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Optimizing the Potential Land Area of the Malang Regency

Antonius Saki Pekulimu[1] and Cakti Indra Gunawan[2]
* *Correspondence Author: antonius.uh@gmail.com*
[1,2] Master of Agricultural Economics, The Postgraduate School, University of Tribhuwana Tunggadewi, Malang, Indonesia

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ABSTRACT
This study aims to determine the development strategy of superior commodities in the plantation crop subsector in Landungsari Village, Dau District, Malang Regency. This study uses a qualitative research method with a case study approach. Primary data was obtained through interviews with farmers and plantation entrepreneurs in Landungsari Village. The results of the study show that the strategy for developing superior commodities in the plantation crop subsector in Landungsari Village is to improve quality and production through training and counseling to farmers. This research is expected to contribute to the development of superior commodities in the plantation crop subsector in Landungsari Village and its surroundings.

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INTRODUCTION

Indonesia is one of the agricultural subsectors in the constitution no. 18.2004 (article 4) concerning plantations, in the national BPS data, 2014 shows that plantations reach 23.969 million hectares the plantation subsector is one of the subsectors that make a great contribution to the absorption of labor for increasing economic income and development in a region.

Norton et al., (2021) describe that food crop agriculture has a strategic meaning in the national and regional economies because this sector provides the most essential materials for human life needs. The food crop subsector includes all economic activities that produce foodstuffs

Larosei & Mally (2016), say significantly what commodities are superior in the food crop subsector. This research is important in analyzing the leading commodities of food crop commodities in Malang Regency and knowing the role of food crop sub-sector commodities in regional economic development in Malang Regency.

A leading sector is a sector that plays a big role in the economic development of a region because it has advantages or criteria (Stimson et al., 2006). There are criteria for a sector to be said to be a leading sector, namely 1) The sector has a high economic growth rate; 2) The sector has a relatively large labor absorption rate; and 3) The sector has a high relationship between sectors both in the future and backward, sectors that are able to create high added value.

The aim of this research is to analyze and optimize the potential land area of the Malang Regency People's Plantation subsector in 2023. By examining the distribution of plantation commodities and their respective land shares, the study seeks to identify strategic opportunities for diversification, ecological sustainability, and economic empowerment. It emphasizes agroecological zoning, community-based innovation, and

value chain development to enhance productivity and resilience. Ultimately, the research supports informed decision-making for local stakeholders, enabling more inclusive, efficient, and environmentally sound land use practices that align with regional development goals and the welfare of farming communities.

LITERATURE REVIEW

Definition

the Development of Integrated Agricultural Areas Based on Farmer Corporations in Malang Regency. The Superior Commodity of the Plantation Crops Subsector of Malang Regency is considered very strategic and prospective as an area for the development of Integrated Agriculture because it has comparative advantages from various aspects, such as the potential for productive and extensive land resources, suitable water and climate resources, and supporting social and cultural capital. Potential areas for the development of an Integrated Agriculture system include areas on the slopes of Mount Merapi because there is multi-commodity cultivation of agriculture including food crops, horticulture, plantations, livestock and fisheries. Corporate empowerment in the form of legal entity business such as cooperatives can be an alternative to revive rural economic activities (Mitra, 2014)..

Meanwhile, Wibowo et al., (2024). Concluding Sustainable Plantation Development through the Application of Environmentally Friendly Technology. Some of the things that are included in the concept of sustainable development include managing natural resources properly so that they can be used in the future, making the best use of natural resources so that there is no waste and does not damage the environment. In addition, the development carried out must be able to increase renewable natural resources and maintain the quality of human life in the present and in the future (Zafar et al., 2021). 4 In sustainable development, attention needs to be paid not only to environmental problems, but also to social, political, economic and cultural problems, especially to the communities that have an impact on development itself.

RESEARCH METHOD

This research was conducted in Malang Regency, The object of this research is a leading commodity in Malang Regency. while the subject of this study is the plantation subsector in Malang Regency. The design used in this study is descriptive with quantitative analysis techniques. This design is used in connection with the purpose of the research, which is to describe the situation in the field based on the findings obtained. Statistical analysis was used to determine the condition of plantation commodities and the spatial distribution of superior commodities of the plantation subsector in Malang Regency.

RESULT AND DISCUSSION

Malang Regency is partly located in coastal areas, so the most plantation commodities are coconuts as many as 9,025.38 tons. Other plantation commodities with a fairly high production amount are robusta coffee as much as 6,023.86 tons and cloves as much as 2,353.38 tons. In addition to the three commodities above, Malang Regency also has other commodities that have enough potential to be developed, namely Arabica coffee, cocoa, virginia tobacco, cashew, coconut oil, pepper, palm oil and palm / enau.

Table 1. Potential Land Area of the Malang Regency People's Plantation subsector 2023

From Commodity and	commodity	Land Area (Hectares)	Percent
1	Deep Throat	8.959,84	26%
2	Hybrid coconut	39,60	0%
3	Robusta coffee	10.473,48	31%
4	Arabica coffee	2.854,00	8%
5	Clove	8.091,20	24%
6	Cacao	1.737,50	4%
7	Virginia tobacco	364,00	1%
8	Cashew	1.737,50	5%
9	Pepper	1,00	0%
10	Lontar	210,00	1%
11	Aren/enau	138,00	0%
sum		34,135,45	100%

Source: BPS Malang Regency (2023)

The use of the LQ approach is not limited to economic discussions but is also used to determine the distribution of commodities or identify areas based on their potential. Based on an understanding of superior economic theory, the LQ technique is relevant as a method in determining superior commodities, especially in terms of supply (production or population). For land-based commodities such as food crops, horticulture, and plantations, the calculation is based on (planting area or harvest area), production or productivity. As for agricultural commodities that are not land-based such as livestock business, the basis for the calculation is population or tail (Shackleton et al., 2001). Identification of superior plantation sub-sector commodities in each Buleleng Regency sub-district using the Location Quotient (LQ) approach, calculating the LQ value of each plantation sub-sector commodity produced in Malang Regency. The identification of plantation sub-sector commodities is prioritized to be developed by each sub-district in Malang Regency in 2014-2019 which is focused on superior plantation sub-sector commodities. Each sub-district has different potentials from sub-districts to other sub-districts, so that the potential can produce superior commodities that are in accordance with the potential of their region.

To optimize the potential land area of the Malang Regency People's Plantation subsector in 2023, a strategic and context-sensitive approach is essential. The total plantation area spans 34,135.45 hectares, with a significant concentration in just a few commodities. Robusta coffee (31%) and Deep Throat (26%) dominate the landscape, followed by Arabica coffee (8%), clove (6%), cacao and cashew (each 5%). The remaining crops occupy smaller shares, such as pepper (3%), Virginia tobacco (1%), lontar (1%), and aren/enau and hybrid coconut (each 0%).

1. Diversification and Value Chain Strengthening

To reduce dependency on dominant crops and improve resilience, diversification should be prioritized. While Robusta coffee is a strong performer, expanding Arabica coffee in suitable highland areas could tap into premium markets. Similarly, cacao and cashew, both at 5% offer dual benefits: agroforestry compatibility and high export potential. Strengthening post-harvest handling, processing facilities, and cooperative marketing for these crops can increase farmer income and reduce waste.

2. Agroecological Zoning and Smart Land Use

Optimizing land use begins with agroecological zoning. Mapping soil types, rainfall patterns, and elevation can guide which crops are best suited to each micro-

region. For example, Arabica coffee thrives in cooler, higher altitudes, while clove and pepper prefer humid lowlands. Hybrid coconut and aren/enau, though currently underutilized, could be expanded in marginal or coastal areas with saline-tolerant varieties. This zoning approach ensures ecological sustainability and maximizes productivity.

3. Community-Based Innovation and Training

Empowering local farmers through participatory training programs is key. Introducing climate-smart agriculture, organic certification, and integrated pest management can enhance yields and reduce environmental impact. Farmer Field Schools (FFS) and digital extension services can support knowledge transfer, especially for emerging commodities like cacao, cashew, and pepper. Encouraging youth involvement and women's cooperatives also fosters inclusive growth.

4. Intercropping and Agroforestry Systems

Intercropping—such as combining cacao with shade trees or pepper with clove—can optimize land use while improving biodiversity and soil health. Agroforestry systems not only diversify income but also offer carbon sequestration benefits. These systems are particularly suitable for areas currently planted with single crops like Deep Throat or Robusta coffee, which could be enhanced with companion species.

5. Monitoring, Evaluation, and Policy Support

A robust monitoring and evaluation framework is needed to track land productivity, farmer welfare, and environmental impact. Local governments and BPS Malang Regency can collaborate with universities and NGOs to develop dashboards and GIS-based tools. Policy incentives—such as subsidies for sustainable inputs, access to credit, and land tenure security—can accelerate adoption of best practices.

6. Market Access and Branding

Optimizing plantation potential requires strong market linkages. Developing geographic indications (GI) for Malang coffee or clove, promoting fair trade certification, and leveraging digital platforms for direct-to-consumer sales can elevate the region's agricultural profile. Branding Malang as a hub for ethical, high-quality plantation products will attract investment and tourism.

In sum, optimizing Malang Regency's plantation land is not just about expanding area, it's about smarter, inclusive, and sustainable use of what already exists. With strategic diversification, community empowerment, and ecological stewardship, the region can unlock greater value for its people and ecosystems.

CONCLUSION

A leading commodity in the development of agriculture in the plantation subsector, it is hoped that Malang Regency can improve the quality and quantity of production with its own production management by the Malang Regency Regional Government, so that there is a satisfactory mutual relationship between the government, farmers, partners, and components in the scope. The development of commodities that is a priority without neglecting other plantation commodities, in order to become a development for the future, and for the government, farmers, and partners must adjust to developments whether from technology, way of thinking, and direct practices that are sustainable not only managed by farmers, but also the support of various components by conducting periodic checks directly in the field. The results of this study are expected to be used as a reference or reference for other researchers who are interested in

conducting similar research, can be used as a comparison or consideration by paying attention to the obstacles experienced for the improvement and development of research implementation, so that there is a need for further research with a larger combination and using better analysis techniques.

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