JURNAL RISET DAN APLIKASI: AKUNTANSI DAN MANAJEMEN

A Greenpreneurship Framework for Okra Business to Global Sustainability

Resha Dwi Ayu Pangesti Mulyono[1*], Nadya Astadewi Putri Abdullah[2]

[1,2]University of Jember, Jl. Kalimantan Tegalboto No.37, Krajan Timur, Sumbersari, Kec. Sumbersari, Kabupaten Jember, Jawa Timur 68121, Indonesia.

[1]reshadwiayupm@unej.ac.id , [2]nadyaastaa@gmail.com

Corresponding author

doi.org/10.33795/jraam.v7i3.002

Article Information

Submission date	18-10-2024
Revised date	28-03-2025
Accepted date	31-03-2025

Keywords:

Green Entrepreneurship;
Okra Plants;
Sustainability Model.

Abstract: A Greenpreneurship Framework for Okra Business to Global Sustainability

Purpose: *Developing a sustainable okra business model oriented towards the global market by considering environmental, technological, social, and economic aspects.*

Method: *Utilizing Participatory Action Research by involving consumers, farmers, PT Mitra Tani Dua Tujuh, and community leaders to explore in-depth information on the challenges and opportunities of okra agribusiness.*

Result: *Producing a sustainable business model based on green entrepreneurship that covers the entire okra agricultural value chain from upstream to downstream.*

Novelty: *Integrating sustainability principles comprehensively into okra business management to enhance efficiency and competitiveness.*

Contribution: *Enhancing the competitiveness and sustainability of okra agribusiness through an innovative approach.*

Kata kunci:

Kewirausahaan Hijau;
Model Keberlanjutan;
Tanaman Okra.

Abstrak: Kerangka Greenpreneurship Bisnis Okra untuk Keberlanjutan Global

Tujuan: Mengembangkan model bisnis okra berkelanjutan yang berorientasi pada pasar global dengan mempertimbangkan aspek lingkungan, teknologi, sosial, dan ekonomi.

Metode: Menggunakan *Participatory Action Research* dengan melibatkan konsumen, petani, PT Mitra Tani Dua Tujuh, serta tokoh masyarakat untuk menggali informasi mendalam terkait tantangan dan peluang agribisnis okra.

Hasil: Menghasilkan model bisnis berkelanjutan berbasis kewirausahaan hijau yang mencakup seluruh rantai nilai pertanian okra.

Kebaruan: Mengintegrasikan prinsip keberlanjutan secara menyeluruh dalam pengelolaan bisnis okra untuk meningkatkan efisiensi dan daya saing.

Kontribusi: Meningkatkan daya saing dan keberlanjutan agribisnis okra dengan pendekatan inovatif.

1. Introduction

The okra plant (Abelmoschus esculentus *L*) is a type of horticultural plant belonging to the Hibiscus genus from the

Malvaceae (cotton-cotton) family. Okra has great potential for Indonesian society, both from an economic and health perspective. This plant is increasingly popular in Indonesia, and in recent years the planting area has expanded. Apart from that, okra is known for its various benefits for blood health, such as helping control sugar levels, improving digestion, and being rich in vitamins, as well as phenolic and flavonoid compounds which function as antioxidants. These properties are useful for maintaining overall body health, preventing free radicals in the body, and reducing the risk of degenerative diseases [1]. Apart from that, okra is a horticultural commodity that has export potential. Jember Regency is known as one of the leading okra producing areas. According to [2], okra land in Jember is divided into several areas, one of which is managed by PT Mitra Tani Dua Tujuh covering an area of approximately 300 hectares and produces 550-600 tonnes of okra annually. There are also various okra varieties that have been developed and adapted to local climate conditions and market needs, including hybrid varieties that offer higher yields and are resistant to pests and diseases.

Okra cultivation in Jember Regency is handled by one large company, namely PT Mitra Tani Dua Tujuh. The company handles the planting, harvesting and pre-harvest processes, all of which are handled by PT Mitra Tani Dua Tujuh. The positive impact of the existence of this company, especially for farmers in Jember Regency, is that it opens up employment opportunities provided by PT Mitra Tani Dua Tujuh so that farmers' income increases. However, the general public in Jember Regency cannot buy okra plants freely because the purchasing system is carried out by PT Mitra Tani Dua Tujuh. So, all marketing systems must be based on the knowledge and approval of PT Mitra Tani Dua Tujuh. Okra plants developed in Jember Regency are sold or marketed in raw and semi-cooked form. One of the current export destination countries for okra plants is Japan, Taiwan and Australia. Even though PT Mitra Tani Dua Tujuh has had a positive impact on the people of Jember Regency, this company still faces challenges in fully implementing green entrepreneurship principles.

The application of Green Entrepreneurship in the okra business has great potential to support the green economy and achieve Sustainable Development Goals (SDGs). However, there are several challenges that must be overcome for this concept to be fully implemented in the okra business. One of the main challenges is the lack of awareness among entrepreneurs, farmers and stakeholders about the importance of Green Entrepreneurship from the beginning to the end of the process [3]. Many do not yet understand how green economy principles can be practically applied in their business and how this can support long-term sustainability [4]. According to [5], a green economy is an approach that aims to create low-carbon, resource-efficient and socially inclusive economic growth by involving the community and stakeholders. Green Entrepreneurship does not only mean implementing a green economy, but also supporting sustainable agriculture. To overcome this challenge, a comprehensive approach is needed, such as the Participatory Action Research Approach, to identify challenges and solutions through observation and concrete actions.

Although the concepts of green economy and green entrepreneurship have been widely applied in various agricultural sectors, research specifically addressing okra in this context is still very limited. Most research focuses on the health benefits and economic potential of okra as an export commodity, without discussing how okra can be integrated into green economy systems and sustainable supply chains. With the increasing global awareness of the importance of sustainable business practices, this research is relevant to fill the gap in the literature regarding the utilization of okra plants that support a green economy and long-term sustainability. Thus, this research is expected to provide insights for stakeholders, including entrepreneurs,

farmers, and policymakers, in optimizing business practices with the principles of green entrepreneurship.

2. Method

This research uses the Participatory Action Research (PAR) method, this method is a research approach that involves collaboration between researchers and participants to jointly understand situations facing challenges and try to change them for the better. The primary focus of PAR is creating social change that promotes democracy and challenges inequality, with an emphasis on specific contexts often aimed at meeting the needs of particular groups. This method involves an iterative cycle involving a process of research, action, and reflection, with the aim of empowering participants to have a deeper awareness of their situation and encouraging them to take relevant action. Activities in PAR include mapping, action planning, action implementation, as well as monitoring and evaluation through observation, in-depth interviews, and Focus Group Discussions (FGD). The results of monitoring and evaluation are used again for mapping, planning, implementation, and ongoing monitoring and evaluation. Data observations were carried out on community socio-economic activities, such as the management of okra in Jember district, specifically the management of PT Mitra Tani Dua Tujuh. The PAR or Participatory Action Research method is considered as a way to empower people through self-awareness, effectively in overcoming their living conditions. This process is also an effort by social groups to analyze their problems scientifically to direct, improve and evaluate their decisions and actions.

Green Entrepreneurship. The development of green entrepreneurship requires the use of basic materials from the natural environment and local culture. Therefore, the main focus in establishing this green entrepreneurship model is to increase public awareness, with the aim of minimizing nega-tive impacts and obtaining maximum positive impacts. In this effort, processed okra products are the right choice for developing green entrepreneurship in the Jember area. The okra plant, which has thousands of benefits, is currently not being utilized optimally. So far, the use of okra has focused more on export activities under the auspices of PT. Farming Partners. These steps are taken to ensure that okra's potential can be maximized locally, thereby providing major benefits to local communities. The green entrepreneurship incubation process will also rely on local organizations, such as Village-Owned Enterprises (BUMDes). These local organizations are considered as incubation platforms that support the emergence of new green entrepreneurs. Thus, it is hoped that strengthening local organizations can become a means for the development of green entrepreneurship among village communities.

Sustainability Business. Ultimate objective is to enhance human life. Sustainable development is founded on three essential dimensions: social, economic, and environmental [6]. This concept is encapsulated in the 3P framework People, Profit, and Planetwhich align with social, economic, and environmental aspects, respectively [6]. The rise of the green market has reinforced this framework, influencing human behavior by boosting income, shaping societal values, and improving overall lifestyles.

This indicates an increase in business (private and government), designing new green products, or redesigning old products. The growing green market has undergone a transformation into sustainable green supply chain management. Applying the concept of business sustainability to okra products is very appropriate, considering that this product has environmentally friendly and sustainable characteristics. Apart from that, as a processed product from plants with various benefits, the concept of business sustainability is a very relevant choice.

Applying the concept of business sustainability to okra-based products is highly

appropriate, given that these products possess environmentally friendly and sustainable characteristics. Moreover, as a processed product derived from a plant with various benefits, the sustainability concept is a highly relevant choice. Alongside the growing awareness of the importance of sustainability, the green market has rapidly expanded, which in turn has driven transformation in how companies design products and manage their supply chains [7].

Similarly, the concept of a Sustainable Entrepreneurship Ecosystem (SEE), which integrates sustainability elements into entrepreneurship, can also encompass okra-based products. By embedding sustainability principles into every stage of production and distribution, Roetaka can develop a business model that is not only economically profitable but also environmentally friendly and socially supportive. The implementation of these sustainability principles can not only enhance the appeal of okra products in the market but also support the formation of an entrepreneurship community focused on sustainability, as proposed within the framework of the sustainable entrepreneurship ecosystem [8].

3. Results and Discussion

Illustration 1. Green Entrepeneurship for Okra Business

Green entrepreneurshipis a form of business that actively addresses environmental hazards or requires an economically sustainable marketing strategy with a positive impact on the environment, society and the financial system. A green entrepreneur is someone who establishes and runs a business designed to address environmental hazards or meet a need by using sustainable tools and tactics from the start of its marketing strategy. Green entrepreneurs can also be defined as individuals who find solutions to problems faced by society and the environment, and fully implement them through environmentally friendly products. The five business categories of green entrepreneurship include solar energy and other renewable energies, organic products, recycling and reuse, *"clean"* products, and applied environmental knowledge [9].

Application of Green entrepreneurship in field conditions that have been excavated Research data goes through several stages with methods Participatory Action Research (PAR) includes mapping, action planning, action implementation, as well as monitoring and evaluation through observation, in-depth interviews, and Focus Group Discussions (FGD).

The Participatory Action Research (PAR) approach implemented in the application of Green Entrepreneurship in okra cultivation in Jember Regency not only aims to increase production efficiency but also ensures that the agricultural practices applied are environmentally friendly and sustainable.

The stages in exploring research regarding the application of Green-entrepreneurship start from paying attention to human resources who have knowledge about sustainable agriculture, such as in okra cultivation in the Jember Regency area. The process includes selecting high quality seeds with very careful specifications, then the process of fertilizing the soil which is carried out by paying attention to doses below the threshold, and efficient irrigation management sourced from rivers with flowing water.

Each phase in Participatory Action Research (PAR) is designed to maximize the use of natural resources while minimizing waste production. This is achieved, for instance, by selecting high-quality seeds that have been tested for resistance to pests and

diseases. Additionally, fertilization strategies involve applying doses below the threshold to maintain soil ecosystem balance, ensuring long-term fertility without leaving harmful chemical residues that could disrupt agricultural practices. Efficient irrigation management is also a key priority, where river water is utilized optimally to prevent wastage and support the long-term sustainability of agriculture. Through this approach, agricultural practices not only benefit the environment but also enhance farmers' sustainable productivity.

Weeding and pest control are carried out using environmentally friendly methods, using doses below the threshold to reduce negative impacts on the environment. The harvest period is carried out in a way that minimizes plant damage and waste, namely by picking the okra directly by the okra farmer. Farmers are trained to carry out all these steps with the best techniques in line with green entrepreneurship principles. In this way, crop productivity and quality can be increased significantly without damaging the surrounding ecosystem.

Food safety technology and natural packaging are the main concerns in developing okra products, with the use of environmentally friendly packaging materials and hygienic processing processes to ensure the product is safe for consumption and does not damage the environment. Apart from that, R&D (Research and Development) plays an important role in creating better innovation. Distribution of okra products is carried out according to strict SOPs, using digital technology to maintain product quality through temperature regulation and proper placement during delivery. A sophisticated refrigeration system is used to maintain product freshness during long-distance transportation, which can be monitored in real-time. Social media and websites are used to increase product visibility, reach a wider market, and enable consumers to purchase products directly, thereby expanding domestic and global market access.

Consumers can also access information about the products, including the sustainability certifications they possess, the transparency of the production process, and their health benefits. Thus, this approach not only ensures that okra products from Jember Regency can compete in the global market but also raises consumer awareness of the importance of choosing products that support a green and sustainable economy.

The sociology and environment of this model are very significant, including empowering farmers through education and training, as well as partnerships with various parties to expand global market share. Implementing the zerowaste principle ensures that all parts of the harvest are used without waste, supporting environmental sustainability. The innovative use of harvests plays a vital role in this model. The produced food items meet health and nutritional standards, having been tested in an ISO/IEC 17025-certified laboratory, underscoring a commitment to both environmental sustainability and the well-being of farmers. Okra that does not meet the required standards can be transformed into high-value products, such as functional foods, nutrient-dense extracts, or other processed goods with a longer shelf life. This strategy not only helps reduce agricultural waste and promote sustainability but also increases the economic potential of each harvest.

Education for farmers includes sustainable agricultural practices and the application of environmentally friendly technology, thereby supporting production efficiency while maintaining ecosystem balance. Partnerships with international buyers open up profitable export opportunities and encourage local economic growth, while ensuring that growth towards global market share remains in line with sustainable environmental principles. This model maximizes local potential with appropriate technology, pays attention to human resources, and ensures economic benefits and environmental preservation for future generations.

This entire approach reflects the practical application of green value added, which is the effort to create added value that not only impacts economic profit but also considers ecological and social dimensions. As explained in the book Green Entrepreneurship, green value added is a process that emphasizes that the value of a product is not only measured by its quality and price, but also by its contribution to environmental preservation and community empowerment. Green added value arises from the integration of environmentally friendly production practices, resource efficiency, and innovation in processing and distribution that prioritize sustainability principles. The products produced not only meet market demands but also convey an ethical message about social responsibility and environmental stewardship [10].

Furthermore, green value added encourages entrepreneurs to build a sustainability-based competitive advantage by creating product differentiation through environmental quality, process transparency, and social awareness. In this context, a product's success is not only measured by the profit it generates, but also by its contribution to improving farmers' welfare, reducing waste, conserving resources, and educating consumers about the importance of responsible consumption. This becomes a crucial foundation in building an entrepreneurial ecosystem that is not exploitative but transformative, prioritizing environmental regeneration and long-term sustainability. Thus, green value added is not merely a business strategy, but a new paradigm in addressing global challenges such as the climate crisis, social inequality, and environmental degradation [11].

Position environmentally friendly projects as concrete forms of green entrepreneurship in project management practice [12]. Green projects do not only focus on sustainable end results but also involve ethical and collaborative processes, including the use of eco-friendly materials, increased energy efficiency, and the creation of positive social impacts through local community empowerment. In the context of okra cultivation, the entire value chain from seed selection, cultivation techniques, and product processing to distribution and consumer education can be categorized as a green project, as it fulfills the core principles of green projects: minimizing negative environmental impacts, supporting the circular economy, and enhancing social well-being in a sustainable manner [12].

4. Conclusion

The Green entrepreneurshipis a form of business that not only overcomes environmental hazards but also implements sustainable strategies. The application of Green Entrepreneurship in okra cultivation in Jember Regency shows the integration of sustainable principles through the use of environmentally friendly technology, efficient agricultural practices, and product innovation and distribution.

The Participatory Action Research (PAR) method is used as an approach to this model to ensure that all steps, from seed selection to post-harvest handling, are carried out with sustainability principles in mind. Food safety technology and natural packaging, together with a strict distribution system, support product safety and environmental sustainability.

Empowering farmers through education, partnerships with international buyers, and implementing zero waste principles strengthens commitment to sustainability, increases productivity, and opens up export opportunities, which in turn maximizes local to global potential and ensures economic and environmental benefits for the future.

Acknowledgment

We would like to extend our deepest gratitude to the Institute for Research and Community Service (LP2M) for the support and trust given through the provision of grant

funding for the implementation of this research program. This assistance has played a significant role in ensuring the smooth and successful execution of our research.

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