

Commodity Substitution in Plantation Communities in Sandana Village

Abdul Rahman

Universitas Negeri Makassar, Indonesia

E-mail: abdul.rahman8304@unm.ac.id

Article History:

Received: 08 Maret 2026

Revised: 27 Maret 2026

Accepted: 10 April 2026

Keywords: *Commodity Substitution, Palm Oil, Sandana Village.*

Abstract: *Substitute commodities are substitute products with the same utility value as a company's previous products. Most businesses generally include the procurement of these materials in their marketing plans to optimize sales. The definition of substitute commodities can also be understood as an option or solution when a company runs out of stock of a particular product during times of high market demand. Of course, the decision to transact these materials is left to the consumer. This study aims to identify the driving factors behind commodity substitution in Sandana Village. The method used was qualitative research through observation, interviews, and documentation. The results indicate that the factors driving farmers' decisions to switch to oil palm are supported by a combination of economic factors and external support. In addition to the potential for higher profits, the presence of viruses or pests on previous crops is also a factor.*

INTRODUCTION

Substitution in economics refers to products or services that can replace each other (substitute goods) to meet the same needs, where an increase in the price of one good increase the demand for another substitute good (Pasalbessy, 2025). The definition of substitution encompasses several contexts, namely: first, the replacement of goods, such as plastic goods that are suitable as substitutes for various metal goods; second, in the field of chemistry, substitution refers to the replacement of atoms or groups of atoms in a molecule by other atoms or groups of atoms; third, in the field of linguistics, substitution is the process or result of replacing a language element by another element in a larger unit to obtain a differentiating element. It can be concluded that substitution is the transfer of an item or material to replace the role of another item (Adana et al., 2023). Meanwhile, commodities are raw materials, agricultural products, or physical products that meet uniform quality standards, are produced in large quantities, and are widely traded on international markets. Commodities are generally easily interchangeable, such as agricultural, energy, and mining commodities (Putri, 2023). Examples include petroleum, coffee, gold, rubber, and palm oil. For example, local agricultural products and crafts can be used as export commodities (Hadiyanto, 2022). In addition, commodities also refer to raw materials that can be classified according to their quality according to international trade standards, such as wheat, rubber, and coffee (Indriastuti et al., 2024). Or it can be said that commodities are goods or objects that are traded and can be stored for a certain period.

Commodity substitution is the process of replacing one commodity with another as a substitute or complement, based on several factors such as commodity price, consumer income, and others (Enke, Geigenm'ller, and Leischnig, 2022). Commodity substitution in this study focuses on understanding how a commodity shifts from land previously used for cocoa, corn, and coffee to palm oil. Agriculture is an activity or effort undertaken to utilize land and provide food for humans. In a narrow sense, agriculture is often referred to as farming (Sihombing, 2022). In a broader sense, agriculture encompasses various aspects of agriculture, such as crop farming, plantations, fisheries, livestock, and forestry (Rahardjo, 1999). Agriculture is a manifestation of human culture or civilization, whose existence today is inseparable from the history of human cultural or civilizational development since ancient times (Dharmawan, 2007).

Agriculture is thought to have first begun in the Neolithic era. The Chinese Emperor Shen Nung pioneered this activity, observing that his people enjoyed consuming beef and chicken from hunting and gathering fruits, grains, and nuts. As the population grew, natural resources became insufficient to meet daily needs (Intyas, Putritamara, and Haryati, 2022). Shen Nung then created a tilling tool made of sharpened wood attached to a stick, which became known as the first plow for tilling the land (Wicaksono, 2023). The history of agriculture in Indonesia can be seen in the reliefs on temple walls such as Borobudur and Prambanan, which depict morning and agricultural activities. The Hindu-Buddhist influence that arrived between the 4th and 15th centuries AD brought major changes to Indonesia's agricultural system. More advanced irrigation techniques were introduced, particularly in Java and Bali, allowing for the development of irrigated rice paddies. The *subak* system in Bali, for example, is one water management technique still in use today. This development was supported by great kingdoms such as Majapahit and Srivijaya, which made agriculture a key pillar of their economy (Hall, 1987).

Rice paddies are agricultural lands regularly flooded for rice cultivation. Irrigation is regulated by a well-developed irrigation system, which can be technical, semi-technical, or simple. Rice paddies are generally located in lowlands or valleys with fertile soil and adequate water access (Sajogyo 1982). Rice is the primary crop grown in rice paddies because it requires a significant amount of water for optimal growth. Land cultivation is carried out intensively, including tilling, planting seeds, fertilizing, irrigation, pest control, and weeding (Permana, 2016).

The main advantage of rice fields is their high rice yield due to well-maintained water conditions. Furthermore, rice fields can improve soil fertility through irrigation systems that deliver nutrients to the soil and reduce erosion. However, rice fields also have several disadvantages, such as highwater requirements, complex irrigation management, and high costs and labor requirements for their construction. Dry fields are dry agricultural land used to grow secondary crops such as corn, beans, cassava, and vegetables. Dry fields are typically located in higher or hilly areas with infertile soil and rely on rainfall as the primary water source. The irrigation system in dry fields is less complex than in rice fields, and land cultivation is simpler. The advantage of dry fields is the flexibility to grow various types of crops, allowing farmers to adapt crop types to soil and weather conditions. Furthermore, dry fields do not require complex irrigation systems, making them suitable for areas with sufficient rainfall. However, dry fields also have weaknesses, namely less stable production results because they are highly dependent on rainfall, as well as a higher risk of drought or crop failure compared to rice fields.

Shifting cultivation is an agricultural method in which the land used for cultivation is periodically moved after several growing seasons. This system is also known as shifting cultivation. After planting, the land is left to rest for several years to allow the soil to naturally recover. This practice is commonly practiced in remote or forested areas, where farmers clear the

land by slash-and-burning vegetation before planting crops such as sweet potatoes, corn, and vegetables (Abdullah, 2017). The advantages of shifting cultivation are its ability to naturally restore soil fertility through fallowing and increase land biodiversity by planting a variety of crops. This system also helps reduce dependence on a single crop and allows for better crop rotation. However, shifting cultivation has significant drawbacks: it requires large areas and often leads to deforestation. This practice is also less efficient and unsuitable for areas with high population densities due to limited agricultural land (Sy, 2010).

Horticulture encompasses a wide variety of plants, from food crops such as fruits and vegetables to ornamental plants such as flowers and ornamentals. The primary goal of horticulture is to improve the quality, quantity, and economic value of plants through various cultivation techniques and methods (Bakshi et al., 2022). This science not only studies planting and caring for plants, but also the aesthetic and functional aspects of landscaping and gardening. Horticulture comes from the words "hortus" (= garden) and "colere" (= to cultivate) .

Hydroponics is a method of growing plants using nutrient-enriched water, replacing soil as the growing medium. This method allows plants to grow faster and more efficiently because the roots directly absorb nutrients from the water solution (Reftyawati, Rahman, and Alisha, 2024). Hydroponics offers many advantages, such as efficient water use, better control of the growing environment, and the ability to grow in various locations, including limited urban areas. The basic principle of hydroponics is to provide plants with direct access to the water and nutrients they need to grow. These nutrients are generally water-soluble and consist of a mixture of essential minerals tailored to the specific needs of the plants being grown. Hydroponic systems can be designed to flow nutrient solutions continuously or periodically through the plant roots, ensuring that the plants receive an optimal supply of nutrients (Soesanto and Kusairi, 2024).

RESEARCH METHODE

This research is descriptive research using qualitative data. Qualitative research, also known as naturalistic research, emphasizes process and meaning. It is not tested or precisely measured using descriptive data (Ikbar, 2012). Qualitative research is a type of research that describes in detail specific individuals or groups related to existing situations and phenomena. The purpose of this research is to obtain a picture of the perspectives of the people who are the objects of research. This research relates to ideas, perceptions, opinions, or beliefs (Komara, 2014).

This study uses a qualitative research method with a qualitative descriptive type that analyzes and describes the factors driving commodity substitution in Sandana Village and the socio-economic changes that occurred after the substitution of palm oil commodities in Sandana Village, based on facts and information found by the researcher in the form of a case study. The researcher used a qualitative research method because it presented data in narrative-descriptive form within the context of the study from several informants, through interviews supported by various literature references discussing information related to "Hanging Hope on Oil Palm (A Case Study of Commodity Substitution among Oil Palm Farmers in Sandana Village, West Sulawesi)."

The location of this study was Sandana Village, Tommo District, Mamuju Regency. This research location was chosen to determine the driving factors driving the Sandana Village farmers to engage in commodity substitution, having previously grown traditional crops such as cocoa, corn, and rice fields, and then switch to oil palm. Therefore, the researcher also wanted to understand the social and economic changes that occurred following the substitution of oil palm in Sandana Village.

RESULT AND DISCUSSION

Facts about Sandana Village

Sandana Village is a village located in Tommo District, Mamuju Regency, West Sulawesi, Indonesia. This village has an area of approximately 21.24 km², which covers approximately 2.76 percent of the total area of Tommo District. As part of the Mamuju Regency area, Sandana Village has great potential in agriculture and plantations, and is one of the villages that received the Community Independence Program through Peat Ecosystem Protection in West Sulawesi Province. With its abundant natural resources and diverse community, Sandana Village is a center of economic and social activities for its residents. From the 2024 village data, it was found that Sandana Village consists of seven hamlets, namely Sandana 1 Hamlet, Sandana 2 Hamlet, Benuang Hamlet, Baitang Hamlet, Siporannu Hamlet, Tondok Bakarua Hamlet, and Tamesassang Hamlet. Each hamlet has its own characteristics in terms of demographics, economic activities, and geographical conditions. This diversity makes Sandana Village a vibrant social area with unique characteristics in every aspect of community life.

The population of Sandana Village is 1,596, with 794 males and 802 females. This population is spread across 435 families. The relatively low population density provides ample scope for the development of the agricultural and plantation sectors. Furthermore, the even distribution of residents across each hamlet supports the accessibility of social services and infrastructure development throughout the village. Geographically, Sandana Village is dominated by plains and slopes, with soil conditions consisting of compacted soil and peat. This soil structure makes the area highly suitable for various agricultural, plantation, fishery, and livestock activities (Sandana Village data 2024).

The agricultural sector is one of the backbones of the village economy, with many residents depending on it for their livelihood. The agricultural land in Sandana Village is estimated to cover approximately 16,992 hectares, making it the primary sector supporting the community's economy. In addition, 26.10 hectares are used for yards and housing, 16 hectares for public facilities and roads, and approximately 4,205.9 hectares of non-agricultural land that can be utilized for various other purposes. The vast agricultural and plantation areas provide significant opportunities for the development of superior commodities that can improve the welfare of the village community. In addition to agriculture and plantations, Sandana Village also has significant potential in the fisheries and livestock sectors. Several villagers have developed cattle, goat, and poultry farms, and inland fisheries are beginning to thrive. With favorable natural conditions, these sectors have bright prospects for further development, both on a small and large scale.

The Sandana Village community consists of various ethnic groups, with the Kalumpang ethnic group being the largest. In addition, other ethnic groups, such as the Mamasa, Toraja, Bugis, Javanese, and Mandar, contribute to the social and cultural life of this village. The ethnic diversity in Sandana Village reflects the high level of tolerance and openness of the community in interacting and collaborating with one another. The village government, together with the community, continues to strive to build and improve the quality of village infrastructure. Several development programs have been implemented to improve road access between hamlets, expand the electricity network, and enhance the quality of education and health services.

With sustainable development, it is hoped that Sandana Village will continue to grow and provide better welfare for its residents. In the educational sector, Sandana Village has several educational facilities, including two elementary schools and one junior high school, which serve as the primary means for village children to receive a decent education. Despite limitations in educational facilities, the local government continues to strive to improve the quality of education

by recruiting competent teachers and providing better learning facilities for students.

In addition to economic and social activities, the people of Sandana Village also maintain and preserve several cultural and traditional activities. One example is the annual harvest festival (*kurru' sumanga'*). *Kurru' sumanga'* is a way for the community to express gratitude to God for a successful harvest and other endeavors, and residents typically invite relatives and neighbors to celebrate. A typical food served as a hallmark of the celebration is bamboo rice (*roda'*).

With all its potential, Sandana Village has a significant opportunity to continue developing into a more advanced and prosperous village. Support from various parties, both government and community, is essential to optimize existing resources. The development of more modern agriculture, plantations, fisheries, and livestock sectors, along with adequate infrastructure, will be key to driving the village's progress.

The socio-cultural conditions of Sandana Village, located in Tommo District, Mamuju Regency, West Sulawesi, reflect the rich culture and traditions of the local community. One example of the richness of local traditions is the *Pangngakkasan* tradition at weddings, where the groom brings gifts accompanied by a traditional ceremony led by traditional elders.

As part of Mamuju Regency, inhabited by the Mandar ethnic group, Sandana Village has strong social interactions among its residents. Economically, the Sandana Village community relies largely on agriculture (2024 Sandana Village data). The fertile soil surrounding the village supports agricultural production, including cocoa, oil palm, and other crops. These economic activities not only meet daily needs but also provide a source of income for village families. Furthermore, the village government strives to improve community welfare through transparent and impartial assistance programs, fostering trust between the village government and its residents. One example of assistance from the village government is the Village Fund Direct Cash Assistance (BLT-DD).

Education is also a key focus in the socio-cultural development of Sandana Village. Several educational institutions, including elementary schools, play a role in improving children's educational attainment. Awareness of the importance of education is growing among the community, with the hope that the younger generation will be more competitive in the future. This effort is supported by the active participation of parents and the community in supporting educational activities. Socially, Sandana Village has a strong community structure. Mutual cooperation (*gotong royong*) and regular meetings between residents are part of daily life, strengthening a sense of togetherness and solidarity. One example of this mutual cooperation that is still routinely practiced by the community is moving houses together and helping with preparations for parties, including weddings, family celebrations, and religious events. The community is also active in preserving the surrounding environment by cleaning up. Thus, the socio-cultural conditions of Sandana Village not only reflect rich traditions but also demonstrate the dynamics of modernization in line with the times.

Factors Driving Commodity Substitution in Sandana Village

Commodity substitution is the replacement of one type of good or commodity with another that has a similar function or use. In an economic context, this substitution occurs when consumers choose to use substitute goods when their usual goods are unavailable or experience a price increase. For example, if the price of rice increases, consumers may switch to corn or cassava as alternative staple foods. This process applies not only to the food sector but also to a variety of products and services that meet people's daily needs.

The concept of commodity substitution is crucial in analyzing supply and demand in the market. When the price of one good rises, demand for substitute goods typically increases. This is

due to cross-elasticity, a measure of how much demand for one good change due to changes in the price of another good. In other words, the higher the cross-elasticity between two goods, the more likely consumers are to switch to substitute goods when the price of one good fluctuates. This creates market dynamics that allow consumers to continue to meet their needs despite changes in availability or price.

Commodity substitution also has broader implications for the economy and public policy. In the context of food security, for example, encouraging the use of local food ingredients as substitutes for imported products can help reduce dependence on foreign supplies and improve local economic sustainability. The government often encourages this substitution through programs that support local agriculture and food product innovation, thereby creating jobs and improving community well-being. Therefore, understanding commodity substitution is crucial for decision-making across various economic sectors. Field findings indicate several factors driving commodity substitution in Sandana Village, which are outlined below:

1. *Virus and pest attacks*

Viruses are tiny pathogenic microorganisms that can only reproduce inside living cells because they lack the cellular machinery to reproduce on their own. Viruses consist of genetic material in the form of DNA or RNA, enclosed by a protein coat (capsid), and in some species, also by a lipid envelope. Viruses lack a cellular structure like other living things, so their status as living organisms is often debated. Viruses are obligate parasites, meaning they can only survive and reproduce by exploiting the host cells they infect. When they infect, viruses force the host cell to produce thousands of new copies of the virus, which can damage the host cell and cause disease in humans, animals, and plants. Examples of viral diseases include influenza, HIV/AIDS, and tobacco mosaic virus.

Meanwhile, pests are organisms such as insects, rodents, or other creatures that damage crops, agricultural products, or the environment by consuming, damaging, or disrupting plant growth. Pests differ from viruses in that they are fully living organisms that can move, feed, and reproduce independently. Examples of plant pests include caterpillars, leafhoppers, and mice, which can cause significant losses to agricultural crops.

Viruses and pests are a crucial part of the process of cultural change in societies. In some cases, the presence of viruses can even drastically alter a society's way of life and culture. One of the most obvious examples is the COVID-19 pandemic. This virus forced humans to shift from physical interactions to virtual communication, from office work to online work systems, and also drastically altered social and religious practices. Economic activities, education, and even religious rituals had to adapt to new health protocols, reflecting how viruses can trigger transformations in culture and the social structure of society.

A similar phenomenon also occurs in the context of the farming community in Sandana Village. Virus and pest attacks on traditional crops such as cocoa, corn, and coffee are the main triggers for commodity substitution to palm oil. Crop losses due to plant diseases force farmers to seek more resilient and economically promising alternatives. Consequently, a shift in farming practices has occurred, from traditional food crops to oil palm cultivation, which is considered more stable and profitable. In this case, viruses act as catalysts for changes in production patterns as well as socio-economic changes in society.

Yuval Noah Harari, in his book "A Brief History of Humankind" (2014), emphasizes that the greatest challenges facing humanity in the future include three main ones: viruses and infectious diseases, nuclear weapons, and economic domination by a handful of global players. Harari states

that despite continued technological progress, humanity remains under major threats from its own creation and from uncontrolled nature. In this context, viruses are not only a medical issue but also a socio-cultural and economic one, as their impacts touch all aspects of human life. Thus, just as the global community has had to adapt to the effects of COVID-19, the people of Sandana Village demonstrate that even on a local scale, viruses can be a driver of significant cultural change.

The primary reason farmers in Sandana Village switched to palm oil was the presence of a virus or pest that was attacking their crops at the time, particularly cocoa. The virus caused a drastic drop in the market price of cocoa, and farmers' incomes were no longer sufficient for their livelihoods. As expressed by Mr. Marten P. Borrong, when asked in an interview about the main reason for switching from his previous crop to palm oil, he said:

My main reason was because at that time, my cocoa plants were attacked by a virus or pest, which damaged them and significantly reduced their prices. At the same time, because a palm oil company discovered that palm oil had the potential to yield higher profits than other crops, I started planting some of the palm oil seedlings I'd purchased. Likewise, other farmers whose cocoa was infected with the virus also switched to palm oil, perhaps because of the guidance provided by the company, in collaboration with the village government, regarding the benefits of palm oil.

Based on this statement, it can be concluded that viruses and plant pests not only impact the agricultural sector from a production perspective but also act as key drivers in transforming people's agricultural commodity choices. The shift to oil palm is an adaptive strategy employed by farmers to maintain the sustainability of their household economy amidst the pressures of plant diseases and market fluctuations.

2. Economic profit

Palm oil provides significant economic benefits to Indonesia. The industry contributes approximately 1.6 percent of the nation's Gross Domestic Product (GDP) and employs more than 4.5 million people directly and millions more indirectly. The majority of palm oil harvests are exported, generating more than US\$18 billion in foreign exchange annually, making it one of the largest contributors to foreign exchange in the non-oil and gas sector. Furthermore, the palm oil industry also drives the growth of downstream industries through derivative products such as cooking oil, margarine, soap, cosmetics, and biodiesel, increasing the added value and competitiveness of Indonesian products in the global market. At the local level, palm oil plantations are a driving force for development in rural areas, creating jobs, increasing farmers' incomes, and strengthening village economies. Thus, palm oil plays a role not only as a foreign exchange earner but also as a driver of economic growth, poverty reduction, and improving the welfare of communities in various regions of Indonesia.

Economic benefits are one of the most dominant factors in economic decision-making, both by individuals and groups, including farmers. In the context of agribusiness, farmers tend to choose commodities that provide the highest returns or profits within a given time period. Palm oil is a leading commodity due to its high productivity and strong market demand, both nationally and internationally. Nationally, the palm oil industry contributes approximately 1.6 percent of Gross Domestic Product (GDP) and directly employs more than 4.5 million people. Foreign exchange earnings from palm oil exports exceed US\$18 billion annually, making it the largest foreign exchange earner in the non-oil and gas sector. Added value also continues to increase because this

industry is linked to various downstream products such as cooking oil, margarine, soap, cosmetics, and biodiesel.

One concrete example is the economic growth in palm oil-producing regions such as Riau, Central Kalimantan, and South Sumatra. There, land conversion to oil palm plantations has significantly transformed the village economy. Many farmers who previously lived off subsistence crops have begun to see increased incomes, are able to send their children to higher education, build permanent homes, and even expand their land. In addition, infrastructure development such as roads, bridges, and local markets is also driven by increased economic activity in the area.

CONCLUSION

The factors driving farmers' decisions to switch to oil palm are a combination of economic factors and external support. On the one hand, there is the potential for higher profits due to strong global demand and superior oil palm productivity. This is reinforced by the testimony of Mr. Marten P. Borrong, who switched due to the failure of his cocoa crop and the prospect of oil palm profitability. On the other hand, promising oil palm market prices, as expressed by Mr. Petrus Toan, as well as government support and incentive programs, also play a significant role. Nevertheless, it is crucial to consider the environmental and social impacts of oil palm expansion, making sustainable agricultural practices key to ensuring long-term sustainability.

BIBLIOGRAPHY

- Abdullah, Oekan S. 2017. *Ekologi Manusia Dan Pembangunan Berkelanjutan*. Jakarta: Gramedia Pustaka Utama.
- Adana, Alif Haidir, Lorenta In Haryanto, Nurul Fitriah, and Inatsa Thurfah Soerinda. 2023. "Analisis Pengaruh Barang Substitusi Dan Komplementer Terhadap Fungsi Permintaan Cabai Di Indonesia." *JIA (Jurnal Ilmiah Agribisnis): Jurnal Agribisnis dan Ilmu Sosial Ekonomi Pertanian* 8(1): 18–25.
- Bakshi, Parshant et al. 2022. "Horticulture: A Key for Sustainable Development." In *Innovative Approaches for Sustainable Development: Theories and Practices in Agriculture*, Springer, 169–90.
- Dharmawan, Arya Hadi. 2007. "Dinamika Sosio-Ekologi Pedesaan: Perspektif Dan Pertautan Keilmuan Ekologi Manusia, Sosiologi Lingkungan Dan Ekologi Politik." *Sodality: Jurnal Sosiologi Pedesaan* 1(1).
- Enke, Margit, Anja Geigenmüller, and Alexander Leischnig. 2022. "Commodity Marketing: An Introduction into Key Concepts and Processes." In *Commodity Marketing: Strategies, Concepts, and Cases*, Springer, 3–20.
- Hadiyanto, Redi. 2022. "Kategori Zakat Maal (Zakat Komoditas Perdagangan, Aset Keuangan, Profesi, Pertanian Dan Perkebunan, Properti Produktif, Binatang Ternak, Barang Tambang Dan Hasil Laut, Dan Perusahaan)." *MASHLAHAH* 1(1): 1–21.
- Hall, Daniel George Edward. 1987. *Sejarah Asia Tenggara*. Kuala Lumpur: Dewan Bahasa dan Pustaka.
- Ikbar, Yanuar. 2012. *Metode Penelitian Sosial Kualitatif*. Bandung: Refika Aditama.
- Indriastuti, Suyani et al. 2024. "Indonesia's Food Security and Food Sovereignty Under Agricultural Trade Liberalization." *Global Strategis* 18(2).
- Intyas, Candra Adi, Jaisy Aghniarahim Putritamara, and Novi Haryati. 2022. *Dinamika Agrobisnis Era VUCA: Volatility, Uncertainty, Complexity, Ambiguity*. Malang: Universitas Brawijaya Press.

- Komara, Endang. 2014. *Filsafat Ilmu Dan Metodologi Penelitian*. Bandung: Refika Aditama.
- Pasalbessy, Victor F F D. 2025. *Pengantar Teori Ekonomi*. Jambi: PT. Nawala Gama Education.
- Permana, Sidik. 2016. *Antropologi Perdesaan Dan Pembangunan Berkelanjutan*. Yogyakarta. Deepublish.
- Putri, Osi Hayuni. 2023. "Analisis Ekspor Komoditas Pertanian Di Indonesia." *JEMSI (Jurnal Ekonomi, Manajemen, Dan Akuntansi)* 9(3): 937–42.
- Rahardjo. 1999. *Pengantar Sosiologi Pedesaan Dan Pertanian*. Yogyakarta: Gadjah Mada University Press.
- Reftyawati, Dian, Muhamad Ali Rahman, and Adde Dinie Alisha. 2024. "Hidroponik Sebagai Alternatif Tanaman Unggulan Dalam Meningkatkan Produktivitas Pertanian." *Jurnal Pengabdian Sosial* 1(4): 234–40.
- Sajogyo. 1982. *Ekologi Pedesaan*. Jakarta: CV. Rajawali.
- Sihombing, Yennita. 2022. "Kebijakan Pembangunan Pertanian Berbasis Inovasi Teknologi Sebagai Upaya Peningkatan Produksi Komoditas Pertanian Strategis Dan Pendapatan Petani Mendukung Ketahanan Pangan." In *Prosiding Seminar Nasional Hasil Penelitian Agribisnis*, , 137–43.
- Soesanto, Soesanto, and Muhammad Kusairi. 2024. "Analisis Efisiensi Pemasaran Dan Pendapatan Selada Hidroponik Di UD. Manfaat Kota Mojokerto." *Agriculture and Socio-Economic Journal* 1(2): 50–60.
- Sy, Pahmi. 2010. *Antropologi Pedesaan*. Jakarta: Gaung Persada.
- Wicaksono, Dwi Adi. 2023. *Sejarah Asia Timur: Sejarah Tiongkok, Jepang, Dan Korea Dari Abad Pertengahan Hingga Era Modern*. Yogyakarta: Anak Hebat Indonesia.