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SUSTAINABLE DEVELOPMENT STRATEGY OF VIRGIN COCONUT OIL (VCO) PRODUCTION IN PENGLIPURAN VILLAGE BASED ON SWOT ANALYSIS AND SUSTAINABLE DEVELOPMENT THEORY

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Abstract:

This study aims to analyze the role of women farmer groups in developing VCO production, identify internal and external factors affecting business sustainability, and formulate appropriate development strategies based on SWOT analysis and sustainable development theory. The research employed a qualitative case study approach. Data were collected through in-depth interviews, observations, documentation, and discussions with members of the women farmer group and village stakeholders. The findings reveal that the women farmer group has substantial potential to support local economic growth and women's empowerment. The main strengths include active female labor participation, the tourism potential of Penglipuran Village, and increasing market demand for natural health products. However, several weaknesses remain, such as limited production capacity, simple equipment, low digital marketing capability, and limited financial resources. The Internal Factor Analysis Summary (IFAS) score was 2.82, while the External Factor Analysis Summary (EFAS) score was 2.80, indicating that the business position is in cell V of the Internal-External (IE) Matrix, suggesting a hold-and-maintain strategy. The recommended strategy focuses on improving production capacity, strengthening managerial capability, enhancing digital marketing, diversifying coconut-based products, and increasing institutional collaboration. This research contributes to sustainable rural development by promoting local resource utilization, women's empowerment, and environmentally friendly economic activities.

Keywords: Virgin Coconut Oil, SWOT Analysis, Sustainable Development, Women Farmer Groups, Rural Economy, Penglipuran Village

INTRODUCTION

Sustainable rural economic development has become one of the key priorities in Indonesia's national development agenda, particularly in empowering local communities through the utilization of village-based natural resources. Rural communities often possess abundant local resources; however, many villages still face economic limitations due to low-value-added production systems and limited market access. One potential strategy for improving rural economies is the development of local agro-industrial products based on community empowerment and sustainable production systems. Virgin Coconut Oil (VCO) is one of the coconut-based products that has experienced increasing global demand due to its health benefits, cosmetic applications, and natural processing characteristics. VCO contains medium-chain fatty acids and antioxidant compounds that are beneficial for human health. In recent years, public awareness regarding natural and organic products has significantly increased, creating broader opportunities for small-scale VCO industries in rural areas. Penglipuran Village, located in Bangli Regency, Bali, is internationally recognized as a traditional tourism village with strong cultural preservation and environmental



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sustainability. Besides tourism potential, Penglipuran Village also possesses coconut plantation resources that can support the development of VCO production. The existence of Women Farmer Groups (Kelompok Wanita Tani/KWT) provides an important institutional basis for empowering women in productive economic activities. The development of VCO production in Penglipuran Village has provided additional household income and strengthened women's participation in rural economic activities.

Nevertheless, several obstacles still hinder business sustainability, including limited raw materials, inadequate production technology, low managerial capability, insufficient marketing networks, and limited access to financing. This research is important because sustainable VCO production not only contributes to local economic growth but also supports women's empowerment, environmental sustainability, and tourism-based economic diversification. Moreover, previous studies have mainly focused on technical aspects of VCO production, while limited research has analyzed sustainable development strategies integrating SWOT analysis and sustainable development theory in rural community contexts.

Therefore, this study aims to:

1. Analyze the implementation of VCO production by women farmer groups in Penglipuran Village.
2. Identify internal and external factors affecting sustainable VCO production.
3. Formulate sustainable development strategies based on SWOT analysis and sustainable development theory.

Virgin Coconut Oil (VCO). Virgin Coconut Oil (VCO) is a natural coconut oil extracted from fresh coconut meat without high-temperature processing or chemical treatment. According to Nevin and Rajamohan (2010), VCO is categorized as a functional food because it contains medium-chain triglycerides (MCTs) and antioxidants beneficial to human health. VCO is widely used in food industries, cosmetics, pharmaceuticals, and health supplements. Marina et al. (2009) explain that VCO possesses antimicrobial, antiviral, and antioxidant properties, making it increasingly popular in international markets. The increasing demand for organic and natural products has further expanded the market potential for VCO-based businesses.

Sustainable Development Theory. Sustainable development refers to development processes that meet current needs without compromising future generations' ability to meet their own needs. Sustainable development emphasizes the balance among economic, social, and environmental dimensions. In rural economic contexts, sustainable development encourages the utilization of local resources while preserving environmental sustainability and strengthening community welfare. Community-based economic development can increase local participation, reduce poverty, and improve social resilience.

Women's Empowerment in Rural Development. Women play significant roles in household economic activities and local community development. Women farmer groups in rural areas function not only as production units but also as social institutions supporting knowledge sharing, cooperation, and community empowerment. According to Mulyati and Tjahjani (2018), women's empowerment through small-scale businesses can increase household income, strengthen women's economic independence, and improve community welfare.

SWOT Analysis. SWOT analysis is a strategic management tool used to identify strengths, weaknesses, opportunities, and threats affecting organizational performance. According to Rangkuti (2017), SWOT analysis helps organizations formulate appropriate strategies based on internal and external environmental conditions. In rural business development, SWOT analysis can

support decision-making processes by identifying strategic priorities and improving business sustainability.

METHODS

This study employed a qualitative research approach using a case study method. The research was conducted in Penglipuran Village, Bangli Regency, Bali, Indonesia.

Data Collection. Data were collected through:

1. In-depth interviews with women farmer group members and village stakeholders.
2. Field observations of VCO production activities.
3. Documentation studies related to production processes and business activities.
4. Group discussions regarding business development strategies.

Data Analysis. Data were analyzed using descriptive qualitative analysis combined with SWOT analysis. Internal and external factors were identified and evaluated using the Internal Factor Analysis Summary (IFAS) and External Factor Analysis Summary (EFAS) matrices.

The analysis stages included:

1. Identification of internal strengths and weaknesses.
2. Identification of external opportunities and threats.
3. Weighting and rating strategic factors.
4. Determining strategic positions using the Internal-External (IE) Matrix.
5. Formulating sustainable development strategies.

RESULTS AND DISCUSSION

Overview of Penglipuran Village. Penglipuran Village is one of Bali's traditional tourism villages known for its strong cultural preservation and environmental management. The village possesses substantial coconut plantation resources that support local economic activities. The women's farmer group in Penglipuran Village has initiated VCO production as a household-based economic activity. The production process utilizes local coconut resources and labor participation from women group members.

Several factors support the development of VCO production:

1. Availability of coconut raw materials.
2. Increasing market demand for VCO products.
3. Tourism potential supporting product marketing.
4. Active participation of women farmer groups.
5. Support from village authorities.

The existence of tourism activities in Penglipuran Village creates opportunities for integrating local product marketing with tourism development.

Implementation of VCO Production. The VCO production process in Penglipuran Village includes several stages:

1. Selection of mature coconuts.
2. Coconut grating.
3. Coconut milk extraction.
4. Fermentation process.
5. Oil separation.
6. Filtration.
7. Packaging.



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The production process is still carried out using simple equipment and traditional methods. Although the business has contributed positively to household income, production capacity remains relatively low. The research findings indicate that women's participation significantly contributes to household economic resilience. Besides generating income, the VCO business also enhances women's entrepreneurial skills and strengthens community cooperation.

However, several challenges were identified:

1. Limited supply of quality coconuts.
2. Simple production equipment.
3. Limited production capacity.
4. Limited technical knowledge.
5. Weak digital marketing capability
6. Limited business capital.

These obstacles affect production efficiency and market expansion.

Internal Factor Analysis (IFAS). The Internal Factor Analysis Summary (IFAS) identified strengths and weaknesses affecting sustainable VCO production.

Strengths;

1. Active female labor participation.
2. Availability of coconut raw materials.
3. High motivation among group members.
4. Strong group cooperation.
5. Tourism image of Penglipuran Village.

Weaknesses

1. Limited technical knowledge.
2. Limited business capital.
3. Simple production equipment.
4. Low production capacity.
5. Weak managerial systems.

The IFAS analysis produced a total weighted score of 2.82, indicating a relatively strong internal condition. The strongest factors include coconut resource availability and the tourism image of Penglipuran Village. Nevertheless, several weaknesses still hinder optimal business development, particularly related to capital, technology, and managerial capability.

External Factor Analysis (EFAS). The External Factor Analysis Summary (EFAS) identified opportunities and threats affecting VCO's business sustainability.

Opportunities

1. Increasing market demand for natural products.
2. Government support for rural SMEs.
3. Growing health-conscious consumer trends.
4. Tourism-based marketing opportunities.
5. Product diversification opportunities.

Threats

1. Competition from other VCO producers.
2. Fluctuation of coconut prices.
3. Climate change is affecting coconut production.
4. Limited digital marketing access.
5. Limited financing access.



The EFAS analysis produced a total weighted score of 2.80, indicating that the external environment moderately supports business development. The growing market trend toward natural products and tourism development provides significant opportunities for VCO business expansion.

SWOT-Based Sustainable Development Strategy. Based on IFAS and EFAS results, the VCO business position falls into cell V of the Internal-External (IE) Matrix. This position suggests a hold-and-maintain strategy.

The recommended development strategies include:

1. Improving Production Capacity. The women's farmer group should adopt semi-modern equipment to improve production efficiency, product quality, and production capacity.
2. Strengthening Human Resource Capacity. Training programs related to production techniques, quality control, entrepreneurship, and digital marketing should be implemented regularly.
3. Strengthening Business Management. Improving bookkeeping systems, financial management, and organizational administration is essential for sustainable business growth.
4. Expanding Digital Marketing. Digital marketing platforms and social media promotion should be utilized to increase product visibility and market access.
5. Product Diversification. Developing derivative coconut-based products can increase product value and business resilience.
6. Institutional Collaboration. Collaboration with government institutions, universities, and SME support agencies should be strengthened to improve access to training, financing, and market networks.
7. Tourism-Based Marketing Integration. The tourism image of Penglipuran Village should be integrated into branding and product marketing strategies. These strategies are aligned with sustainable development principles emphasizing economic empowerment, environmental sustainability, and social participation.

CONCLUSION

The development of Virgin Coconut Oil (VCO) production in Penglipuran Village demonstrates significant potential for strengthening rural economic development and women's empowerment. The women's farmer group plays an important role in supporting household income generation and local economic activities. The SWOT analysis indicates that the VCO business possesses relatively strong internal and external conditions, with IFAS and EFAS scores of 2.82 and 2.80, respectively. The strategic position in the IE matrix suggests a hold-and-maintain strategy. The recommended sustainable development strategies focus on improving production capacity, strengthening managerial capability, enhancing digital marketing, expanding institutional collaboration, and integrating tourism-based marketing approaches. This study contributes to sustainable rural development by promoting local resource utilization, community empowerment, and environmentally friendly economic activities.

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