Journal of Economics and Business (JECOMBI)
Volume 4 , Number 02, 2024, DOI 10.54209/ jecombi.v4i02
ESSN 2746-8887 (Online)
https://jecombi.seaninstitute.or.id/index.php/JECOMBI

Application of sustainable agribusiness management concepts: maintaining ecological and economic balance

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Article Info
Keywords:
Agribusiness Management,
Sustainable,
Ecology,
Economics

ABSTRACT
Sustainable agribusiness has become a major focus in response to global challenges related to environmental degradation and economic instability in the agricultural sector. This research aims to examine and apply the concept of sustainable agribusiness management to maintain a balance between ecological and economic aspects in the agricultural context. This research uses a qualitative approach with descriptive methods. The research results show that the application of the concept of sustainable agribusiness management has a significant positive impact on the agricultural sector. Organic farming practices, polyculture, water use efficiency, and wise waste management are successful strategies in reducing negative impacts on the environment. In addition, the use of information and sensor technology, as well as precision technology in dosing inputs such as fertilizers and pesticides, has increased the efficiency of crop production while reducing waste. Empowering farmers through training, participation in decision making, and building fair partnerships in the supply chain also supports economic and social sustainability. Overall, this research provides a strong foundation for improving more sustainable agricultural practices, creating balanced ecological and economic sustainability in the agribusiness sector.

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INTRODUCTION

Agribusiness is a system or series of economic activities that involves the production, distribution and consumption of agricultural products (Sumastuti, 2011). In more detail, agribusiness includes all economic activities related to crop production, livestock, fisheries, forestry, and other sectors related to agricultural natural resources (Rahim & Astuti, 2005). Agribusiness does not only cover aspects of production or agriculture directly, but also involves the complete value chain from procurement of raw materials, processing, distribution, to marketing of agricultural products. In other words, agribusiness involves all economic processes that occur from when plants or animals are produced to when agricultural products reach the hands of consumers (Faqih, 2010).

Modern agribusiness often includes various sophisticated technologies and management to increase production efficiency, reduce environmental impacts, and improve product quality (Udayana, 2011). It is important to remember that agribusiness is not just

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about crop production or livestock, but also includes all activities involved in connecting producers with consumers, including distribution, processing, marketing, and overall supply chain management (Verinda & Rahman, 2024).

In realizing sustainable agricultural development, agribusiness activities have a central role in maintaining a balance between ecological and economic aspects of society, especially for farmers (Maulidah, 2012). This approach includes the implementation of sustainable agricultural practices that minimize negative impacts on the environment, such as wise use of fertilizers and pesticides, maintenance of biodiversity, and efficient water management (Assagaf et al., 2020). In addition, expanding farmers' knowledge and skills in implementing environmentally friendly agricultural technology is also an integral part of sustainable agricultural development strategies (Purnaningsih, 2007).

The positive impact is not only felt on the ecological aspect, but also on the economy of farming communities. Agribusiness activities oriented towards sustainable agricultural development encourage increased productivity and quality of agricultural products, which in turn can increase farmers' income (Irawan & Pranadji, 2002). A well-structured agribusiness system can help reduce economic uncertainty for farmers, provide better access to markets, and create employment opportunities in the agricultural sector (Diwyanto et al, 2002).

Therefore, it is necessary to implement sustainable agribusiness management as the main foundation in realizing sustainable agricultural development goals (Manuhutu et al, 2022). This management includes planning, implementing and monitoring agribusiness activities by considering ecological, economic and social aspects in a balanced manner. First of all, the implementation of innovative and environmentally friendly agricultural technologies should be encouraged, utilizing organic methods, intercropping farming practices and efficient irrigation techniques. In addition, expanding farmers' access to knowledge and training related to sustainable practices is key to increasing their awareness and understanding (Mahbubi, 2013).

Furthermore, sustainable agribusiness management must integrate the supply chain concept effectively, ensuring fair and efficient distribution of agricultural products to the market (Yofa, 2016). Collaboration between agribusiness actors, government and community organizations is also an important aspect for creating policies that support and promote sustainable practices (Sari & Fitra, 2020). By involving all related parties, implementing sustainable agribusiness management will become a strong foundation for creating a healthy, productive and resilient agricultural ecosystem, providing benefits for both the environment and the economy of farming communities in a sustainable manner (Pranoto et al, 2006).

The implementation of sustainable agribusiness management that focuses on resource potential and diverse regional characteristics can provide a significant impetus for the development of a superior agribusiness system (Atmaka et al, 2014). By optimally utilizing the potential of local natural resources and considering the diversity of regional conditions, the agribusiness system can be directed to produce products with high competitiveness. This approach allows the adaptation of agricultural practices and

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management strategies to suit local conditions, creating agricultural products that are unique, high quality, and in line with global market demands (Nurif, 2010). Apart from that, implementing sustainable agribusiness management can also strengthen the involvement of local actors, encourage inclusiveness, and build economic sustainability at the regional level. Thus, harmony between resource potential and regional characteristics is the key to creating a productive and highly competitive agribusiness system in a sustainable manner (Paturochman, 2006).

This research aims to explore and apply the concept of sustainable agribusiness management as an effort to support agricultural development that is balanced between ecology and economy. By identifying effective sustainable practices, this research aims to provide an in-depth understanding of how sustainable agribusiness management can be implemented at various scales of agricultural business. The benefits of this research involve providing practical guidance for agribusinesses, farmers and other stakeholders to adopt sustainable strategies in managing agricultural natural resources. In addition, it is hoped that this research can contribute to the development of sustainable agricultural policies and stimulate awareness of the importance of a balance between ecology and economics in the development of modern agriculture.

METHOD

This research is included in the qualitative research category, with the aim of achieving an in-depth understanding of the phenomena experienced by the research subjects. The focus of qualitative research is on aspects such as behavior, perception and motivation, using descriptions in the form of words and language to investigate natural contexts (Yulianah 2022). For example, behavioral, perception, and motivation research can be considered part of a more holistic qualitative approach. Action research also falls into this category, where natural methods are used to understand the context thoroughly. This research is descriptive, with the aim of collecting as much information as possible to obtain a comprehensive understanding of the topic being investigated (Moleong, 2014). The descriptive approach allows researchers to explain facts and qualities precisely and methodically about the object or subject of research. The main data source comes from the field of political sociology, with the use of secondary data sources from both the field and media such as newspapers or discussions, which strengthens the reliability of the research in describing the phenomena investigated.

RESULTS AND DISCUSSION

The application of the Sustainable Agribusiness Management Concept in maintaining a balance between ecology and economy involves a series of strategies and practices that focus on efficient use of resources, waste management and sustainable economic development. The following is the explanation.

Sustainable Agricultural Practices

Implementing organic farming methods is one of the key steps in supporting agricultural sustainability. Organic farming emphasizes the use of natural ingredients and

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environmentally friendly cultivation techniques, avoiding pesticides and chemical fertilizers. In this context, farmers are turning to organic alternatives such as compost and green manure, which are not only safer for the environment but also improve soil quality and plant health. Reducing the use of pesticides and chemical fertilizers not only helps maintain the health of the environment and surrounding ecosystems, but also reduces the risk of water and soil pollution which can be detrimental to long-term sustainability.

Furthermore, the practice of polyculture or intercropping farming is an effective solution for increasing biodiversity and reducing the risk of pests and plant diseases. By planting various types of crops on one land, the agricultural system becomes more stable and resistant to environmental fluctuations. One plant can provide protection for another, reducing the need for chemical pesticides. More than that, polyculture also provides benefits for farmers' economic sustainability by increasing production diversification and local food security. In this way, the use of polyculture not only supports environmental sustainability but also has a positive impact on economic aspects in the context of sustainable agribusiness. By integrating organic and polyculture farming methods, farmers can create a more balanced and sustainable agricultural ecosystem, supporting long-term goals of ecological and economic sustainability.

Natural Resources Management

Efficient use of water in agriculture through sophisticated and water-saving irrigation systems is an important step in maintaining a balance between ecological and economic sustainability. Advanced irrigation systems can provide better control over water distribution, ensuring that plants receive the exact amount of water they need without wastage. By applying advanced sensor technology, farmers can monitor soil moisture and weather conditions to optimize watering schedules. In this way, water use efficiency increases, reducing pressure on dwindling water resources while still ensuring optimal plant growth.

Wise use of natural resources, including land and energy, is the main basis for preventing resource degradation and exhaustion. Farmers who adopt the principles of agroecology and soil conservation prioritize maintaining soil fertility by minimizing the use of harmful chemicals and implementing planting techniques that support the balance of the soil ecosystem. Apart from that, energy use is also an important focus by utilizing renewable energy technology and energy efficient agricultural practices. Thus, wise use of natural resources not only supports ecological sustainability by minimizing negative impacts on the environment, but also ensures the continuity of agricultural production that is economically sustainable. By implementing these measures, farmers can contribute to efforts to maintain a balance between ecology and economy in the context of sustainable agribusiness.

Waste Management

The practice of recycling organic waste through compost is an effective strategy in reducing environmental pollution and supporting ecological sustainability. By collecting organic waste such as crop residues, green manure, and other agricultural residues, farmers can create nutrient-rich compost for the soil. This recycling process not only reduces the

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volume of organic waste that ends up in landfills, but also avoids the potential for water and soil pollution due to waste burning. The resulting compost can be used as environmentally friendly organic fertilizer, increasing soil fertility and reducing dependence on chemical fertilizers which can damage the soil ecosystem.

Management of agricultural waste with a zero waste approach is a progressive step in optimizing the benefits of each waste component. This approach involves utilizing all agricultural residues, such as plant stems, leaves and other plant parts, without producing unused waste. Through techniques such as composting, making animal feed from crop residues, or using waste as alternative fuel, farmers can maximize the benefits of agricultural waste. A zero waste approach not only reduces negative impacts on the environment, but also increases production efficiency by optimizing the use of available resources. By implementing these practices, farmers can contribute to environmental conservation while ensuring that agricultural resources are utilized in the most sustainable and efficient way possible.

Innovative Agricultural Technology

The use of information technology and sensors in agriculture is one of the important innovations in maintaining a balance between ecology and economy. Through the use of sensors connected to information systems, farmers can monitor crop, soil and weather conditions in real-time. The information obtained can help farmers make more informed decisions, such as when to water, apply fertilizer, or other actions. This technology also enables big data analysis to identify patterns that can improve production efficiency. By optimizing agricultural processes based on accurate and up-to-date data, farmers can increase productivity without compromising environmental balance.

The use of precision technology is an effective solution for providing precise input doses, such as fertilizers and pesticides, with high accuracy. Precision technology leverages devices such as autonomous tractors, drones and land mapping software to specifically measure crop needs in various agricultural areas. This not only reduces excessive use of chemicals, but also avoids waste that can pollute soil and water. By precisely aligning input doses with crop needs, farmers can achieve optimal yields without compromising ecological sustainability. The use of precision technology is in line with sustainable agribusiness principles that emphasize resource efficiency and reducing negative impacts on the environment, ensuring that agriculture can contribute to ecological balance and sustainable economic growth.

Farmer Empowerment

Training and educating farmers on sustainable agricultural practices is a key foundation in strengthening their capacity to adapt to new concepts and techniques that support ecological and economic sustainability. Through training programs, farmers can understand the benefits of practices such as the use of organic fertilizers, crop rotation, and polyculture. This knowledge allows them to adopt more environmentally friendly strategies, increase plant resilience, and reduce dependence on environmentally detrimental chemical inputs. Education can also help farmers understand the positive

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impact of sustainable practices on their own well-being, creating a more sustainable and productive agricultural environment.

Apart from training, encouraging farmer involvement in decision making regarding sustainable agribusiness management is a key factor for long-term sustainability. By involving farmers in the decision-making process, they become active stakeholders in the development and implementation of sustainable policies. Providing space for farmers' views and experiences in decision making can increase acceptance and adoption of sustainable practices. In addition, this provides intrinsic motivation for farmers to play an active role in implementing sustainable practices, because they feel ownership and involvement in the change process. Thus, farmer training and involvement not only stimulates changes in agricultural practices, but also strengthens the basis for socially and ecologically sustainable agribusiness management.

Fair Supply Chain Development

Building fair partnerships with business actors in the agricultural supply chain is essential in creating a sustainable and fair agribusiness ecosystem. Fair partnerships ensure that every stakeholder, from farmers to retailers, gets equal benefits from agricultural activities. In this case, partnerships can involve negotiating fair contracts, recognizing the contribution of each party in the supply chain, and sharing risks and benefits. Business actors can play a role in providing training and technical support to farmers, ensuring product quality, and providing wider market access. By creating strong partnerships, agricultural supply chains can become more efficient and sustainable, creating greater economic sustainability for all stakeholders.

In addition, ensuring the distribution of added value equally to all related parties, including small farmers, is the main focus in supporting economic justice in the agricultural sector. Equitable distribution of added value includes providing fair prices to farmers, ensuring they get their fair share of profits, and providing incentives to continue adopting sustainable practices. Fair profit sharing mechanisms can include payment schemes that are transparent and profitable for farmers, as well as policies that support the involvement of small farmers in the supply chain. By ensuring an even distribution of added value, it not only supports the economic sustainability of small farmers, but also improves balance in the supply chain as a whole. This initiative not only benefits farmers, but also creates a strong foundation for a sustainable and socially inclusive agricultural supply chain.

Promotion of Sustainable Agricultural Products

Communicating sustainability values to consumers is a strategic step in increasing their understanding and awareness of the positive impacts that can result from consuming sustainable agricultural products. By providing clear information about the sustainable farming practices implemented, consumers can make more conscious choices and support sustainability efforts. This communications strategy can involve marketing that focuses on sustainability stories, the use of social media, and educational campaigns to provide an in-depth understanding of how their purchasing decisions can have a positive impact on the environment and society. By providing added value in the form of sustainability information

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to consumers, agricultural producers can create higher demand for sustainable agricultural products.

In addition, establishing sustainability labels and certifications is an important tool to increase transparency and consumer trust in sustainable agricultural products. Clear labels and certifications provide indicators to consumers that the product is produced in compliance with certain standards in terms of sustainability. This initiative covers environmental, social and economic aspects, so consumers can make decisions based on reliable information. With consumer trust built through labels and certification, agricultural producers can create a climate that supports market growth for sustainable products. This initiative not only creates a positive incentive for producers committed to sustainable agricultural practices, but also increases consumer understanding and participation in supporting sustainability through their purchasing decisions.

The implementation of various forms of sustainable agribusiness management has opened the door to a number of significant benefits in the agricultural sector. First of all, this approach encourages efficiency in the use of natural resources, including water, land and energy, by utilizing environmentally friendly technologies and practices. By optimizing resource use, the result is a more ecologically sustainable agriculture, reducing negative impacts on the environment. Apart from that, implementing sustainable agribusiness management also provides significant economic benefits. By increasing production efficiency, reducing waste management costs, and creating added value through sustainable practices, farmers and business people in the agricultural sector can experience increased profitability. Furthermore, consumer understanding and support for sustainable agricultural products can create new market shares and increase product competitiveness.

Not only that, sustainable agribusiness management also contributes to the empowerment of local communities, especially small farmers. By encouraging farmer participation in decision making and involving them in sustainable supply chains, this model can improve the standard of living and welfare of farmers at the local level. Thus, implementing sustainable agribusiness management not only creates a more environmentally friendly agricultural system, but also has a significant positive impact on economic and social aspects, creating a solid foundation for sustainable agriculture in the future.

CONCLUSION

The implementation of the concept of sustainable agribusiness management has a significant positive impact on the agricultural sector. This approach encourages efficient use of natural resources, optimizes production processes, and minimizes negative impacts on the environment. The economic benefits realized involve increasing profitability, reducing waste management costs, as well as creating added value for business actors in the agricultural sector. In addition, sustainable agribusiness management also makes an important contribution to empowering local communities, especially small farmers, by involving them in decision making and improving their welfare. Consumer support for sustainable agricultural products opens up new market opportunities, while sustainability

labels and certification increase transparency and consumer trust. The implementation of sustainable agribusiness management forms a strong foundation for sustainable agriculture in the future. By integrating ecological, economic and social aspects, this approach not only provides solutions to environmental challenges, but also creates added value in a sustainable manner for all stakeholders in the agricultural supply chain. In this context, sustainable agribusiness management is the key to achieving a healthy balance between ecological sustainability and economic growth in the agricultural sector.

REFERENCES

1. Assagaf, M., Hidayat, Y., & Wahab, A. (2020, November). Pengembangan Agribisnis Berkelanjutan Berorientasi Potensi dan Karekteristik Wilayah Maluku Utara. In *Prosiding Seminar Nasional Agribisnis* (Vol. 1, No. 1).
2. Atmaka, A., Satria, A., & Hariono, B. (2014). Strategi pengembangan agribisnis komoditas padi dalam meningkatkan ketahanan pangan Kabupaten Jember. *Jurnal Manajemen & Agribisnis*, *11*(1), 60-67.
3. Diwyanto, K., Prawiradiputra, B. R., & Lubis, D. (2002). Integrasi tanaman-ternak dalam pengembangan agribisnis yang berdaya saing, berkelanjutan dan berkerakyatan. *Wartazoa*, *12*(1), 1-8.
4. Faqih, A. (2010). *Manajemen agribisnis*. Deepublish.
5. Irawan, B., & Pranadji, T. (2002). Pemberdayaan lahan kering untuk pengembangan agribisnis berkelanjutan. In *Forum Penelitian Agro Ekonomi* (Vol. 20, No. 2, pp. 60-76).
6. Mahbubi, A. (2013). Model dinamis supply chain beras berkelanjutan dalam upaya ketahanan pangan nasional. *Jurnal Manajemen & Agribisnis*, *10*(2), 81-89.
7. Manuhutu, E. A., Lengkong, M. R., & Paendong, S. M. (2022). Penerapan Inovasi Teknologi Pasca Panen Tanaman Wortel dalam Manajemen Agribisnis Berkelanjutan. *Jurnal LOCUS: Penelitian & Pengabdian–Vol*, *1*(4), 210.
8. Maulidah, S. (2012). *Pengantar Manajemen Agribisnis*. Universitas Brawijaya Press.
9. Moleong, L. J. (2014). Metode penelitian kualitatif edisi revisi. *Bandung: PT Remaja Rosdakarya*.
10. Nurif, M. (2010). Pembangunan ekonomi berbasis agribisnis sebagai wujud dari pembangunan ekonomi yang berkelanjutan. *Jurnal Sosial Humaniora (Jsh)*, *3*(2), 124-138.
11. Paturochman, M. (2006). Pengembangan Agribisnis Melalui Kelompok Peternak Domba di Kecamatan Kadugede Kabupaten Kuningan. *Sosiohumaniora*, *8*(2), 158.
12. Pranoto, S., Ma'arif, S., Sutjahjo, S. H., & Siregar, H. (2006). Pembangunan perdesaan berkelanjutan melalui model pengembangan agropolitan. *Jurnal Manajemen & Agribisnis*, *3*(1), 45-53.
13. Purnaningsih, N. (2007). Strategi kemitraan agribisnis berkelanjutan. *Sodality: Jurnal Sosiologi Pedesaan*, *1*(3).
14. Rahim, A., & Hastuti, D. R. D. (2005). Sistem Manajemen Agribisnis.

15. Sari, M. P., & Fitria, B. C. (2020). MANAJEMEN USAHATANI DAN KONSEP AGRIBISNIS BERKELANJUTAN KOMODITAS SAPI PERAH DIDESA KEMUNINGLOR KECAMATAN ARJASA KABUPATEN JEMBER. *Jurnal Ilmiah Mahasiswa Agroinfo Galuh*, *7*(2), 425-435.
16. Sumastuti, E. (2011). Prospek pengembangan agribisnis dalam mewujudkan ketahanan pangan. *JEJAK*, *4*(2).
17. Udayana, I. G. B. U. (2011). Peran agroindustri dalam pembangunan pertanian. *Singhadwala*, *44*, 3-8.
18. Verinda, O., & Rahman, D. (2024). Pengaruh Paradigma Pembangunan Agribisnis Berbasis Orientasi Pasar Terhadap Petani. *Jurnal Serambi Ekonomi dan Bisnis*, *7*(1), 41-51.
19. Yofa, R. D. (2016, December). Penerapan konsep manajemen rantai pasok pada produk unggas. In *Forum Penelitian Agro Ekonomi* (Vol. 34, No. 2, pp. 143-161).
20. Yulianah, S. E. (2022). *Metodelogi Penelitian Sosial*. CV Rey Media Grafika.