

# FACTORS THAT STRENGTHEN THE ENTREPRENEURIAL LEARNING PROCESS IN SUSTAINABLE AGRICULTURE

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## ABSTRACT

Environmental, social, and economic crises are pushing farmers to find ways to survive and grow their farms. These conditions challenge farmers to go beyond their usual practices and continue developing entrepreneurial skills. This research seeks to explore the learning process underlying the development of entrepreneurial skills, thus contributing to filling the gap in the entrepreneurship learning literature. This research uses a qualitative case study approach, focusing on several farmers seeking to develop their entrepreneurial competencies. In this research, we take the concept of learning from the existing literature. The farmers in this study sought to develop a self-concept that is more in line with the changing times and their new role as entrepreneurial farmers. The first stage in this entrepreneurial learning process is for farmers to gradually develop their entrepreneurial identity and competencies, so they feel confident in their farming. The second stage is an effort to reduce production activities and increase their social interactions and perspectives on further business development. The third stage is to accept new people into their circle, who bring new knowledge, experience, skills, and perspectives that will enrich farmers' entrepreneurial competencies. Based on our findings in this study, we argue that entrepreneurship development for farmers should not focus solely on technical skills. Of course, understanding technical skills is important, but how farmers can use these skills to develop their businesses remains a major challenge for future research on entrepreneurship in agriculture.

**Keywords:** Agriculture; Competency; Entrepreneurship; Learning; Production

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## INTRODUCTION

Agriculture plays an essential role in the global economy, particularly in developing countries, where most of the population depends on this sector for their livelihood. (Saliem et al., 2020). Agriculture not only feeds a growing population but also contributes significantly to regional gross domestic product and market stability. (Novianti et al., 2019). Entrepreneurship is an important catalyst for strengthening the agricultural sector, with an emphasis on the younger generation.

Entrepreneurship, as a process that is adaptive to market changes and technological developments, is expected to transform subsistence agriculture into a competitive and promising business. Of course, this process must be supported by consistent improvements in entrepreneurial knowledge so that, in the long term, it can improve the quality of agricultural human resources in Indonesia.

Environmental, social, and economic crises have prompted farmers to find ways to ensure their farming businesses survive and continue to grow. One strategy adopted by farmers in Indonesia is to seek business activities outside of agriculture (non-agricultural) (Mukti et al., 2022). Farmers who undertake such efforts are entrepreneurial (Anwarudin et al., 2019, 2020; Balconi et al., 2025; Milone & Ventura, 2019; Phithuk et al., 2021). However, non-agricultural businesses are only one of the efforts farmers make to survive, making them actors in the agribusiness sector with an entrepreneurial spirit.

This condition challenges farmers to shift from their conventional farming practices and continuously develop their entrepreneurial skills (Condor, 2020; Gadanakis, 2024; Šūmane et al., 2018). Non-agricultural business activities carried out by farmers have led to a shift from productive to non-productive agricultural models (Nguyen, 2020). In productive agriculture, the main role of farmers is to produce food. In non-productive or multifunctional agriculture, farmers take on a more diverse role, by fulfilling a wider range of market demands (Jansuwan & Zander, 2022; Nguyen, 2020). This process has encouraged farmers to become only producers, but not entrepreneurs in the agricultural sector. Farmers are only oriented towards becoming producers, learning to produce products demanded by the market, but are unable to stimulate innovative and entrepreneurial behavior.

Farmers' self-conceptualization is often still grounded in the production paradigm and has not yet shifted holistically to a business paradigm

focused on added value, efficiency, and sustainability (Devarakonda & Vijaya Laxmi, 2022; Wale & Chipfupa, 2021). The crisis and challenges in the agricultural sector have increased attention to entrepreneurship in the sector (Alsos et al., 2011). Various literature has explained further about the importance of entrepreneurship in the agricultural sector (Dotsiuk, 2023; Dzingirai, 2021; Fitz-Koch et al., 2018a; Martinho, 2020).

Entrepreneurship in the agricultural sector is a crucial driver of innovation, efficiency, and economic growth, especially in rural areas. Entrepreneurship can be seen as a driving force for creating new jobs and overcoming unemployment (Condor, 2020; Delza et al., 2021). Regarding the role of the agricultural sector in economic development, efforts to improve its competitiveness and sustainability are crucial, including developing entrepreneurship among farmers and young people interested in this field. There are many government programs, especially those related to entrepreneurial skills for farmers. Entrepreneurship programs generally explore important areas of entrepreneurship, namely: 1) The ability to identify and seize business opportunities in agribusiness; 2) Developing business strategies that are in line with market needs and available resources; 3) Building business networks (Condor, 2020; Dowd et al., 2014; Fitz-Koch et al., 2018a).

Entrepreneurial skills are not limited to technical abilities in production, but also include an understanding of financial management, marketing, and distribution or agricultural logistics. With increasingly dynamic market changes, agriculture has become a complex business sector, requiring professional skills and management (Fitz-Koch et al., 2018a), like other businesses outside the agricultural sector. Giller et al. (2021) explain that farmers remain oriented towards production aspects that are not suitable for developing complex agricultural businesses today. Several studies have found that farmers tend to learn through practical experience rather than formal education. The entrepreneurial learning process is a process whereby farmers begin to change their perspectives on new ideas and different ways of running their businesses (Fitz-Koch et al., 2018a; Seuneke et al., 2013).

Although many studies have examined entrepreneurship in the agricultural sector, many questions remain about the underlying entrepreneurial learning process. Therefore, this study aims to reveal the entrepreneurial learning process in the agricultural sector, including driving and inhibiting factors, to provide deeper

insights into the development of entrepreneurial competencies.

This study seeks to explore the learning process underlying the development of entrepreneurial skills, with the hope of contributing to filling a gap in the literature on entrepreneurial learning. The study focuses on identifying the main factors that underlie the entrepreneurial learning process in a specific context (multifunctional agriculture) (Hamilton, 2011; Seuneke et al., 2013; Slusarz, 2019; Tohidyan Far & Rezaei-Moghaddam, 2019). Understanding the process of entrepreneurship learning in the agricultural sector is the starting point for further research and for entrepreneurship development support programs better tailored to the complexity of this learning process.

## MATERIALS AND METHODS

This study uses a qualitative method, with a case study approach, focusing on several farmers who are developing their entrepreneurial competencies. This paper is based on the researcher's findings on young farmers who actively developed their agricultural businesses from 2022 to 2024 (Table 1).

**Table 1. Young Farmer Informant**

Farmers	Location	Main Comodity	Scale (Ha)
A	Cikajang Garut	Potatoes, Oranges	0.2
B	Pangalengan	leaf vegetable	0.1
C	Bandung District	Sweet Potato	0.2
D	Karawang	Paddy	0.5
E	Samarang	Potatoes	0.25

This study explores the entrepreneurial aspects of farmers, particularly those who have been mentored/assisted by researchers in West Java. Data collection was conducted through in-depth interviews and observations of farmers who participated in the training to gain a deeper understanding of the farmers' entrepreneurial learning process. The collected data were then analyzed descriptively. Five cases were selected because they provided complete data for researching entrepreneurial learning in different contexts.

These cases reflect the diversity of multifunctional agriculture in Indonesia, where farmers are involved in production, marketing,

and business development activities. The available information on agricultural characteristics, work environment, business models, and farmer activities provides valuable background for understanding entrepreneurial learning in the cases studied. The questions in this study relate to the transition of agriculture from traditional to modern, from being production-oriented to multifunctional farming.

The analysis in this study was conducted manually. The first step was to read the interview transcripts to understand the farmers' responses. The aspects studied from the transcripts included 1) visible entrepreneurial identity (personal and social), 2) learning appropriate to the entrepreneurial context, and 3) business processes carried out (Tohidyan Far & Rezaei-Moghaddam, 2019). The labels used in the first point include, for example, production-oriented vs. multifunctional farmers, entrepreneurial identity, and the application of entrepreneurship in their agricultural businesses. Finally, we grouped these findings into: 1) development of entrepreneurial identity, 2) entrepreneurial learning processes in agriculture, and 3) business development carried out by farmers.

## RESULTS AND DISCUSSION

### Results

The results of this study present three main factors that drive the entrepreneurial learning process in the cases studied. These factors are in line with the entrepreneurial learning framework stated by Rae (2006), namely: 1) Farmers' personal and social entrepreneurial identity, 2) The context of entrepreneurial learning, and 3) Farming activities carried out.

#### A. Entrepreneurial Identity of Informant Farmers

Crosina (2018) and Radu-Lefebvre et al. (2021) explain that developing an entrepreneurial identity is an important aspect of becoming an entrepreneur. This aspect shapes an individual's self-perception, including beliefs, values, and aspirations that influence their actions. In the context of this study, entrepreneurial identity influences their approach to business, leading them to take risks to develop their business. The development of entrepreneurial identity in this context must be viewed differently. The farmers in this study have identified themselves as entrepreneurs, despite their behavior, which has not fully broken away from conventional farming.

The farmers in this study already had experience developing new businesses with broader, more diverse target markets. This experience forced farmers to rethink their identity as entrepreneurs, redefine entrepreneurship, and develop their entrepreneurial identity. In the cases studied in this research, the development of entrepreneurial identity among the farmer informants was unclear. During the in-depth interviews and observations, all farmer informants expressed the view that agriculture in Indonesia remains generally production-oriented, and that modern, market-oriented agriculture has not been fully accepted. Some commonly held views state that “true farmers” are those who focus on maximizing production.

According to productivity theory, developing new business activities is a way for farmers to reduce the impact of failure in their farming activities. However, farmers are reluctant to implement this strategy because they are often opposed by their families and colleagues. This condition is experienced by young farmers, who often have a strong desire to develop their farming businesses (Delza et al., 2021; White, 2012). Young farmers find it difficult to develop their entrepreneurial identity. This difficulty is illustrated in the case of horticultural crop exports by Yayan, a farmer from Pangalengan who has successfully met the demand for leafy vegetable exports to Singapore. Their environment does not support Yayan's plans to export leafy vegetables.

Yayan explained, “Our partner farmers were surprised because suddenly they had to change the farming methods that had been practiced for generations. Now they have to farm differently to produce products that meet market demand.” Although Yayan was enthusiastic about the next business plan, he had doubts and repeatedly asked himself, “Is this the right choice? I'm not really sure about the way and path I have chosen.” This first case shows that the development of a new identity as entrepreneurial farmers is unclear. Although farmers have begun to engage in “new activities” to support the development of their businesses, old habits still serve as their main framework. The idea that old businesses are safe and comfortable has become an obstacle to farmers legitimating their new roles and developing a more compatible entrepreneurial identity.

### **B. Breaking free from old norms/habits**

The cases raised in this study show that developing an entrepreneurial identity is a slow process for (young) farmers. Breaking away from

old habits seems to be an important key to helping farmers develop their entrepreneurial identity. The case studies (cases A, C, and D), in particular, emphasize the character of daring to try new things in developing their businesses. They started their new businesses slowly, beginning on a small scale to avoid excessive risk.

Through new business experiences, they tried to determine whether the new activities were suitable for them, their families, and their capital. After trying these new activities, their confidence grew, and they gradually began to focus on developing their businesses. Pa Rizal, a potato farmer in the Cikajang area of Garut Regency, reflects on this new period: “After daring to diversify my business, I gained new experiences in creating networks with the government and universities, how to negotiate, and meeting new partners. This has made me more confident to continue to grow.”

Mr. Hikmat (Case E) and Mr. Nasrul (Case C) explained that becoming an agricultural entrepreneur requires considerable experience. Anyone can be a farmer, but being an entrepreneur in agriculture requires adding value beyond what ordinary farmers provide. After these “farmer entrepreneurs” gained confidence, skills, and sufficient experience, they began to dare to invest in themselves and their businesses to develop their farming capacity. A special case in this study is a farmer who differs from other farmers. This farmer is Pa Hikmat, who continued his family business. Due to his social background, which began with his parents' focus on business development, this farmer already had an identity as an “entrepreneur.”

### **C. Demonstrating Entrepreneurial Identity**

Farmers with prior entrepreneurial experience (case B) are strongly inclined to identify as entrepreneurial farmers, as they have already experienced uncertainty in their business journey. Farmers believe their businesses are no different from those in other sectors. Farmers must be able to analyze their business and calculate all expenses and income. Education and business experience are important factors in fostering an entrepreneurial spirit (Delza et al., 2021). The farmer informant also expressed his opinion, namely his disapproval of the tendency among farmers to focus more on production and neglect business management, marketing, and network development.

When referring to farmers' habits, they actually have plenty of time to develop their crops. Why don't they try to package their products to make them more attractive? This

statement shows that the farmers interviewed in this study have a better entrepreneurial spirit than other farmers in their community. These farmers have developed new strategies, diversified their products, and begun establishing direct connections with the market.

#### **D. Entrepreneurship Learning Process That Exceeds the Context of Farming**

Entrepreneurship education is the result of a contextual learning process (Thomassen et al., 2020). This contextual learning involves active engagement in a community, the type of business/industry, and the networks to which an individual is connected in that context, as well as the building of meaning together (Thomassen et al., 2020). In this study, farmers developed entrepreneurial knowledge and skills through interactions with fellow farmers, farmer groups, agricultural extension workers, universities, and other business actors.

The farmer informants, the main subjects of this study, learned through interactions with various parties, including friends, family, suppliers, government agencies, and universities. These interactions helped farmers expand their business networks, obtain information about new technologies, and develop more effective marketing strategies. Farmers also learn to develop businesses outside of on-farm activities, while remaining connected to their main farming activities. In this case, farmers learn to see beyond farming, crossing conventional agricultural boundaries and trying new things.

Farmers often refer to the process of developing their businesses as “leaving the farm.” This means they begin to delegate on-farm activities and increase their social activities to strengthen their business networks. The farmer informants believe they must expand their knowledge and experience and begin connecting with other actors in the agricultural business ecosystem. This case is illustrated by the case of rice farmer Habibi in Karawang. Over time, Habibi has increasingly interacted with other actors and tried new things outside of his on-farm activities. In 2024, Habibi was appointed as the Young Ambassador for the Ministry of Agriculture. This was an important step for Habibi to network with more actors, thereby supporting the development of his business.

The driving factors in the process of entrepreneurship learning in the agricultural sector are very complex and involve various aspects, ranging from internal motivation to external support (Mariati et al., 2022). This learning process must involve entrepreneurial mindsets, attitudes, and motivation (Delza et al.,

2021; Gopal, 2020; Pliakoura et al., 2020). In reality, all farmer informants emphasized the importance of connecting with the “new world.” However, this does not happen overnight; it requires a relatively long process, depending on the individual who carries it out.

Some other farmers feel unable or uncomfortable to “leave the farm” and prefer to focus on their production activities. They feel uncomfortable when they have to interact with actors outside their environment. This condition is closely related to several internal factors among farmers, such as their level of confidence, communication skills, and ability to adapt to new environments. One example of courage in trying something new is shown by Pa Rizal, a potato farmer from Pangalengan.

Pa Rizal developed a restaurant near his farm to further promote his processed potato products. Pa Rizal is also active in various activities organized by the Ministry of Agriculture and by a university-managed business incubator. This is done to expand his business network and gain new knowledge and information related to his business. At first, Rizal felt insecure, but thanks to his positive efforts, he finally realized that farmers can also be accepted by other actors, as long as they can show their strong identity as farmers.

#### **E. Creating Space for Entrepreneurship Learning**

In the cases studied in this research, production is the basis for developing new business activities. However, farmers must continue to develop. Limited resources encourage farming families to combine production activities with business development. For some farmers, giving themselves time to develop is a problem. The dilemma between production and self-development is evident in the case of Nasrul, a cassava farmer in Bandung Regency. Nasrul sees that focusing too much on production activities leaves him with little time to learn and develop his business.

Nasrul explains: “I have various ideas for business development, but often don't have enough time to realize and implement them. Now I am trying to entrust my farm to my employees, so that I have more time to meet other people, learn new things, and find new opportunities.” From this case, we learn that production can sometimes be an obstacle to the development of farmers' businesses. For Nasrul, creating space for learning will give him the opportunity to be more creative.

Currently, Nasrul is trying his hand at processing sweet potatoes, which have proven to

have a higher selling value. The case studies in this research show that a certain scale of business will provide more opportunities for farmers to engage in entrepreneurial learning. Small-scale businesses will certainly prevent farmers from doing this, because they will still have to focus on production activities to run their businesses.

#### **F. Gender Aspects in the Entrepreneurship Learning Process**

In the cases studied in this research, gender roles were present, though they remained traditional. Men generally focused on agricultural production, while women were more involved in business development or new activities. Some farmer informants sometimes “delegated” their entrepreneurial learning process to their wives due to their limited time. In this study, parallel learning processes often occur, for example, husbands focus on production, while wives focus on marketing. The expansion of agricultural businesses and the involvement of labor outside the core farming family have significantly contributed to the development of the entrepreneurial learning process.

Wives generally do not find it too difficult to cross agricultural boundaries, because their backgrounds are from non-agricultural fields, so that in terms of values, they are not too “embedded” in agriculture itself, and are not too influenced by productivity “norms”. In this case, women farmers are important actors in the development of farming businesses from farming families, and they can bridge the gap between the agricultural and non-agricultural worlds, as well as provide access to the resources needed for the development of both worlds.

#### **G. Family Farming**

Family farming is one type of agricultural institution that can effectively foster entrepreneurial learning. Murawska (2020) explains that involving others in business matters is important. A business cannot be run by just one person; it must involve others, including family members. Businesses are highly dependent on interactions among farmers, the main actors, and other actors in a business ecosystem. A person's creativity grows through the dynamic exchange of information and knowledge among people in the agricultural environment (Thomas et al., 2020).

Businesses start with families that are open to change and growth. To get the work done and create more space for learning, entrepreneurial farmers often decide to recruit workers from outside the family. They consider this an

important moment in the development of their business. Workers from outside the family introduce new dynamics, which can indirectly lead to ideas that may not have been considered before.

In cases [A, B, C, D], workers from outside the family have significantly changed the family's business landscape. This learning includes interacting with other people (external workers) in achieving a goal. The cases of Nasrul and Rijal in this regard demonstrate the impact of involving external workers. The involvement of external workers has created new organizational dynamics, so that everyone in the organization (including the family) learns to adapt to one another.

“People who are accustomed to working in a family environment will certainly feel comfortable. However, the presence of new people is important because in the business process, we have to start discussing and negotiating with our employees“. Of course, this will make the situation more complicated than before, but it has encouraged us to always learn in every situation. “If you want to progress, then don't be allergic to change. Face it and enjoy it, and you will become a stronger person.”

#### **Discussion**

Adapting to changes in a fast-paced business environment is crucial for organizations/businesses to remain competitive (Vishnupriya et al., 2023). The context of change has forced farmers to learn how to delegate work and give themselves enough room to maneuver. Farmers are generally accustomed to being directly involved in production activities, so this change in habits certainly requires a process to help them feel comfortable in their new roles as “bosses.” Business processes, such as building business networks, are not initially perceived as work because they involve no physical labor. Relationship building is generally done informally, and the results cannot be seen immediately. This process is a learning process to improve farmers' competencies. “I have to manage employees, organize them so that they are willing to work according to the goals I want to achieve. Of course, to realize this, I must be competent and appear competent to my employees.”

Environmental changes will encourage farmers to develop further and try something they have never experienced before, so that this “coercion” will push them to become better. Ultimately, this condition will enhance entrepreneurial learning and new business

development from the five case studies examined in this research. Newcomers have introduced new knowledge, experience, skills, networks, and perspectives in the farming activities they carry out. The process of bringing in new people, not only employees but also other actors such as customers, universities, and the government, is an effort to view newcomers as a valuable learning process for them.

Research on entrepreneurial skills in the agricultural sector has been extensive, but the literature does not fully cover the entrepreneurial learning process underlying their development. This study examines the learning process farmers undertake to develop their entrepreneurial skills. This study focuses on the learning process among entrepreneurial farmers, namely those who continually strive to develop their businesses. We adopted the concept of entrepreneurship learning (Fitz-Koch et al., 2018a; Seuneke et al., 2013; Yang et al., 2025) to explain the process of entrepreneurial learning and its role in developing entrepreneurial skills. This study focuses on three main factors that encourage entrepreneurial learning: entrepreneurial identity, transcending agricultural boundaries, and greater openness to change.

The farmer informants, as the main subjects of this study, already possess a certain entrepreneurial identity, namely one rooted in a productive agricultural model. To strengthen their entrepreneurial identity, they actively seek to transcend the boundaries of traditional agriculture that they have been practicing. Farmers attempt to develop a self-concept that is more in line with the changing times and their new role as entrepreneurial farmers. Despite the farmers' new entrepreneurial identity, in general, the farmers in this study are still production-oriented. Farmers develop their entrepreneurial identity and competencies gradually, starting with exploring new ideas and trying to implement them in their business activities. This process continues until they gain sufficient confidence, skills, and knowledge to fulfill their roles as entrepreneurial farmers.

The second factor is the effort to transcend agricultural boundaries, namely, reducing production activities and increasing social interaction and their perspectives on further business development. The process of finding space for them to learn new things will provide greater opportunities for farmers to develop. Gender plays an important role in this regard, with men and women sharing roles and women serving as intermediaries between the social environments inside and outside farming activities.

The third and final factor is the change in the role of farmers in the work environment, along with the entrepreneurial learning process that arises from it. An increasingly complex and dynamic work environment has encouraged farmers to learn that they need to delegate work to others and give themselves the opportunity to explore new things. New people from outside the farming family will certainly bring new knowledge, experience, skills, and perspectives that will enrich farmers' entrepreneurial competence.

In general, the entrepreneurial learning process in this paper shows that entrepreneurial development for farmers is not limited to developing technical skills. Furthermore, farmers need to develop an entrepreneurial identity, learn to transcend the boundaries of conventional agriculture, and constantly adapt to changes. Farmers are generally still production-oriented (Seuneke, 2014); however, in this study, the farmer informants appeared to be shifting to new activities outside production, which could develop their personal and business competencies. The findings in this study also show that business development can be carried out on a certain scale of enterprise. Farmers generally focus their resources on production activities, which are not sufficient to be used for further business development (Alsos et al., 2011; Fitz-Koch et al., 2018b; Milone & Ventura, 2019; Slusarz, 2019).

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## CONCLUSION

The research findings in this paper indicate that development processes focused on production, such as agricultural modernization and increased productivity, can hinder the development of entrepreneurship in agriculture. Farmer learning processes currently focus largely on increasing production and productivity, whereas the learning processes for entrepreneurship development are rarely explored in depth. This paper highlights the entrepreneurial learning process among farmers with an entrepreneurial spirit, those genuinely striving to develop their businesses. Based on the findings of this research, we argue that focusing solely on developing farmers' technical skills is insufficient. While understanding technical skills is crucial, how farmers can use these skills to develop their businesses remains a major challenge for future agricultural entrepreneurship research.

The essence of this paper is to begin developing a framework for entrepreneurial

learning. Although Rae's (2006) framework exemplifies technology-based companies, it can be adapted to understand and support entrepreneurship development in the agricultural sector. In this study, the entrepreneurial learning process exhibits several differences among farmers, depending on their education level, background, experience, and available resources. Therefore, future research could explore the entrepreneurial learning process in greater depth at a more complex level, tailored to the unique and diverse social, economic, and cultural contexts of farmers. Furthermore, this study demonstrates that gender is crucial to the development of entrepreneurship in agriculture. Future research should explore this gender issue in greater depth.

Research on farmer learning processes should be conducted over a longer period to deepen our understanding of how they adapt to changing environmental conditions. Finally, we draw on the concept of entrepreneurial learning from the general literature on small business entrepreneurship. This helps us develop a framework that can be applied to similar research in the agricultural sector. Based on this, future research is expected to generate concepts that can specifically explain the context of entrepreneurship in agriculture.

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