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Sustainability of Vanilla in Buleleng District, Bali Province

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ABSTRACT

The objective of this research is 1) To analyze the sustainability of vanilla farming in Buleleng Regency, Bali and 2) To formulate a sustainable development strategy for vanilla farming in Buleleng Regency, Bali based on sustainability atrributes. This research was carried out in Buleleng Regency, Bali. The research was carried out for two months from December 2023 to January 2024. To analyze the sustainability of vanilla farming in Buleleng Regency, Bali, the multidimensional scaling (MDS) method was used with the RAP-Farm approach modified from the Rapid Appraisal for Fisheries (RAPFISH) Program. The results of this research are that the index and sustainability status of vanilla farming in Buleleng Regency in terms of environmental, economic and social dimensions falls into the quite sustainable category because it has a value of >50%, namely 59.41%. The strategy for the sustainability of vanilla farming in Buleleng Regency is a strategy to formulate a business capital financing policy that encourages farming development, a farmer regeneration strategy to maintain the number of farmers so that vanilla needs can be met and a training and outreach program strategy based on weather impacts. The suggestions from research on the sustainability of vanilla farming in Buleleng Regency are that the government can support vanilla farmers by expanding access to financing or capital assistance through affordable microcredit programs, as well as providing subsidies or special grants for vanilla farmers who need to increase production capacity.

Keywords: Sustainability, Vanilla, Social, Economy, Environmental

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1. INTRODUCTION

Vanilla is a spice that has high economic value. The form of the product sold by farmers is generally in the form of wet pods, while those sold by exporters to the international market are in the form of dry pods. Vanilla is used as a fragrance for food, sweets, ice cream, and drinks. The delicious aroma of vanilla can also be used for aromatherapy, while in the health sector, if combined with honey, it will have more benefits, including as an appetite enhancer, increasing endurance and stamina, and improving blood circulation.

Indonesia is one of the largest vanilla producers in the world. Based on data obtained from the Food and Agriculture Organization (FAO) in 2020, Indonesia is the second largest exporter of vanilla products with a production of 2,306 tons

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after Madagascar with a production of 2,975 tons. Based on the export destination countries, the US and European countries are the destinations for Indonesian vanilla exports, where 68.74% of vanilla exports from Indonesia are intended for the US market. In Asia, Indonesia is the first largest vanilla exporter followed by China, India, Turkey and Lebanon. This vanilla commodity is nicknamed 'green gold' because the planting period required for vanilla plants is relatively short and has a high selling value and can even be said to be one of the most expensive spices in the world.

The Bali Provincial Government expects the agricultural sector in Bali to be a mainstay of the economy after the economic contraction during the pandemic caused by over-reliance on the tourism sector. One of the efforts made to boost the agricultural sector in Bali is by providing assistance to farmers, especially for superior commodities by the Agricultural Quarantine Center. Assistance aims to improve product quality to increase exports, amidst the weak absorption of the tourism sector due to the Covid-19 pandemic. Bali has natural resources in the form of fairly large and fertile land, with a climate, temperature and humidity that are suitable for plantations.

Vanilla is commodity of Bali Province still does not have competitiveness or cannot be used as a superior commodity of Bali Province. Based on data from the 2023 Superior Plantation Product Market Information System, the average price of dry vanilla in Bali Province reached IDR 750,000/Kg while the average price of dry vanilla in Indonesia reached IDR 1,214,286/Kg. According to Chandrayani & Natha (2016), the high export volume and price of Indonesian vanilla were influenced by increased demand in importing countries. Vanilla commodities from Bali themselves have attracted the attention of the European market after being able to expand their export market to the Netherlands.

There are several problems faced in the development of vanilla and have caused a decline in the export value of vanilla, including the use of seed varieties that have not fully used superior seeds, in addition to pest and disease attacks, and limited farmer capital. The decline in the amount of vanilla production is due to the fact that many farmers cut down vanilla plants, the high price of vanilla seeds and the difficulty of maintaining vanilla plants. Unlike other commodities that are just waiting for the harvest, vanilla must be assisted in pollination in order to bear fruit (Firjionita, 2021).

Buleleng Regency holds the first position in vanilla production in Bali Province at 40% and is followed by Badung Regency at 32% of the total production of Bali Province at 1.25 tons. This production is very low compared to market demand for vanilla. According to the Head of the Buleleng Regency Agriculture Service (2019), vanilla production in Buleleng has declined since 1990 due to poor production quality. The decline in vanilla production occurred due to poor cultivation techniques, one of which was the lack of initial treatment which caused the long growth of shoots from vanilla plant cuttings during nursery. The Buleleng Agriculture Service will begin to restore the glory of vanilla in Buleleng Regency by providing guidance by forming farmer groups that are united under the Singaraja Vanilla Farmers Association. The areas in Buleleng Regency that cultivate vanilla are Ambengan Village, Sudaji Village, Bulian

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Village, Sinabun Village, Kedis Village, and Busungbiu Village. One of the villages that is a pilot village for vanilla development is Ambengan Village. Ambengan Village has cultivated 9,000 trees on 90 hectares of land and developed by the local village farmer group.

In the development of agribusiness, the success of farmers in achieving high farming performance is not only determined by the technical ability of cultivation alone, but is also influenced by the agribusiness competence of farmers, namely attitudes, knowledge and skills influenced by entrepreneurial traits, which are actualized in running a farming business from planting preparation to marketing (Harijati 2007).

To optimize vanilla farming in Buleleng, it is necessary to consider factors from environmental, economic and social dimensions. Based on the description above, the author is motivated to research the sustainability of vanilla farming development in Buleleng Regency, Bali. and formulate a sustainable development strategy for vanilla farming in Buleleng Regency, Bali based on sustainability attributes.

2. METHODS

This research goes through several stages starting from making hypotheses and their operational implications to the final analysis, the data is then concluded and given suggestions. This type of research is descriptive research with quantitative methods. The initial step of this research is to identify the problems described in the background and formulate and limit the problems studied. Data were collected through interviews and observations. Then analyzed using data analysis techniques that have been determined by the researcher.

2.1. *Data*

The types of data used in this study are qualitative data and quantitative data. According to Sugiyono (2015) qualitative data is data in the form of words, schemes, and images. Qualitative data in this study is in the form of attribute data that describes the sustainability of vanilla farming and is related to the specified dimensions.

2.2 *Key Informants*

This study uses key informants determined by the Snowball Sampling method consisting of related stakeholders who have a role in the sustainability of vanilla farming in Buleleng Regency. According to Sugiyono (2014) snowball sampling is a sampling technique that is initially small in number, then enlarges. The selection of informants is carried out by considering several considerations, namely informants are considered to be directly involved and understand or comprehend problems related to the sustainability of vanilla farming in Buleleng Regency, Bali.

2.3 *Data Analysis*

To analyze the sustainability of vanilla farming in Buleleng Regency, Bali, the multidimensional scaling (MDS) method was used with the RAP-Farm approach modified from the Rapid Appraisal for Fisheries Program (RAPFISH). This analysis uses three dimensions of sustainability, namely: economic, social, and environmental sustainability.

Determination of attributes is done based on secondary data or literature studies, observing conditions in the field and in-depth interviews with farmers and experts who are key informants in this study. Attribute assessment on an ordinal scale (scoring) is based on the results of in-depth interviews with key informants. Attributes are arranged in a questionnaire that is classified based on the dimensions of

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sustainability used, namely environmental, social and economic dimensions.

The multidimensional scaling (MDS) method is a process for mapping objects or points observed in one space, where the objects or points that are observed are...the same are mapped close together and different objects or points are mapped far apart. The results of the multidimensional scaling (MDS) analysis are expressed in index values (0-100) which reflect the sustainability status of the study object based on the actual conditions and their ordination in each dimension. The categories consist of four statuses, namely 0-<25% falls into the category of poor or unsustainable status; 25-50% falls into the category of less or less sustainable status; 50-75% falls into the category of sufficient or fairly sustainable status; and 75-100% falls into the category of good or sustainable status.

3. RESULT AND DISCUSSION

3.1. Analysis of Vanilla Sustainability in Buleleng Regency

The sustainable status index value is depicted in the form of an x- and y-axis graph. The 0% point on the x- and y-axis indicates poor conditions, and the 100% index value point indicates good conditions. The dot symbol between the 0% – 100% index value on the x-axis indicates the sustainability status value of each dimension studied. Based on the results of the Multidimensional Scaling (MDS) analysis using the RAP-Vanilla method in Table 6.4, the index and sustainability status of vanilla farming in Buleleng Regency in terms of environmental, economic, and social dimensions are included in the fairly sustainable category because they have a value of >50%, namely 59.41%. In the context of multidimensional status, a fairly sustainable aspect or indicator is at an adequate level of sustainability but still has room for improvement. This means that current practices or conditions are quite good from a sustainability perspective, but have not yet reached ideal or optimal conditions.

Sustainability is usually measured by looking at various dimensions (economic, social, environmental) and describing the position of an object or entity in a multi-dimensional space based on its level of sustainability in each dimension. Based on the MDS results, the social dimension obtained a value of 58.71%, the economic dimension obtained a value of 62.85% and the environmental dimension was 56.70%. The environmental dimension needs more attention because its value is lower than the other dimensions. All dimensions of sustainability need attention in their management so that their status can be improved. This effort can be done by focusing on sensitive attributes in each dimension that affect the sustainability of farming. Sustainability analysis can aim to assess and understand the extent to which an activity, such as farming practices, can last in the long term without harming the environment, social welfare, and the economy. Sustainability basically means the ability to remain productive while maintaining a resource base (Saragih, 2010 in Sari, 2018).

3.1.1. Economy

Based on the analysis results using MDS on ten attributes in the economy dimension, the ordination results obtained show that the index value and sustainability status of the economy dimension is 62.82. This value indicates a fairly sustainable status, this is because the index value is between the range of 50.01-75.00 on the sustainability scale. Based on the leverage analysis, the

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attribute that has the most sensitive value in the economy dimension is the availability of production capital. The sustainability index value of the availability of production capital is 4.49. Capital remains a problem often faced by farmers. Capital plays a very important role in the sustainability of farming. The use of capital must be used as efficiently as possible because it has a correlation or close relationship to the overall business operations. Lack or excess capital can have a negative impact on the business, namely the loss of opportunities to gain greater profits. So the availability of working capital is needed when someone wants to open or manage a business, be it a large business or a small business.

The availability of production capital has a very sensitive correlation to the sustainability of vanilla farming, because capital determines the ability of farmers to access quality production inputs, such as superior seeds, organic fertilizers, and proper irrigation facilities. Vanilla plants require intensive care during the growth and maintenance period, which means consistent operational costs are very important. Capital is also needed to adopt environmentally friendly technologies and effective pest control to ensure long-term sustainability. Without sufficient capital, farmers may have difficulty maintaining the quality and quantity of production, which has an impact on the economic resilience of farming and the inability to compete in the global market.

3.1.2. Social

Based on the results of the analysis using MDS on ten attributes in the social dimension, the results obtained show that the index value and sustainability status of the social dimension is 58.71. This value indicates a fairly sustainable status, this is because it is between the range of 50.01-75.00 on the sustainability scale. The social dimension is a people's orientation, related to the need for social welfare which is reflected by a harmonious social life. Vanilla farming in the period 1980 to 1990, the number of vanilla farmers in Buleleng Regency was very large. However, in the late 1990s to 1991 the number continued to decline because farmers switched to planting cloves and several other agricultural commodities. In 2023, vanilla farmers rose again until the number of vanilla farmers in Buleleng Regency was 1,043 farmers spread throughout Buleleng. The social dimension in the analysis of farming sustainability focuses on how farming practices impact the welfare of the community and workers and social aspects that support long-term sustainability.

Based on leverage analysis, the most sensitive attribute is farmer regeneration. The farmer regeneration sustainability index value is 4.19. Anwarudin, *et al*. (2018) stated that farmer regeneration is a prerequisite for the realization of sustainable agricultural development. Farmer regeneration is the replacement of farmers from unproductive ages with younger and more productive farmers (Pamungkaslara & Rijanta, 2021). Farmer regeneration can help agricultural productivity and promote sustainable agriculture which can increase community food security (Manumono, 2022). Farmer regeneration can also overcome social and economic problems to improve the standard of living (Ramadhan & Rivaldo, 2022). In addition, farmer regeneration is useful as a preservation of agricultural culture and will continue to be passed on to the next generation (Hadinata, 2018). However, in realizing farmer regeneration, there are many challenges. The main challenge is the importance of creating a sense of need for

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the younger generation for agriculture. However, the lack of interest of the younger generation to be involved in the agricultural profession is one of the challenges in regenerating farmers (Mulyana *et al*., 2022). This idea is related to the assumption that other fields are more economically promising than the farming profession (Mariati & Nugroho, 2022).

Vanilla farmers in Buleleng Regency are based on their characteristics at the endproductive age. In the next ten years, farmers who are currently productive will enter an unproductive age. The current young generation must begin to be involved in this farming business so that they can absorb the knowledge possessed by senior farmers. Moreover, vanilla has difficulties or special treatment in its cultivation. If regeneration is late, there will be a break in the generation of vanilla farmers in Buleleng. The agricultural sector is considered less competitive so that it can lead to a higher risk of agricultural failure (Dwipradnyana, 2017). In addition, the lack of access to modern equipment and training can cause farmers to be less productive and eliminate the interest of other generations in agriculture (Polan *et al*., 2021). Based on previous studies that explain the challenges of farmer regeneration, there are more elderly farmers compared to the younger generation who will become farmers (Oktafiani *et al*., 2021). This problem becomes complex because there is a shift in agricultural land into housing due to the farmer regeneration crisis (Novani *et al*., 2021). In addition, the agricultural sector in urban areas also has an impact on the lack of interest of the younger generation to become farmers (Gultom & Harianto, 2022). Determining farmer regeneration through several factors, namely the character of the younger generation, government support, family support, community support, market support, the role of agricultural extension workers, the motivation of the younger generation, and their involvement in agriculture (Anwarudin *et al*., 2018). It is hoped that with the regeneration of farmers, new, more competent workers will emerge to replace older farmers, thereby affecting food productivity (Dermawan, 2022).

Farmer regeneration is closely correlated with the sustainability of vanilla farming, because without the next generation who are skilled and interested in managing vanilla plants, the sustainability of vanilla farming production and innovation could be threatened. Vanilla farming requires special skills, such as manual pollination, pest control, and complicated post-harvest processing, so farmer regeneration is important to maintain the transfer of knowledge and experience. In addition, with new challenges such as climate change and market price volatility, young farmers with innovation and adoption of new technologies are needed to ensure business sustainability. If farmer regeneration does not occur, a labor crisis could occur which leads to decreased productivity and quality of vanilla production, which in turn could threaten the long-term sustainability of this industry.

3.1.3. Environment

The environment can be defined as the biological and abiotic elements surrounding an individual organism or species, including many that contribute to its well-being. The environment can also be defined as all the natural components of the Earth (air, water, soil, vegetation, animals, etc.) and all the processes that occur within and between these components. The attributes used in the analysis of the environmental sustainability dimension of vanilla farming in Buleleng Regency include the use of

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fertilizers, pesticides, use of planting media, planting patterns, weather, geographical location, water resources, integrated pest control, soil conservation and crop diversification.

Based on the results of the analysis using MDS on ten attributes in the environmental dimension, the results obtained show that the index value and sustainability status of the environmental dimension is 56.70. This value indicates a fairly sustainable status, this is because it is between the range of 50.01-75.00 on the scale. The natural environment dimension emphasizes the need for stability of the natural ecosystem which includes biological life systems and natural materials. This includes maintaining biodiversity and biological carrying capacity, soil, water and agro-climate resources, as well as environmental health and comfort. Vanilla farming in Buleleng Regency currently mostly uses organic farming technology to maintain environmental balance. Vanilla is planted using cocopeat, charcoal or directly in the soil. The shade plant that is widely used is the gamal tree. In addition to being able to be a shade plant so that it can control the sunlight received by vanilla, fallen gamal leaves are also used as compost.

Based on the leverage analysis, the most sensitive attribute in the environmental dimension is weather. The weather sustainability index value is 4.12. Weather changes greatly affect the sustainability of vanilla farming, because vanilla plants have specific climate needs, such as warm temperatures, high humidity, and regular rainfall. Weather instability due to climate change, such as extreme temperatures, prolonged drought, or excessive rainfall, can damage vanilla growth, reduce yields, and increase the risk of pests and diseases. Unpredictable weather can also disrupt the manual pollination process, which is very important for vanilla production. Therefore, the sustainability of vanilla farming is highly dependent on the ability of farmers to manage and adapt their agricultural practices to weather changes, such as through the implementation of irrigation systems, plant protection, or land diversification.

Buleleng Regency has a tropical climate with an average rainfall of 1,300 mm with an average number of rainy days of 65 times a year. Rainfall here is largely determined by the altitude. The lowest rainfall is in coastal areas and the highest is in mountainous areas. The rainy season ranges from October-April with a peak in February, while the dry season starts from April-October with the driest months around August-September. Especially for East Buleleng, rainfall ranges from 1050-2000 mm per year. The climate that is suitable for growing vanilla plants is a tropical climate with rainfall of around 1,500 mm per year with 80-127 rainy days, accompanied by 8-9 wet months and 3-4 dry months.The height of the growing place ranges between 50 and 800 m. Cloudless conditions, especially during the dry season, are needed for optimal flowering. The best temperature is less than 20^{o}C, humidity ranges between 60 and 80%, with a light intensity of 30 - 50%. This condition is often found in Western Indonesia. The optimal light intensity for normal growth is ± 35%. Too much light will damage the plant and inhibit growth. Constraints that may arise in adjusting light intensity can be overcome by arranging the right shade trees.

Vanilla plants are forest plants and grow under shady trees because they cannot withstand sunlight. Therefore, in vanilla cultivation, shade trees such as gamal, dadap tak duri, lamtoro, kapok, waru, and

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others are planted beforehand. The number of shade trees depends on the height of the planting area from sea level. The higher the sea level, the less shade is needed. In line with research conducted by Ramadhan, et al. (2019), it was stated that the ability of vanilla farmers to adapt and mitigate climate change is also important in determining the sustainability of the vanilla agribusiness. Vanilla is one of the plantation commodities that is sensitive to climate change. The unpredictable rainy season affects vanilla production.

3.2. Sustainability Strategy for Vanilla Farming in Buleleng Regency

The strategy needed as mitigation of sensitive attributes to the sustainability of vanilla farming in Buleleng Regency in the economic dimension is to formulate a business capital financing policy that encourages farming development. Good collaboration between the central and regional governments in encouraging the progress of vanilla agribusiness is highly expected. The support and role of the government expected by vanilla farmers include routine training or technical guidance for farmers, routine assistance in the form of production facilities and infrastructure, such as seeds, fertilizers, post-harvest processing tools, and others, introduction of the latest technology and internship opportunities to more modern vanilla processing areas or regions (Nurfadillah *et al*., 2024).

The strategy needed as a mitigation of the most sensitive attribute to the sustainability of vanilla farming in Buleleng Regency in the social dimension is a farmer regeneration strategy to maintain the number of farmers so that vanilla needs can be met. The purpose of this strategy is to ensure the sustainability of the supply of vanilla farmers to meet the increasing production and demand needs. With farmer regeneration, it is hoped that the younger generation will be interested in entering the agricultural sector, especially vanilla cultivation, so that it can reduce the risk of decreasing the number of farmers due to aging and migration to other sectors. (Taufiqurrohman & Jayanti, 2022). This program also aims to improve the knowledge, skills, and access of the younger generation to technology and markets, so that vanilla productivity and quality can be maintained and even increased in the future.

The sustainability of vanilla farming in Buleleng Regency requires farmers' ability to pay attention to the impact of climate and weather conditions in Buleleng Regency

The strategy needed as a mitigation of the most sensitive attributes to the sustainability of vanilla farming in Buleleng Regency in the environmental dimension is a weather-based training and extension program to address these problems. The aim of this strategy is to increase farmers' readiness to face climate change and the impact of extreme weather that can affect vanilla production in Buleleng Regency (Nainggolan et al., 2021). This training and extension program aims to provide knowledge and skills to farmers on how to mitigate the risks of unpredictable weather and how to adapt to a more sustainable cultivation system (Halimah *et al*., 2020). With this strategy, it is hoped that farmers will be able to manage their land more effectively, reduce losses due to weather, and ensure the sustainability of stable vanilla production from season to season.

4. CONCLUSIONS

The conclusions of the research on the sustainability of vanilla farming in Buleleng

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Regency, Bali Province is assessed based on economic, social and environmental dimensions and is said to be quite sustainable because it has a sustainability index of 59.41. The strategy for the sustainability of vanilla farming in Buleleng Regency based on sustainability attributes is to formulate business capital financing policies, provide agricultural insurance for vanilla farming, regenerate farmers to maintain the number of farmers so that vanilla needs can be met and training and extension programs based on weather impacts.

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REFERENCE

Anríquez, G. & López, R. (2007). Agricultural Abidin. Strategy Development Farming Vanilla in the Village Bonea Makmur District Bontomanai Regency Archipelago Selayar. Thesis. Muhammadiyah University of Makassar.

Anantanyu, S. (2011). Institutional Farmers: Roles and Strategies Development Its capacity. 7(2), 102–109.

Anwarudin, O., Sumardjo, S., Satria, A., & Fatchiya, A. (2020). Process and Approach Regeneration Farmer Through Multistrategy in Indonesia Process and Approach to Farmer Regeneration Through Multi-strategy in Indonesia. Jurnal Research and Development Agriculture, 39(2), 73–85.

Assis, K., Nurrul Azzah, Z & Mohammad Amizi. (2014). Relationship Between Socioeconomic Factors, Income and Productivity of Farmers: A Case Study on Pineapple Farmers. International Journal of Research in Humanities, Arts and Literature.

Central Bureau of Statistics. 2023

Hall Class I Quarantine Denpasar. (2020). Rensra Hall Quarantine Agriculture 2020 – 2024. Denpasar

Balisatudata. (2022). Detailed Area and Production of Plantations in Bali According to District and Plantation (PBSN) 2022 Type Commodity: Vanilla Along with the analysis. University Malang.

Budihardjo, K., & Fahmi, MW (2020). Production, Robusta coffee, Farmers. Strategy Improvement Robusta Coffee Production (*Coffea* L.) in the Village Pentingsari, District Cangkringan, Regency Sleman, Special Region of Yogyakarta, 7, pp. 373-379.

Chandrayani and Natha. (2016). The Influence Price, US Dollar Exchange Rate and Production to Export Vanilla in Bali Province 1991-2013. Journal. E- journal University Development Economics Udayana. Vol 5, No 2.

Darsani, and Subagio. (2016). Farming on Land Swamp: Analysis Economics and Its Applications. IAARD Press.

David. (2009). Election Strategy Business with using (QSPM) Quantitative Strategic Planning Matrix Industrial Center Pottery Kasongan, Bantul, (Yogyakarta) Semarang University Diponegoro.

Directorate General of Plantations. (2021). Statistics of Non -Leading Plantations National 2020-2022. Ministry Agriculture Republic Indonesia: Jakarta.

Enen Wijayanti, Muhammad Yazid, & Yunita . (2020). Perception Farmer to Criteria Environment in Financing Sector Agribusiness Coconut Sawitdi Regency Music Banyuasin. Journal of Agribusiness Study Program, 1(1), 1–10.

Erona, M. (2016). Growth Seeds Vanilla (Vanilla planifolia A.) Inoculated with 31 Mycorrhizal Fungi Arbuscula and Trichoderma harzianum On Ultisol Soil.

Journal of Sustainable Development Science
Vol. 7, No. 1, June 2025, pp. 29-39
e-ISSN: 2715-9140 **|** p-ISSN: 2722-919X

Postgraduate Program Institute Bogor Agriculture.

FAO. (1961). Guidelines Management Farming. Farm Management Manual. FAO Regional Office for Asia and the Far East. CV Yasaguna . Jakarta.

FAOSTAT. (2020). Food and Agriculture Organization Corporate Statistical Database. https://www.fao.org/faostat/en/#home accessed on 20 October 2023.

Firjionita , Antara, and Sudarma . (2021). Power Competition and Influencing Factors Export in Bali Province. Journal Agribusiness and Agrotourism. Faculty Agriculture University Udayana. Vol 10, No 1.

Gurel, E. dan E. Tat. (2017). SWOT analysis: a theoritical review. The Journal of International Social Research.

Halimah, A. S., Nuddin, A., & Jawas, I. (2020). Strategy for Hybrid Corn Farming Development. Jurnal Pertanian Agros, 22(2), 147–157.

Havkin dan Frenkel. (2007). Vanilla - the food of gods. Agrofood Industry Hi-Tech. 18(1): 58-60.

Hernandez. (2011). Mexican Vanilla Production. Hand book of Vanilla Science and Technology. Blackwell Pub. p. 3-25.

Husein . (2008). Methods Study for Thesis and Dissertation Business, Edition Second. Jakarta: Raja Grafindo The Kingdom

Ihsan, I., Amri, H., Aminarti, H., Azzahra, F., & Akbar, A. (2024). Factors that influence financing business agribusiness fruit Dragon in the Village Sukamaju. Agriculture and Socio-Economic Journal, 1(1), 15–21.

Imran, S., & Indriani, R. (2022). Textbook of Economics Production Agriculture. Ideas Publishing.

Kotler and Keller. (2012), Management Marketing, Edition 12. Jakarta: Erlangga.

Kusumawardana A. (2008). The Influence concentration rootone -f and type of planting media

Lestari, DP, Widyayanthi, L., & Kuntadi, B. (2010). Level of Motivation and Strategy Development Farming Big Red Chili in Jember. Journal Agritop, 159–167.

Linda, Y., Marsuki Iswandi, & Idrus Salam. (2023). Analysis Risk Farming Paddy Rice Fields in the Village Iwoimea Jaya District Air Regency East Kolaka. Perbal: Journal Agriculture Sustainability, 11(2), 219–229.

Marpaung, N., & Bangun, IC (2023). The importance of Regeneration Farmer in Modernization Agriculture. Journal of Agrarian Studies and Sovereignty Food (JKAKP), 2(2), 27–33.

Nainggolan, H.L., Gulo, C.K., Waruw, W.S.S., Egentina , T., & Manalu , T.P. (2021). Strategy Management Farming Coconut People's Palm Oil During the Covid-19 Pandemic in STM Hilir District Deli Serdang Regency, North Sumatra Province, Indonesia. Agro Bali: Agricultural Journal, 4(2), 260–275.

Nurfadillah, N., Astaman, P., Wahyuni, Y., Nurhaliza , N., Fatimah, SP, Nasbar , N., & Putri, HA (2024). Financing Model Agribusiness Based on MSMEs in the Regency Sinjai (Study Case: KUB Orchid Village Aska). Journal Research Multidisciplinary, 1(3), 105–115.

Pradnyawati, IGAB, & Cipta, W. (2021). The Influence of Land Area, Capital and Number of Production to Income Farmer Vegetables in the District Baturiti. Equity: Journal of Economic Education, 9(1), 93–100.

Prasetyo, Y., & Supriyanto. (2022). Effectiveness Financing of the Agribusiness SECTOR in Increase Income Farmers in the District Cello Regency Boyolali (Study the Case of Bank Jateng Syariah Branch Boyolali). Indonesian Scientific Journal of Islamic Finance, 1(1), 43–63.

Rachmat. (2014). Management Strategic, Bandung: CV Pustaka Setia, p. 14.

Ramadhan MF, Setyorini E, Rachmawati N, Andriati E. (2019). Let's Garden Vanilla. Bogor (ID): Library and Distribution Center Technology Agriculture.

Saediman, Y., & Abadi, M. (2019). Financing Status Agriculture on the System Agribusiness Paddy Rice fields in the

Journal of Sustainable Development Science
Vol. 7, No. 1, June 2025, pp. 29-39
e-ISSN: 2715-9140 **|** p-ISSN: 2722-919X

Regency Konawe and South Konawe, Southeast Sulawesi Province. Bpsosek, 21(2), 79–85.

Saragih, FH (2017). Agricultural Sector Sharia Financing. Journal Agriculture, 10(2), 112.

Shinta. (2011). Science Farming. University Brawijaya Press, Malang

Sjamsir, Z., & Suhartina, R. (2023). Solution Model Innovative Financing Specific Banking in Agribusiness Commodity Rice in South Sulawesi Innovative Solution Model for Banking Specific Financing in Rice Commodity Agribusiness in South Sulawesi. Journal Galung Tropika, 12(April), 17–24.

Sudarko, & Ridjal, JA (2002). Diversification Processing Primary and Secondary Products of Coffee with Approach Agribusiness in the Regency Jember Improving Motivation of Smallholders Coffee Farmers in Diversification Postharvest Sector for Primary and Secondary Products by Agribusiness Development. Journal Knowledge Agriculture, 14(2), 192–198.

Sudjana. (2009). Assessment of Learning Process Results Teaching. PT Remaja Rosdakarya. Bandung

Sugiyono. (2009). Methods Study Quantitative Qualitative and R & D. Bandung: Alfabeta.

Sugiyono. (2015). Methods Study Quantitative, Qualitative, and R&D. Bandung: Alphabet.

Sujianto. (2019). Business Vanilla the Gold Green Indonesia is increasingly tempting. Research and Development Agency Agriculture: Agroinnovation

Taufiqurrohman, MM, & Jayanti, DR (2022). Regulation Regeneration Farmer in Context Resilience Food: A Efforts and Assurances Protection Right On Food. Human Rights Journal, 13(1), 29.2022.13.29-44

Utami, WN (2018). Effectiveness Financing BPRS Agribusiness on Agricultural Products Customers in Bantul Regency, Special Region of Yogyakarta. Islamic Economics and Business, 466–475.

Wanda. (2015). Analysis Income Farming Siamese Oranges in Padang Pagrapat Village Tanah Grogot District Regency Paser. Journal Scientific. Faculty Knowledge Social and Science Political University Mulawarman, Samarinda.

Wati, RI, Subejo, S., & Maulida, YF (2021). Problems, Patterns, and Strategies Farmer in Prepare Regeneration in the Special Region of Yogyakarta. Journal Resilience Nationa, 27(2), 187.

Wijaya. (1989). Behavior Organization. Bandung:ray new

Wiryokusumo. (2011). Basics of Development Curriculum. Jakarta: Bumi Script