	>10	>10
5	Vegetables	2010	No	1 Ha	Farm rental	92,000.00	>10	>10
6	Vegetable and fruit nursery	2012	Yes	1.4 Ha	Tittle deed land	38,100.00	>10	>10
7	Vegetables	2017	No	2 Ha	Farm rental	16,000.00	>10	0
8	Piggery	2013	Yes	3 Ha	Farm rental	13,300.00	>10	0
9	Vegetables	2017	Yes	5 Ha	Swazi Nation Land	32,000.00	>10	10-30
10	Poultry	2016	No	3 Ha	Swazi Nation Land	38,400.00	>10	10-30
11	Vegetables	2016	Yes	5 Ha	Swazi Nation Land & Farm rental	132,000.00	>10	10-30

These eleven farms selected for study were profiled in Table 4. The selection of agri-entrepreneurs was based on three major criteria - their successful entrepreneurial survival and a decent size in terms of employees and farm land. The farm owners should be at least three years in operation and should be operating in any region of Eswatini in a piece of land larger than a hectare with a minimum ten employees. The selected entrepreneurs were interviewed with questions in three parts: the farm owners' profiles, the traits and skills associated with entrepreneurship, and their business operations and the activities they did in their entrepreneurship process. The traits identified for interviews were based on the common traits and the entrepreneurial skills proposed by Scarborough and Cornwall (2019) and Nieman and Nieuwenhuizen (2014). Semi-structured questions about their entrepreneurship process were based on the four steps of the entrepreneurship process theory by Nieman and Nieuwenhuizen (2014) and complementary theories by scholars such as Leach and Melicher (2018), who considered a fifth stage in the entrepreneurship process. These semi-structured questions were

aimed at identifying the reasons behind the success of these farms and determining their dominant activities in each stage of the entrepreneurship process.

RESULTS

Focusing on smallholder farmers in Eswatini, the experiences of eleven agri-entrepreneurs were analysed by examining how their traits, skills, and adoption of the entrepreneurial process contribute to business sustainability. By drawing from established literature on entrepreneurship and sustainable development, key competencies that enable agri-entrepreneurs to enhance productivity, optimize resources, and integrate innovative practices into their operations were interrogated.

Entrepreneurship Traits and Skills

Agri-entrepreneurs scored the highest on the traits of motivated by goals and passionate (See Table 5 and Figure 1). Seven out of eleven farm owners considered themselves as motivated by goals while six scored the highest for being passionate. These highest scored traits were followed by risk taking ability, and strong personal values in the ranking. Even though a strong work ethic was not considered in the top ranking of the high score, it was highly appreciated in the second highest score as visualized in the figure mapped in Table 5. This result was corroborated by the average score ranking in Figure 1. This ranking showed the order of entrepreneurial traits by motivated by goals, passionate, risk-taking ability, strong work ethic, strong personal values, innovative and creativity, locus of control, motivated by the money I get, and tolerance to ambiguity. While innovative and creative was less appreciated in terms of highest score ranking than locus of control, it took over the latter in the average score ranking.

Table 5 Entrepreneurial Traits of the Studied Entrepreneurs

Measures	7	6	5	4	3	2	1
<i>Motivated by my goals</i>	7	2	2	0	0	0	0
<i>Passionate</i>	6	2	1	0	0	0	0
<i>Risk taking ability</i>	5	5	0	1	0	0	0
<i>Strong personal values</i>	5	3	2	1	0	0	0
<i>Locus of control</i>	4	4	2	1	0	0	0
<i>Innovative and creative</i>	4	5	1	1	0	0	0
<i>Motivated by the money I get</i>	4	1	3	1	0	0	0
<i>Strong work ethic</i>	3	6	2	0	0	0	0
<i>Tolerant to ambiguity</i>	2	0	3	3	1	1	1

Figure 1 Average Score Ranking for Entrepreneurial Traits

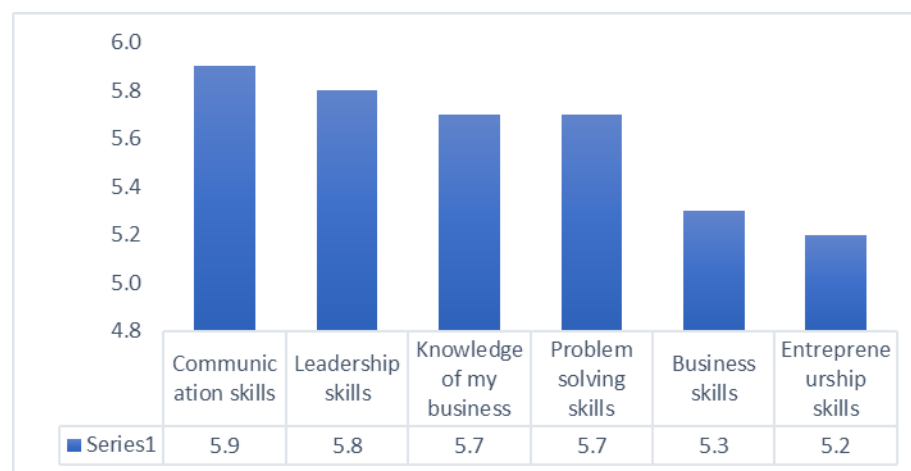
In general, the studied agri-entrepreneurs scored their entrepreneurial skills low, while high in leadership and communication skills. In terms of entrepreneurial skills, the studied agri-entrepreneurs scored the highest on leadership skills, followed by other skills. However, the frequency of these scorings is low with a maximum three out of eleven reflecting its insignificance. We focused on the second highest score which involved higher degree of frequency and identified knowledge of my business, communication skills, and problem-solving skills as relevant (See Table 6). This result was corroborated in a big picture by Figure

2, which indicated the average score ranking of entrepreneurial skills. The average scores on the entrepreneurial traits showed the relevance with the following order: Communication skills, leadership skills, knowledge of business, problem-solving skills, business skills and entrepreneurship skills (See Figure 2).

Table 6 *Entrepreneurial Skills of the Studied Entrepreneurs*

Measures	7	6	5	4	3	2	1
Leadership skills	3	3	5	0	0	0	0
Communication skills	2	7	1	1	0	0	0
Knowledge of my business	2	7	0	1	1	0	0
Problem solving skills	2	6	1	2	0	0	0
Business skills	1	4	3	3	0	0	0
Entrepreneuership skills	2	2	5	2	1	0	0

Figure 2: *Average Score Ranking for Entrepreneurial Skills*



Entrepreneurial Process

The semi-structured questions highlighted the studied entrepreneurial journey of Eswatini agri-entrepreneurs, reflecting a blend of opportunity-driven and necessity-driven motivations, with varying approaches to business planning, resource management, enterprise development, and scaling. The coding of the study was summarized in Table 7.

Table 7 Entrepreneurial Process and Codes

Step	Concept	Final coding
Stage 1: Identify and evaluate the opportunity/ Development stage.	Opportunity Identification	<ul style="list-style-type: none"> • Push factors X 3 • Pull factors-10
	Creativity and innovation	<ul style="list-style-type: none"> • Reading extensively x 3 • Practical knowledge from other farmers x 6 • Information gathering x 10 • Take advantage of Networking opportunities x 4 • Revise goals and vision x 1 • Embrace new technology x 4 • Striving to be the best x 3
Stage 2 Develop a business plan/ Start-up stage.	Business plan	<ul style="list-style-type: none"> • Planning x 8 • No prior planning x 4
Stage 3: Determine the resources required/ Survival stage	Resource allocation	<ul style="list-style-type: none"> • Boot strapping x 11 • Loan from bank x 1 • Received extra funds from government x 2 • Hire people from my family and skilled people x 7 • Hire skilled people from community x 4 • Received inputs and market support from government X 2 • Received training and technical support from government x 2 • Financial support x 2
Stage 4: Start and manage the enterprise/ Rapid growth stage	Manage for growth	<ul style="list-style-type: none"> • <u>Strategic + Operative</u> - Have a vision x 10; Skilled labours x 9; Motivate them x 7; production cycle x 10; clearly articulate the yields and projected income per year x 11. • <u>Technology advancement</u>- Infrastructure x 6; Technology x 3; Efficient use of resources x 2; Training of employees x 1. • <u>Managing finances</u>- Keeps financial records x 8; Financial system in place x 6. Save for risks x 5; Reinvest x 7; Took a loan recently x 5; Credit facility x 9 • <u>Marketing</u>- Contract x 8; Advertising x 9; Delivery x 7
Stage 5: Harvesting / Early maturity stage	Managing and building operations	<ul style="list-style-type: none"> • Expand to another unit x 1 • Reinvesting packaging machinery x 1 • Fresh produce available throughout the year x 2 • Improve customer service x 2 • Export produce x 2 • To buy larger farm x 2 • Open my retail shop x 1 • Improve the structures x 2 • Diversify to another business x 3

Stage 1: Identifying and Evaluating the Opportunity

Most agri-entrepreneurs cited a conducive environment, such as a significant market gap, high demand for products, and available resources like land, as key factors in starting their ventures. These pull factors are consistent with opportunity-driven entrepreneurship (Nieman

& Nieuwenhuizen, 2014). Meanwhile some other agri-entrepreneurs, however, started their businesses due to necessity, driven by a need to improve their economic situations (Brixiova, 2010). They were motivated by low-income jobs or unemployment, leading them to explore farming as an alternative livelihood.

Additionally, we identified the relevance of creativity and innovation as a key concept in the entrepreneurial development. Innovation was seen as a learned skill, with farm owners engaging in research and learning from progressive farmers. Some emphasized the importance of reevaluating goals to foster creativity. Among different codes for fostering creativity and innovation, information gathering and practical knowledge from other farmers are most highlighted for learning and innovation input, followed by networking opportunities and new technology.

Stage 2: Developing a Business Plan

Planning was considered as a necessity by most of the interviewees, recognizing the value of business plans for starting operations, obtaining loans, scaling up, and responding to increased demand. For example, one interviewee noted that: “I planned and did my research for two years”.

However, there were also spontaneous entrepreneurship with a small number of entrepreneurs who did not prioritize planning and started their ventures spontaneously, relying on passion and reinvesting profits for growth. Most of these entrepreneurs had a comparatively lower revenue, despite one exhibited similar degree of success to those who had detailed business plans.

Stage 3: Determining the Resources Required

Resource allocation was identified in this stage of entrepreneurship, both in terms of financial resources and human resources, and governmental supports. Funding sources of the studied farms were most of boot strapping, with equity funding such as personal funds, and funds of family and friends. Only two farms obtained and used a bank loan during the start-up process.

In terms of labour, family and friends were often recruited for labour. Besides this common practice, some farm owners also opted for skilled workers from the community. This is linked to land ownership issues in Eswatini, where land is often passed down within families. For example, one interviewee shared that: “I just had to convince my two sons to partner with me and I hired skilled people from the neighbourhood.” Support from government was also highlighted. Several farm owners also benefited from government programs providing inputs such as market, technical, and financial support, as well as trainings. However, some also suggested governmental support should be more at individual-level rather than providing support at a cluster level.

Stage 4: Starting and Managing the Enterprise

Farm owners emphasized strategic and operative activities, technology advancement, financial management, and marketing as management activities. In terms of strategic and operative activities, most studied entrepreneurs had personal goals or broader company visions for their businesses rather than a company-specific daily operations for their farming-enterprises. Some stressed on “self-sustenance and food security”, “healthy foods for every home in Eswatini”, “improved rural livelihoods and sustainable food systems in the country”, while others refer “to be a leading provider of horticulture products in Eswatini”, or “to be

among the reliable seedling suppliers in my region”. Many operative issues such as skilled labours and their motivations, productions cycle and clearly articulate the yield s and projected income per year are also highlighted.

Regarding technology and infrastructure, most investments went to infrastructure as common, with product innovation not prioritized. Incremental innovation on service improvements such as providing quality customer service was more common, likely due to budget constraints and risk aversion (Sokolova & Litvinenko, 2020; Robson, Haugh & Acqu, 2009). Some interviewees also referred to providing products all-year-around, and efficient use of resources and training of employees.

Due to the small sized farm business and informal economy in the country, not all farms kept financial records or had structured financial systems. Six out of the eleven entrepreneurs suggested the use of systematic book keeping such as excel to analyse the financial statements. Six interviewees also stated their profits saving for risk management while seven reinvested profits as a common strategy for growth. Five was taking a loan recently although managing creditors and saving profits were less clearly defined, and the interviewees had no clear tactics on how to deal with creditors.

In general, marketing was a weak point for agri-entrepreneurs. Most farm owners limited their actions by focusing on local media advertising, with many having contracts with retailers. Guerrilla marketing and cost-saving approaches were common to reduce risk in the value chain, and only seven studied agri-enterprises offered delivery services.

Stage 5: Harvesting/Early Maturity Stage

For further growth and expansion, the primary mindset among farm owners was reinvesting profits for business expansion, enhancing customer service, diversifying, and even seeking loans for further growth. A variation of growth strategies was expressed, including

expansion to another unit, reinvesting in packaging machinery, fresh produce available throughout the year, improving customer service, export produce, buying the larger farm, opening my retail shop, improving the structure, and diversifying to another business. Five farm owners planned to obtain loans to facilitate these expansions. The farm owners' entrepreneurial processes highlight a mix of proactive and reactive motivations, varying approaches to planning and resource management, and a strong focus on reinvestment and growth. Their advice underscored the importance of patience, research, and taking calculated risks in the agricultural sector if you want to remain sustainable.

CONCLUSIONS, DISCUSSIONS, AND FUTURE RESEARCH

This study offers insights into the practical applications of sustainable agricultural entrepreneurship. It provides a framework for policymakers, agricultural stakeholders, and aspiring agri-entrepreneurs seeking to develop resilient, market-driven, and environmentally sustainable farming enterprises. By bridging theory with practice, this discussion underscored the importance of entrepreneurial thinking in shaping the future of sustainable agriculture in Eswatini and beyond.

The agri-entrepreneurs in Eswatini, as observed in the case study, predominantly operate family-owned businesses motivated by both push and pull factors. While many are driven by opportunity-based factors such as high product demand, they tend to adopt a more cautious approach toward entrepreneurship. Their creativity stems from observing and adapting ideas from others rather than originating entirely new concepts. Notably, none of the respondents used a feasibility assessment tool in their decision-making process. This oversight is concerning as a feasibility analysis is essential for assessing the viability of business ideas. There is a need to raise awareness among farm owners in Eswatini about the importance of

conducting business feasibility studies for taking off entrepreneurship. This is also contrary to the earlier claim by Brixiova (2010) that in the least developed countries (LCDs) in Africa, entrepreneurship is driven by push factors; hence, necessity-driven entrepreneurs dominate the region. However, due to the small sample size of the studied cases, this may be a consequence of case selection process, as well as the relatively high qualification of the interviewed entrepreneurs. Future research with quantitative method in a larger sample size in Eswatini may address this research question with a more accurate answer.

The studied agri-entrepreneurs generally view business planning positively and understand its role beyond just financing and securing loans. Institutions supporting entrepreneurs and the government can play an important role in helping expand this understanding among small-sized agri-entrepreneurs. For instance, one of the studied agri-entrepreneurs started planning their business after attending an FAO-sponsored training program. The training programs and other institutional supports have impacted the entrepreneurial mindset in the studied cases. Interestingly, all the farm owners expressed that the government should assist in providing necessary resources for their businesses, such as inputs, marketing, training, and financing. However, some respondents emphasized the need for more attention to their individual needs, particularly in value addition processes and access to lower interest loans. Therefore, supporting programs for farm owners in Eswatini should be tailored to meet these specific challenges.

The managerial decisions of studied agri-entrepreneurs include establishing a clear strategic vision, appropriately managing human resources such as creating a hiring process and using skilled labour and defining production cycles like value chain management. However, due to inconsistent responses, it is unclear whether the lack of skilled labor is a significant barrier to their entrepreneurial processes. The farm owners in Eswatini seem to rely heavily on adaptive technologies, with limited efforts to introduce "product technology" like improved

seeds, implements, and fertilizers. This corroborates with Sokolova and Litvinenko's (2020) statements on the lack of "breakthrough innovation" in this particular sector in Africa. The study also revealed a preference for equity funding over debt financing. Most studied agri-entrepreneurs were risk-averse during the startup stage, although 11 farmers were found to be bootstrapping, relying on their savings and personal resources to fund their businesses. Further improvements on the financial literacy to conduct systematic financial management may be needed from the perspective of policy makers. In addition, willingness to take financial risks to increase the awareness and capability of risk perception may also be of desire. Personal development in managerial skills is recommended for farm owners to enhance their ability to navigate the later stages of the entrepreneurship process.

In the later stages, farm owners recognize that they are not yet in a position to harvest from their businesses but are willing to reinvest profits and seek external funding for expansion. Despite the challenges of resource limitations (both human and financial), farm owners understand the importance of reinvesting and obtaining funds for growth. However, the effectiveness of resource pooling through farmers' cooperatives in fostering an entrepreneurial mindset remains unclear.

The farm owners in this study largely fall into the traditional and risk-Averse farmers' category. They prioritized stability and are not keen on expanding or adopting innovative practices. Their creativity in business tends to be reactive rather than proactive, focusing on modifying existing ideas rather than generating original ones. They are risk-averse and generally prefer external funding sources like government or commercial banks, further demonstrating their preference for financial security. Their engagement with sustainability is largely traditional, with a focus on practices like soil conservation, but without actively pursuing new opportunities for sustainable entrepreneurship. To encourage more sustainable

entrepreneurship in this group, targeted interventions such as awareness programs, financial incentives, and resources for adopting innovative practices are necessary. These initiatives can help farm owners take a more proactive approach toward growth and sustainability.

REFERENCES

- Adobor, H. (2020). Entrepreneurial failure in agribusiness: evidence from an emerging economy. *Journal of Small Business and Enterprise Development*, 27(2), 237 -258.
- Aleman, L., & Andreoli, J. J. (2018). *Entrepreneurial Finance: The Art and Science of growing ventures*. Cambridge: Cambridge University Press.
- Bairwa, S. L., Lakra, K., Kushwaha, S., Meena, L., & Kumar, P. (2014). Agripreneurship development as a tool to upliftment of agriculture. *International Journal of Scientific and Research Publications*, 4(3), 1-4. ISSN 2250-3153.
- Barringer, B. R., & Ireland, D. R. (2010). *Entrepreneurship: Successfully Launching New Ventures* (3 ed.). Texas: Pearson.
- Barrett, C. B. (2021). *Agricultural Development: Critical Perspectives*. Cambridge University Press.
- Brixiova, Z. (2010). Unlocking Productive Entrepreneurship in Africa's Least Developed Countries. *African Development Review*, 22(3), 347-469.
- Dias, C. S., Rodrigues, R. G., & Ferreira, J. J. (2019, June 27). Agricultural entrepreneurship: Going back to the basics. *Journal of Rural Studies*, 70, 125-138.
- Dias, C. S., Rodrigues, R. G., & Ferreira, J. J. (2019, January). What's new in the research on agricultural entrepreneurship? *Journal of Rural Studies*, 65, 99-115.
- Dean, T. J., & McMullen, J. S. (2007). Toward a theory of sustainable entrepreneurship: Reducing environmental degradation through entrepreneurial action. *Journal of Business Venturing*, 22(1), 50-76.)
- Dlamini, D. D., & Masuku, M. B. (2011). Land Tenure and Land Productivity: A Case of Maize Production in Swaziland. *Asian Journal of Agricultural Sciences*, 3(4), 301-307.
- Eswatini Government (2024), Statistical Products and Information. Access March 20th 2025, available at http://www.gov.sz/index.php?option=com_content&view=article&id=687:central-statistics-office

- Fan, S., Brzeska, J., Keyzer, M., & Halsema, A. (2013). From subsistence to profit - Transforming smallholder farms. International Food Policy Research Institute, Access March 20th 2025, available at <https://www.fao.org/family-farming/detail/en/c/336389>
- FAO (2017). Small Family Farms. Access March 20th 2025, available at https://openknowledge.fao.org/server/api/core/bitstreams/05efa220-c910-447f-8513-b483cce7e7f8/content?utm_source=chatgpt.com
- FAO (2021). Building Resilience in Food Systems: Lessons from the COVID-19 Pandemic. Access March 20th 2025, available at <http://www.fao.org/in-action/kore/publications/publications-details/en/c/1204962/>
- FAO (n.a.). Smallholders and Family Farming. Access March 20th 2025, available at https://www.fao.org/family-farming/themes/small-family-farmers/en/?utm_source=chatgpt.com
- Fitz-Koch, S., Nordqvist, M., Carter, S., & Hunter, E. (2018). Entrepreneurship in the agricultural sector: a literature review and future approaches. *Entrepreneurship Theory and Practice*, 129-166.
- Frederick, H. F., Kuratko, D. F., & O'Connor, A. (2016). *Entrepreneuership: Theory, process, practice* (4 ed.). Melbourne: Cencage Learning.
- Gazibo, R. (2013). Promoting agricultural entrepreneurship in Niger. *Appropriate Technology*, 40(4), 68-70.
- Gomez y Paloma, S., Riesgo, L., & Louhichi, K. (2020). The Role of Smallholder Farms in Food and Nutrition Security, Switzerland: Springer.
- Haga, K. (2018). Innovation in rural Japan: Entrepreneurs and residents meeting the challenges of aging and shrinking agricultural communities. *Journal of Innovation Economics and Management*, 25(1), 87-117.
- Henning, J. (2019). Entrepreneurship and its place in agriculture. *FarmBiz*, 5(3), 23-23.
- Herrington, M., & Coduras, A. (2019). The national entrepreneurship framework conditions in sub-Saharan Africa: a comparative study of GEM data/National Expert Surveys for South Africa, Angola, Mozambique and Madagascar. *Journal of Global Entrepreneurship Research*, 9(60), 1-25.
- IFAD. (2020). Smallholder Agriculture and Market Access in SSA.
- IFAD (2021) Eswatini. Access March 20 2025, available at <https://www.ifad.org/en/web/operations/country/id/eswatini>
- Isenberg, D. (2010). *The big idea: How to Start an Entrepreneurial Revolution*. Harvard Business Review.

- Iwara, I. O., & Netsandama, V. (2019). Influence of personal traits on agribusiness performance: A case study of Tshakhumma fruits market women in South Africa. *Gender and behaviour*, 12460-12478.
- Iza, C. B., & Dentoni, D. (2020). How entrepreneurial orientation drives farmers' innovation differential in Ugandan coffee multi-stakeholder platforms. *Journal of Agribusiness in Developing and Emerging Economies*, 10(5), 629-650.
- Kamara, A., Conteh, A., Rhodes, E.R., & Cooke, R.A. (2019). The relevance of smallholder farming to African agricultural growth and development. *African Journal of Food Agriculture and Nutrition Development*, 19, 14043–14065.
- Kamakaula, Y. (2024). Sustainable agriculture practices: Economic, ecological, and social approaches to enhance farmer welfare and environmental sustainability. *West Science Nature and Technology*, 2(02), 47-54
- Kehinde, S., Moses, C., Taiye, B., Kehinde, O., Simon-Ilogho, B., Edewor, F., & Adebukola, A. (2024). Effect of technological innovation on sustainability practices in the agricultural sector. 27(1), 1-9.
- Kinyili, B. M., & Ndunda, E. (2022). Chapter 1. Adoption of sustainable agroforestry practices in sub-Saharan Africa. In *Research Trends in Forestry Sciences*. AkiNik Publications: Delhi, India, pp. 1–29.
- Kuratko, D. F. (2009). *Introduction to entrepreneurship* (8 ed.). Melbourne: South-Western Cengage Learning.
- Kuratko, D. F. (2017). *Entrepreneuership: Theory, Process and Practice* (9 ed.). Melbourne: South-Western Cengage Learning.
- Lans, T. (2009). Entrepreneurial competence in agriculture: Characterization, identification, development and the role of the work environment (ProQuest Dissertations & Theses, No. 28237587). Wageningen University and Research.
- Lans, T., vanGalen, M. A., Verstegen, J.A.A.M, Biem, J., Biemans, H., & Mulder, M. (2014). Searching for entrepreneurs among small business owner managers in agriculture. *NJAS – Wageningen Journal of Life Sciences.*, 68, 41-51.
- Leach, C., & Melicher, R. W. (2018). *Entrepreneurial Finance* (7 ed.). Melbourne: Cengage Learning.
- Mwatsika, C. (2015). Entrepreneurship development and entrepreneurial orientation in rural areas in Malawi. *African Journal of Business Management*, 9(9), 425-436.

- Nieman, G., & Nieuwenhuizen, C. (2014). *Entrepreneurship: A South African Perspective* (3 ed.). Pretoria: Van Schaik Publishers.
- Otache, I. (2017). Agripreneurs development: a strategy for revamping Nigeria's economy from recession. *African Journal of Economic and Management Studies*., Vol. 8 No. 4, DOI 10.1108/AJEMS-05-2017-0091.
- Pretty, J. & Bharucha, Z.P. (2014). Sustainable intensification in agricultural systems, *Annals of Botany*, Volume 114, Issue 8, Pages 1571–1596, <https://doi.org/10.1093/aob/mcu20>
- Riesgo, L., Louhichi, K., Gomez y Paloma, S., Hazell, P., Ricker-Gilbert, J., Wiggins, S., Sahn, D.E., & Mishra, A.K. (2016). Food and nutrition security and role of smallholder farms: challenges and opportunities. Jrc Conference and Workshop Reports, access March 2th 2025, available at <https://op.europa.eu/en/publication-detail/-/publication/d2d8e5c5-4729-11e6-9c64-01aa75ed71a1>
- Robson, P. J., Haugh, H. M., & Acqu, B. (2009). Entrepreneurship and Innovation in Ghana: Enterprising Africa. *Small Business Economics*, 32(3), 331-350.
- Sithole A, Olorunfemi OD. Sustainable Agricultural Practices in Sub-Saharan Africa: A Review of Adoption Trends, Impacts, and Challenges Among Smallholder Farmers. *Sustainability*. 2024; 16(22):9766. <https://doi.org/10.3390/su16229766>
- Sarasvathy, S. D. (2014). What makes entrepreneurs entrepreneurial? 1-9. Retrieved from https://www.effectuation.org/sites/default/files/research_papers/what-makes-entrepreneurs-entrepreneurial-sarasvathy_0.pdf
- Sathe, V. (1989). Fostering Entrepreneurship in the large, diversified firm. *Organisational Dynamics*, 18(1), 20-32.
- Scarborough, N. M., & Cornwall, J. R. (2018). *Entrepreneurship and effective small business management*. (9 ed.). Pearson Education Limited.
- Scarborough, N. R., & Cornwall, J. R. (2019). *Essentials of Entrepreneurship and small business management* (9 ed.). New York: Pearson.
- Schaltegger, S., & Wagner, M. (2011). Sustainable Entrepreneurship and Sustainability Innovation: Categories and Interactions. *Business Strategy and the Environment*, 20, 222-237. <https://doi.org/10.1002/bse.682>
- Shane, S. & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25 (1), 217-226.
- Shelef, O., Fernández-Bayo, J. D., Sher, Y., Ancona, V., Slinn, H., & Achmon, Y. (2018). Elucidating local food production to identify the principles and challenges of sustainable agriculture. In C. M. Galanakis (Ed.), *Sustainable food systems from*

- agriculture to industry (pp. 47-81). Academic Press. <https://doi.org/10.1016/B978-0-12-811935-8.00002-0>
- Smith, A.M.J., Duncan, P., Edgar, D., & McColl, J. (2020). Responsible and sustainable farm business: Contextual duality as the moderating influence on entrepreneurial orientation. *The International Journal of Entrepreneurship and Innovation* 2021, Vol. 22(2) 88–99.
- Sobrate, N., & Bodhanya, S. (2017). How can we envision smallholder positioning in African agribusiness? Harnessing innovation and capabilities. *Journal of Business and Retail Management Research (JBRMR)*, 12(1), 119-132.
- Sokolova, A., & Litvinenko, G. (2020). Innovation as a source of agribusiness development. *IOP Conference Series: Earth and Environmental Science*, 421(2), 1-7.
- Spinelli, S., & Adams, R. (2012). *New Venture Creation: Entrepreneurship for the 21st Century* (9 ed.). McGraw Hill Higher Education.
- Waldman, K. B., & Richardson, R. B. (2018). Confronting trade-offs between agricultural ecosystem services and adaptation to climate change in Mali. *Ecological Economics*, 150, 184–193.
- WFP, (2025). Eswatini, March 20th 2025, available at <https://www.wfp.org/countries/eswatini>.
- World Bank (2024). Agriculture and Food. Access March 20th 2025, available at <https://www.worldbank.org/en/topic/agriculture>
- World Bank (2025). Social Development (March 18). Access March 20th 2025, available at <https://www.worldbank.org/en/topic/socialsustainability/overview>
- Yan, J., & Yan, L. (2016). Individual entrepreneurship, collective entrepreneurship and innovation in small business: an empirical study. *International Entrepreneurship Management Journal*, 12, 1053-1077.
- Zimmerer, T., Scarborough, N. M., & Wilso, D. (2008). *Essentials of entrepreneurship and small business management* (5 ed.). Pearson/Prentice Hall.