

## THE ROLE AND STRATEGY OF FARMERS IN FACING AGRIBUSINESS RISKS

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### ***Abstract***

Farmers have a very important role in the agribusiness sector, especially in dealing with various risks that can affect agricultural output. They are not only responsible for producing food, but also act as resource managers, local economic actors, and guardians of environmental sustainability. Farmers must be able to adapt to changes that occur, be it climate change, market price fluctuations, or technological developments. To deal with agribusiness business risks, farmers can apply several effective strategies. This study discusses the roles and strategies of farmers in dealing with agribusiness business risks that are often influenced by various factors, such as climate change, market price fluctuations, pests and diseases, and uncertainty of government policies. Farmers have a crucial role as resource managers, decision makers, innovators, financial managers, and collaborators in their efforts to reduce the impact of various risks that can threaten the sustainability of agribusiness businesses. The strategies implemented include business diversification, technology adoption, wise financial management, strengthening networks and cooperation, and adaptation to environmental and market changes. The results of the study indicate that a combination of proactive roles and well-planned strategies can increase the resilience and success of farmers in dealing with agribusiness business risks. It is important for farmers to continue to develop skills, strengthen networks, and adopt appropriate technologies to reduce uncertainty and improve the sustainability of their agribusiness.

**Keywords:** Role, strategy, farmers, agribusiness risk

### **INTRODUCTION**

Farmers are the main actors in the agribusiness sector, which includes various activities ranging from farming to marketing agricultural products. In this context, farmers not only function as producers, but also as business managers who must face various risks, both economic, social, and environmental. The success of farmers in running an agribusiness is greatly influenced by their ability to manage existing risks. Agribusiness covers the

entire production chain, from cultivation, processing, to distribution of agricultural products (Duong et al., 2019). This sector makes a significant contribution to national income, job creation, and provision of food for the community. However, agribusiness is full of risks that can threaten the sustainability of farmers' businesses. These risks include natural factors such as extreme weather, pests, and plant diseases, as well as economic risks such as market price fluctuations, changes in government policies, and input cost volatility. In addition, farmers also face challenges related to access to technology, capital, and market information. According to Ngare et al., (2015) the risks faced by farmers can come from various sources, such as climate change, market price fluctuations, and limited access to capital and technology. In addition, farmers often operate on a small scale, which makes them more vulnerable to risk. Therefore, it is important for farmers to develop effective strategies to manage these risks. In this context, the role of farmers becomes very important in dealing with these risks. They not only act as producers, but also as decision makers who must be able to manage risks so that their agribusiness continues to run well. For this reason, effective strategies are needed.

Zulfikri et al., (2024) stated that strategies that can be implemented by farmers include business diversification, the use of better agricultural technology, careful financial management, and increasing access to agricultural insurance and marketing networks. In addition, collaboration with the government, financial institutions, and the private sector is also key in supporting farmers in facing agribusiness risks. One of the main backgrounds is the uncertainty faced by farmers regarding weather and climate conditions. Global climate change has caused an increase in the frequency of extreme weather events such as floods, droughts, and storms. This condition threatens the productivity and stability of agribusiness businesses, which are highly dependent on natural factors.

Farmers often face fluctuations in commodity prices in uncertain markets. Agricultural prices can be heavily influenced by changes in global demand, trade policies, and macroeconomic conditions. These price fluctuations can have a significant impact on farmers' incomes and the stability of their businesses. Many farmers, especially in rural areas, still have limited access to modern agricultural technology and relevant market information. This makes them more vulnerable to risks because they do not have adequate tools and knowledge to increase productivity or mitigate risks (Toia, 2019). Farmers often face difficulties in accessing adequate financing to expand their

businesses. In addition, access to agricultural insurance that can help reduce the impact of losses due to natural disasters or crop failures is also still limited. Government policies, both at the national and local levels, can have a direct impact on agribusiness. Changes in policies, such as subsidies, taxes, or trade regulations, can create new risks for farmers, especially if they are not prepared for these changes (Jankelova et al., 2017).

Many farmers rely on a single supplier or market to sell their produce. This dependency can be a major risk if there is a change in the supplier or market, for example if the market experiences a decrease in demand or a change in import policy. The global pandemic has shown how vulnerable the agribusiness supply chain is to external disruptions (Behzadi et al., 2018). Movement restrictions, market closures, and logistical disruptions that occurred during the pandemic have resulted in decreased incomes and increased losses for many farmers. According to e Saqib et al., (2016) farmers act as the main managers of the resources they have, including land, water, labor, and capital. They must be able to optimize the use of these resources to minimize risk and increase productivity. Farmers act as decision makers in choosing the type of crop, cultivation method, and the right planting time. These decisions greatly affect their ability to deal with weather, market, and pest risks. Farmers also play a role in adopting agricultural technologies that can increase efficiency and productivity. Technologies such as drip irrigation, superior seed varieties, and environmentally friendly pesticides are examples of innovations that can be implemented. Farmers need to build networks and collaborate with fellow farmers, financial institutions, government, and the private sector. This collaboration can help in accessing information, markets, technology, and capital needed to manage risks (Matei, A. C., & Onofrei, 2022). By combining active roles and appropriate strategies, farmers can increase their resilience to agribusiness risks and ensure the sustainability of their agricultural businesses amidst increasingly complex challenges. Against this backdrop, it is very important to understand the roles and strategies that farmers can take in dealing with various agribusiness business risks. These efforts will not only help farmers survive in difficult situations but also strengthen the resilience of the agribusiness sector as a whole, which will ultimately have a positive impact on food security and the national economy. Thus, the discussion on the roles and strategies of farmers in dealing with agribusiness business risks is very relevant, considering the challenges faced by this sector are increasingly complex and dynamic (Pham et al., 2021).

## **RESEARCH METHOD**

This study uses a descriptive method by collecting data from various reliable sources, including literature studies and recent publications. The descriptive approach is used to describe the role and strategies of farmers in dealing with agribusiness business risks comprehensively. The first stage in this research method is collecting literature relevant to the research topic. A literature search is conducted through academic databases, scientific journals, and related publications that discuss the roles and strategies of farmers in dealing with agribusiness business risks. The selected literature must be of good quality and relevant to the research objectives. After collecting the literature, an analysis and synthesis of the information found is carried out. Relevant data and information about the concept of agribusiness business risk, the role of farmers in dealing with agribusiness business risks, and farmer strategies in dealing with agribusiness business risks related to the research topic.

## **RESULT AND DISCUSSION**

### **Agribusiness Risk Concept**

Imbiri et al., (2024) stated that the concept of risk in agribusiness refers to various uncertainties and potential losses faced by farmers and agribusiness actors in running their businesses. These risks can come from internal and external factors that affect the productivity, profitability, and sustainability of agribusiness. Agribusiness risk is the uncertainty faced by business actors in the agricultural and agribusiness sectors that can affect the results and success of their businesses. This risk arises from various factors, both internal and external, which can have an impact on production, marketing, and finance. Risks in agribusiness activities are difficult for business actors to control. Often the source of the risk or uncertainty is due to price fluctuations, climate, consumer tastes, pests and diseases.

According to Magaji et al., (2021) the types of risks in agribusiness include:

#### **1. Production Risk**

Agribusiness is a business with high variability in production results, so the risks are also high. Often farmers cannot determine the exact amount of output produced in a production process. This is different from industrial businesses in factories. Weather and pest factors also greatly affect production results. Often also results in decreased yields and losses. Factors such as drought, flooding, extreme temperatures, and changes in rainfall

patterns can greatly affect production results. Global climate change also adds to long-term uncertainty. Crops and livestock are susceptible to various types of pests and diseases that can cause major losses for farmers. Access to adequate water and fertile soil is key to the success of agribusiness. Soil degradation or water shortages can be major risks. 2. Market Risk Fluctuations in agricultural product prices that can affect farmers' income. Price uncertainty can make financial planning difficult. Market risk is the risk caused by changes in market conditions and situations beyond control. This market risk is also referred to as a comprehensive risk, because it is comprehensive and experienced by all companies. Market risk has two characteristics, namely general and specific. General market risk is usually experienced by all companies, which is caused by policies by related institutions, where these policies will affect all business sectors. For example, when the central bank implements a tight monetary policy by raising bank interest rates. While specific market risk is a risk that is only experienced specifically in one or several business sectors, not comprehensive. For example, an announcement by a certain institution or due to a criminal act by a company commissioner and exposed by the media, or maybe because the product being sold contains dangerous chemicals.

2. Financial Risk

Problems related to access to capital, debt, and cash flow. Farmers often face difficulties in obtaining adequate financing for their businesses.

3. Social and Political Risk

Changes in government policy, social conflict, or other issues that can affect business operations. For example, new policies regarding agricultural subsidies can have an impact on production costs.

Mac Clay, P., & Feeney, R. (2019) risk management in agribusiness is very important to increase business resilience and minimize losses. Agribusiness actors need to identify and analyze possible risks and plan strategies to overcome them. Effective risk management is key to increasing the resilience of agribusiness businesses and ensuring long-term sustainability. Without the right risk management strategy, agribusiness businesses can be vulnerable to various threats that can result in major losses or even bankruptcy. Overall, the concept of risk in agribusiness includes the identification, assessment, mitigation, and management of risks originating from various sources. Effective risk management helps farmers and agribusinesses to reduce potential losses and increase the chances of their business success.

With the right approach, they can reduce the negative impact of risks and increase the chances of business success. Some strategies that can be implemented by farmers in dealing with agribusiness risks include business diversification, increasing access to information, partnerships with other business actors, and training and education to improve skills and knowledge (Barnard et al., 2020). By understanding and managing risks effectively, agribusiness actors can increase the sustainability and profitability of their businesses. Effective risk management is key to increasing the resilience of agribusiness businesses and ensuring long-term sustainability. Without the right risk management strategy, agribusiness businesses can be vulnerable to various threats that can result in major losses or even bankruptcy. The concept of risk in agribusiness includes the identification, assessment, mitigation, and management of risks originating from various sources. Effective risk management helps farmers and agribusiness actors to reduce potential losses and increase the chances of their business success (Adobor, 2020).

### **The Role of Farmers in Facing Agribusiness Risks**

The role of farmers in facing agribusiness risks is very important because they are at the forefront of carrying out agricultural activities and must manage various challenges and uncertainties. Farmers are the frontline in the agribusiness sector, playing an important role in ensuring food availability. They must be able to face various risks that can affect agricultural output, such as climate change, pest attacks, and market price fluctuations (Ratnam, S., & Thakur, 2024). By understanding these risks, farmers can take the right steps to minimize their impact. One way farmers deal with risk is by adopting modern agricultural technology. The use of the latest tools and techniques, such as efficient irrigation systems and superior crop varieties, can increase productivity and reduce losses. Technology also helps farmers monitor crop and soil conditions, so they can take preventive action early.

The following are some of the key roles of farmers in facing agribusiness risks (Gaffney et al., 2019):

#### **1. Role as Resource Managers**

Farmers are responsible for managing land, water, labor, and capital effectively to ensure optimal production. The use of appropriate technology, such as water-saving irrigation or selecting seeds that are resistant to pests and diseases, is part of this role. In dealing with environmental risks, farmers also need to play a role in conserving natural resources, such as maintaining soil fertility and managing water wisely, to ensure the long-term sustainability of agribusiness.

## 2. Role as Decision Makers

Farmers must make important decisions about the types of crops or livestock to be cultivated, as well as the right time to plant. These decisions are greatly influenced by weather risks, market conditions, and resource availability. Farmers also play a role in designing strategies to manage production risks, such as deciding when to use pesticides or choosing crop varieties that are resistant to certain environmental conditions.

## 3. Role as Innovators and Technology Adopters

Farmers must be proactive in adopting new technologies that can increase efficiency and productivity and reduce risk. This includes the use of more efficient irrigation systems, modern agricultural machinery, and information technology to monitor weather conditions or market prices. In dealing with climate change and other environmental risks, farmers need to develop and implement sustainable agricultural practices that can reduce negative impacts on the environment while increasing food security.

## 4. Role as a Financial Manager

Farmers need to manage their business finances wisely, including managing cash flow, setting aside funds for reserves, and managing debt. The ability to maintain financial stability is essential in the face of price fluctuations and uncertain harvests. To reduce financial risk, farmers often need to diversify their sources of income, such as running a side business or investing in different types of commodities.

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**Farmers' Strategies in Facing Business Risks**

According to Adnan et al., (2020) farmer strategies in dealing with agribusiness risks are approaches designed to identify, manage, and mitigate various risks that can affect the continuity of their agribusiness. These strategies are important to ensure that farmers can survive and remain productive despite facing high uncertainty. The following are some of the main strategies that farmers can implement (van Winsen et al., 2016):

1. Business Diversification



Farmers can plant various types of crops or raise various types of livestock to reduce the risk of crop failure or disease attacks that are specific to one type of plant or animal. In addition to focusing on primary production, farmers can also run side businesses such as processing agricultural products, livestock, or other businesses that are not related to agriculture to increase sources of income.

2. Use of Technology and Innovation

Using pest-resistant seeds, water-efficient irrigation systems, or more efficient land management technologies to reduce the risk of crop failure due to extreme weather conditions or pest attacks. Using information technology to access weather data, market prices, and other information that helps in making better and more timely decisions.

3. Wise Financial Management

Use agricultural insurance to protect yourself from uncontrollable risks, such as natural disasters, pest attacks, or extreme price fluctuations. Manage cash flow well to ensure there is a reserve fund that can be used in emergencies or when facing crop failures.

4. Skills and Capacity Improvement

Take training or counseling to improve skills and knowledge in cultivation techniques, risk management, marketing, and agribusiness management. Build entrepreneurial capabilities to be more flexible and responsive to changes in the market or environmental conditions, including seeking new market opportunities or developing products with added value.

5. Strengthening Networks and Cooperation

Through cooperatives or farmer groups, farmers can gain easier access to markets, credit, technology, and information that are important for reducing risk. Partner with agribusiness companies or financial institutions to gain access to quality production inputs, wider markets, and financial support.

6. Risk Planning and Management

Make a thorough plan that includes identifying potential risks and mitigating strategies, such as selecting plant varieties that are suitable for weather conditions or creating a planting schedule that takes into account the season. Implement preventive measures, such as crop rotation to maintain soil fertility and prevent pests, or planting cover crops to reduce erosion and retain soil moisture.

7. Market Risk Management

Use financial instruments such as forward contracts to lock in future selling prices for products, thereby protecting against unwanted market price fluctuations. Reduce dependence on intermediaries by selling products directly to consumers, either through local markets, community-based farming programs, or e-commerce platforms.

8. Adaptation to Climate Change

Adopting practices such as agroforestry, integrated land and water management, and the use of organic fertilizers to increase resilience to climate change. Use mapping and weather forecasting tools to plan better planting and harvesting activities and reduce the negative impacts of extreme weather conditions.

9. Increased Access to Information

Use technology-based services such as weather apps or market analysis platforms to obtain real-time information that can help in decision-making. Participate in education or training programs that provide the latest information on agricultural techniques, risk management, and business strategies.

10. Participation in Government Programs

Participate in government programs that provide subsidies, technical assistance, or other support that can help reduce business risks. Actively participate in policy discussions at the local or national level to ensure that policies made support the needs and protection of farmers.

11. Community-Based Approach

Build and manage resilient farmer communities by strengthening local cooperation and building a joint support system in facing shared risks. Build a local financial system such as arisan or savings and loans managed by farmer groups to provide financial reserves in emergency situations.

The strategies implemented by farmers to face agribusiness risks must be holistic, covering various aspects ranging from resource management, financial management, use of technology, to strengthening networks and cooperation. Thus, farmers can increase their resilience to various risks and ensure the sustainability of their agribusiness (Tzouramani et al., 2014).

## CONCLUSION

Farmers have a very important role in the agribusiness sector, especially in dealing with various risks that can affect agricultural output. They are not only responsible for producing food, but also act as resource managers, local

economic actors, and guardians of environmental sustainability. Farmers must be able to adapt to changes that occur, be it climate change, market price fluctuations, or technological developments.

To deal with agribusiness risks, farmers can apply several effective strategies. First, careful planning is essential to minimize uncertainty. Second, good risk management, including risk identification and mitigation, can help farmers to be better prepared to face challenges. Third, business diversification is an effective strategy to reduce dependence on one type of commodity, so that if one business fails, farmers still have other sources of income. In addition, access to market information and modern agricultural technology also greatly helps farmers in increasing efficiency and productivity. Finally, training and education for farmers will improve their ability to manage agribusiness businesses more professionally. By implementing these strategies, farmers can not only reduce the risks they face, but also improve their welfare and contribute to national food security.

Effective roles and strategies in dealing with agribusiness risks are key to increasing farmer resilience, sustainability and productivity in the face of ever-growing challenges.

## REFERENCES

- Adnan, K. M., Ying, L., Ayoub, Z., Sarker, S. A., Menhas, R., Chen, F., & Yu, M. (2020). Risk management strategies to cope catastrophic risks in agriculture: the case of contract farming, diversification and precautionary savings. *Agriculture*, 10(8), 351.
- Adobor, H. (2020). Entrepreneurial failure in agribusiness: evidence from an emerging economy. *Journal of Small Business and Enterprise Development*, 27(2), 237-258.
- Barnard, F. L., Foltz, J., Yeager, E. A., & Brewer, B. (2020). *Agribusiness management*. Routledge.
- Behzadi, G., O'Sullivan, M. J., Olsen, T. L., & Zhang, A. (2018). Agribusiness supply chain risk management: A review of quantitative decision models. *Omega*, 79, 21-42.
- Duong, T. T., Brewer, T., Luck, J., & Zander, K. (2019). A global review of farmers' perceptions of agricultural risks and risk management strategies. *Agriculture*, 9(1), 10.
- e Saqib, S., Ahmad, M. M., Panezai, S., & Ali, U. (2016). Factors influencing farmers' adoption of agricultural credit as a risk management strategy:

- The case of Pakistan. *International journal of disaster risk reduction*, 17, 67-76.
- Gaffney, J., Challender, M., Califf, K., & Harden, K. (2019). Building bridges between agribusiness innovation and smallholder farmers: A review. *Global food security*, 20, 60-65.
- Imbiri, S., Rameezdeen, R., Chileshe, N., & Statsenko, L. (2024). Risk propagation and resilience in the agribusiness supply chain: A systematic literature review. *Journal of Agribusiness in Developing and Emerging Economies*, 14(4), 712-732.
- Jankelova, N., Masar, D., & Moricova, S. (2017). Risk factors in the agriculture sector. *Agricultural Economics (Zemědělská Ekonomika)*, 63(6), 247-258.
- Mac Clay, P., & Feeney, R. (2019). Analyzing agribusiness value chains: A literature review. *International Food and Agribusiness Management Review*, 22(1), 31-46.
- Magaji, B. D., Oladimeji, Y. U., Hassan, A. A., Siewe, F., & Njiforti, P. P. (2021). Risk management strategies of micro, small and medium agribusiness enterprises in north-west, Nigeria. *Journal of Agripreneurship and Sustainable Development*, 4(2), 214-227.
- Maienfisch, P., & Stevenson, T. M. (2015). Modern agribusiness-markets, companies, benefits and challenges. In *Discovery and synthesis of crop protection products* (pp. 1-13). American Chemical Society.
- Matei, A. C., & Onofrei, M. (2022). Impact of risk management on sustainable farming business. *Journal of Financial Studies*, 7(12), 143-163.
- Ngare, P., Kweyu, M., & Huka, C. (2015). *Modelling risk of financing agribusiness in Kenya* (No. 13). KBA Centre for Research on Financial Markets and Policy Working Paper Series.
- Pham, T. T., Dang, H. L., Pham, N. T. A., & Dang, H. D. (2021). Adoption of contract farming for managing agricultural risks: A case study in rice production in the Mekong Delta, Vietnam. *Journal of Agribusiness in Developing and Emerging Economies*.
- Ratnam, S., & Thakur, S. (2024). Risk Assessment and Mitigation in Agribusiness. In *Agribusiness Management* (pp. 44-67). Routledge.
- Toia, A. (2019). *Toward agriculture 4.0: Opportunities and threats of the agribusiness sector: An analysis of the risk management strategies developed by Brazilian SMEs to cope with commodity price risk* (Doctoral dissertation).

- Tzouramani, I., Alexopoulos, G., Kostianis, G., & Kazakopoulos, L. (2014). Exploring risk management strategies for organic farmers: A Greek case study. *Renewable Agriculture and Food Systems*, 29(2), 167-175.
- van Winsen, F., de Mey, Y., Lauwers, L., Van Passel, S., Vancauteran, M., & Wauters, E. (2016). Determinants of risk behaviour: effects of perceived risks and risk attitude on farmer's adoption of risk management strategies. *Journal of Risk Research*, 19(1), 56-78.
- Zulfikri, A., Ningsih, E. M. N., Harsono, I., & Susanto, H. (2024). Agricultural Adaptation Strategies to Weather Fluctuations for Improved Agribusiness Sustainability in West Java. *West Science Nature and Technology*, 2(01), 17-23.