

SOCIO-ECONOMIC CONDITIONS AND HOME GARDEN UTILIZATION BY THE COMMUNITY IN THE CONSERVATION AREA OF WAN ABDUL RACHMAN GRAND FOREST PARK, SUNGAI LANGKA VILLAGE, PESAWARAN REGENCY LAMPUNG PROVINCE

Duryat*¹, Yoppie Jordan Saragih¹, Rodiani²

¹ Department of Forestry, Faculty of Agriculture, University of Lampung, Bandar Lampung, Indonesia

² Department of Obstetrics and Gynecology, Faculty of Medicine, University of Lampung, Bandar Lampung, Indonesia

* Email: duryat.1978@fp.unila.ac.id

Received: 6/01/2025, Revised: 30/01/2025, Approved: 2/02/2025

ABSTRACT

Home gardens can significantly enhance communities' economic, ecological, and social well-being. This study examines the socio-economic conditions and home garden utilization practices of the community in the conservation area of Wan Abdul Rachman Grand Forest Park (Tahura WAR), located in Sungai Langka Village, Gedong Tataan Subdistrict, Pesawaran Regency, Lampung Province. Data was collected through direct interviews using structured questionnaires, with respondents selected via the Simple Random Sampling method. Descriptive analytical methods were employed for data analysis. The community in Sungai Langka Village, Gedong Tataan Subdistrict, Pesawaran Regency, predominantly comprises farmers with varying income levels. Most farmers rely on agriculture as their primary source of livelihood, while some depend on supplementary jobs to meet their daily needs. The utilization of home garden land in this village is primarily for home gardens (90.33%), followed by livestock pens (66.33%), ornamental gardens (40.66%), and fishponds (20.50%). Home gardens are managed to cultivate food crops, vegetables, and plantation crops to meet household needs, both for subsistence and as an additional source of income. Through effective management, home gardens contribute significantly to household economies, with an average annual income of approximately IDR 5,800,000. Given these benefits, most of the community (86.66%) expresses a preference for developing home gardens to increase income (home gardens 43.33%; fishponds 30%; and livestock pens 23.33%), while only a small proportion (13.33%) intend to enhance their home gardens for comfort by planting ornamental plants.

Keywords: *home gardens; grand forest park; conservation area; community livelihoods*

INTRODUCTION

Home gardens are land surrounding residential spaces, encompassing the front, sides, and back of houses. These areas serve as multifunctional spaces capable of accommodating trees, annual crops, ornamental plants, food crops, and livestock in an integrated system based on ecological and socially sustainable principles. According to Korpelainen (2023), home gardens offer diverse benefits, including serving as "living stores," "living granaries," and "living banks," which highlight their potential as sources of food, storage for agricultural products, and investments in biological

resources. Marshall and Moonen (2007) further emphasize that home gardens play a significant role as conservation areas for agricultural biodiversity while supporting the implementation of agroecological systems oriented toward sustainability. Additionally, research by Kehlenbeck et al. (2007) demonstrates that home gardens possess productive capacities that can meet household needs, contribute to food security, and enhance family income. Moreover, home gardens are strategically responsible for climate change mitigation by sequestering carbon and increasing natural carbon reserves in the environment (Smith & Bustamante, 2010).

Home gardens can enhance communities' economic, environmental, and social dimensions. Henderson (2015) reported that in Toho District, Mempawah Regency, home gardens are utilized not only to meet daily consumption needs but also as a motivation for optimizing their use to support household needs sustainably. Sismihardjo (2008) highlighted that home gardens can be used for cultivating fruit and vegetable crops while simultaneously serving as a form of agroforestry practice that promotes agricultural diversification. Similarly, Barthel et al. (2015) observed home gardens as sources of economic support, social contributions, and spaces for gathering and exchanging agricultural knowledge. Beyond their economic and ecological benefits, Lope-Aziina (2017) underscored the social functions of home gardens, such as providing gifts during social visits, medical assistance, and religious activities, strengthening solidarity and social interactions within communities.

Studies on the utilization of home gardens in Indonesia have been extensively conducted, particularly in non-conservation areas. Optimal use of home gardens in such lands has proven to support ecological interests, agricultural activities, and the welfare of local communities. However, research has not yet been reported addressing home gardens directly adjacent to conservation areas, such as the Wan Abdul Rachman Grand Forest Park (Tahura WAR), Lampung. Examining home garden management in this region is crucial, considering the potential of home gardens as productive lands that provide economic benefits to the community and help reduce pressure on conservation forest areas. Sustainable management of home gardens can serve as a vital strategy to balance environmental conservation with improving the livelihoods of communities around conservation zones.

Home gardens adjacent to conservation areas hold significant potential for productive utilization, both in supporting nature conservation and enhancing the welfare of local communities. One approach to optimization is utilizing these gardens as productive land for cultivating economically valuable commodities. Additionally, home gardens have substantial potential to support community well-being. Several plant species contain secondary metabolites with bioactive properties (Duryat et al., 2023), making them potential sources of medicinal compounds (Rodiani et al., 2023). Furthermore, home gardens near conservation areas serve as alternative income sources and contribute to reducing pressure on natural forests. Friedman (2019) emphasizes that home gardens can act as local food sources, significantly decreasing dependency on forest products and promoting environmental sustainability. Similarly, Gockowski et al. (2010) argue that managing home gardens through well-planned small-scale agricultural practices can meet local community needs while safeguarding forest areas from external human pressures. Therefore, utilizing home gardens around conservation zones offers a strategic approach to supporting ecological and economic sustainability.

One area adjacent to a conservation zone where communities manage home gardens to support their livelihoods is Sungai Langka Village, Gedong Tataan Subdistrict, Pesawaran Regency. Most of the village's residents are farmers who utilize their home gardens for various purposes, including supporting their household economy. Home gardens are an asset that, if optimally managed, are expected to contribute to increased income and community welfare. Furthermore, productive utilization of home gardens can also help alleviate pressure on the Tahura WAR. This

study aims to analyze the socio-economic conditions of the community and identify the forms of home garden utilization practiced by farmers in Sungai Langka Village, Gedong Tataan Subdistrict, Pesawaran Regency.

MATERIALS AND METHODS

Time and Study Site

The study was conducted from January to May 2024 in Sungai Langka Village, Gedong Tataan Subdistrict, Pesawaran Regency, Lampung Province. Sungai Langka Village is an agrarian community where agricultural areas serve the local population's primary livelihood source. The agricultural land managed by the villagers supports food security and significantly contributes to the local economy.

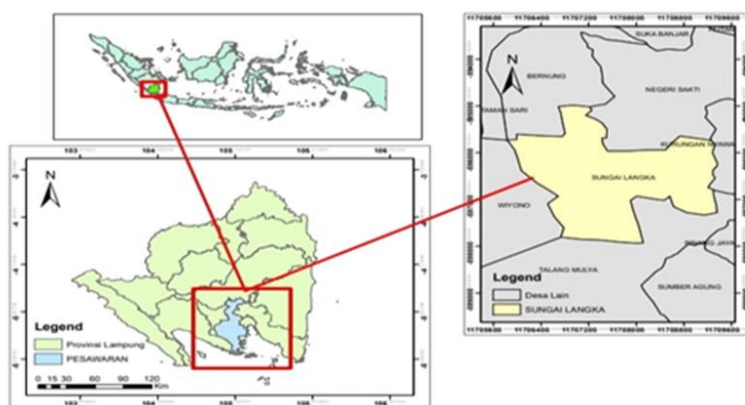


Figure 1. *Research location: Sungai Langka Village, Gedong Tataan Subdistrict, Pesawaran Regency, Lampung Province.*

Research Implementation

This study used simple random sampling (SRS) to sample. This approach was chosen based on the relatively homogeneous characteristics of yard management practices in Sungai Langka Village, both in terms of land area and management patterns. Yards in this area are generally utilized as home gardens, livestock enclosures, ornamental gardens, or fishponds. The data collected included the socio-economic conditions of the community, yard ownership, and utilization patterns. Data was collected through structured interviews, using questionnaires as the research instrument.

Data Analysis

The interview data were tabulated and analyzed using descriptive-analytical methods. In this study, data analysis was carried out using a descriptive-analytical technique, which aims to describe and systematically analyze the data to understand certain relationships or patterns relevant to the research objectives. The collected data, both quantitative and qualitative, were processed to generate a comprehensive depiction of the phenomena being studied. Subsequently, the quantitative data were analyzed using descriptive statistics, such as frequency distribution, averages, and percentages, to explain the main characteristics of the research

variables. Meanwhile, the qualitative data were analyzed analytically by identifying key themes and patterns of relationships emerging from the interview and observation results.

RESULTS AND DISCUSSION

A. Socio-Economic Conditions of the Community in Sungai Langka Village

The results of the study indicate that, according to the age category set by the Ministry of Health of the Republic of Indonesia (2009), the majority (83.33%) of farmers in Sungai Langka Village fall within the adult age group (27-40 years). A small proportion (6.66%) are in the late adulthood stage (40-45 years), while 10% are classified in the early elderly stage (45-58 years), and there are no farmers in the elderly category (56-65 years). The relatively young age of the farmers is likely due to the physical demands of farming, which require strength and high mobility, especially in areas that are difficult to access. This makes the profession less suitable for older individuals, explaining the absence of elderly farmers in active farming.

All farmers in Sungai Langka Village are male and married. This phenomenon is likely related to the prevailing patriarchal tradition in Indonesian society, where men are considered to have greater physical strength than women (Lapian et al., 2022). The physical strength of men in agriculture is often acknowledged as more dominant than women's, especially in tasks that require muscular strength and high physical effort. As noted by Vigneri et al. (2018), men tend to have an advantage in physically demanding work that requires muscle power due to their larger muscle mass and generally higher physical strength than women. This is also reflected in research by Yee and Man (2023) in Malaysia, which showed that most farmers in rural Malaysia are men, as farming tasks require physical strength and endurance. Additionally, in research conducted in Uganda, Mpiima et al. (2019) found that men predominantly carry out heavier agricultural work, while women tend to be involved in lighter agricultural tasks and household management. Thus, male dominance in the agricultural sector, particularly in activities that rely on physical strength, is a common phenomenon observed in many developing countries.

Farmers in Sungai Langka Village consist of three ethnic groups: Javanese, Lampung, and Sundanese, with the majority being Javanese (70%). The ethnic diversity in this area is a direct result of the transmigration policy implemented by the Indonesian government. The transmigration program, which began during the colonial era and has continued to the present day, is one of the main factors contributing to the ethnic diversity in Lampung. This program aimed to relocate people from densely populated areas like Java to more expansive and development-potential regions like Lampung. As a result, various ethnic groups from across Indonesia, including Javanese, Balinese, and Sulawesi, have settled and developed in Lampung. This is consistent with Oyos Saroso's (2014) statement, which revealed that the transmigration program carried out by the colonial government led to the influx of various ethnic groups from Java to provinces across Indonesia, including Lampung.

The majority (63.3%) of farmers in Sungai Langka Village have a high school education (SMA) or equivalent. In comparison, only a small portion (36.6%) have completed junior high school (SMP) or hold a university degree. This distribution of education levels indicates that the desire to progress in agriculture is often influenced by the level of education attained. This aligns with Alcaraz's (2022) statement that higher levels of education can influence a strong desire to achieve life goals. The higher an individual's education level, the greater their willingness to develop ventures, including in the agricultural sector. In line with this, Sedjati (2010) noted that the drive to advance and fulfill life's needs often stems from the education gained in school. Secondary education provides the knowledge and skills necessary to understand the developments in agriculture and technology. Another study by Puspita and Ramli (2019) in West Java found that

farmers with higher education levels are more open to adopting new technologies and innovations in agriculture, positively affecting their productivity. Similarly, a study in Bali by Widyastuti (2017) also found that farmers with higher levels of education tend to manage their agricultural enterprises more professionally and efficiently, improving agricultural output and overall well-being.

Most Sungai Langka Village communities (83.3%) have secondary occupations as farm laborers, drivers, and fishermen, while the remaining 17.6% do not have additional jobs. The presence of side jobs indicates that many farmers seek supplementary income to cope with the uncertainties associated with income from agriculture. Some main reasons farmers need side jobs include reducing income uncertainty from farming, accommodating the limited planting and harvesting seasons, and fulfilling daily living needs that agricultural earnings cannot meet. This is in line with the findings of Martin and Pinilla (2015), who state that farmers in developing countries often face unpredictable income risks due to fluctuations in agricultural commodity prices, natural disasters, or climate change that can disrupt crop yields. By having additional sources of income, farmers can mitigate the financial risks associated with fluctuating agricultural outputs and enhance the economic sustainability of their households.

On the other hand, some farmers who do not have secondary occupations are believed to have sufficient land as capital for their farming activities. Deaton and Dreze (2010) state that farmers with adequate access to technology, capital, and efficient markets tend to generate enough income to meet their living needs without relying on side jobs. A study by Haryanto and Yuliana (2018) in Central Java also found that farmers with larger landholdings tend to be more stable in income and do not require additional work because the income from agricultural production is sufficient to meet their needs. In contrast, farmers with limited land or those depending on seasonal agricultural commodities are more vulnerable to income uncertainty. They are more likely to seek secondary jobs to support their economy.

B. Form of Home Garden Land Management

Land management in home gardens refers to practices aimed at efficiently and sustainably utilizing land around residential areas, whether on a small or large scale, to maximize land productivity. In Sungai Langka Village, home garden land is utilized for various purposes, including vegetable gardens, livestock pens, ornamental gardens, and fishponds, demonstrating diverse uses despite similar land conditions and sizes. Generally, home gardens serve both subsistence needs and commercial purposes to increase farmers' income. Home gardens are considered excellent agroecosystems with significant potential to meet the livelihoods of their owners or communities (Korpelainen, 2023). More detailed data on the specific uses of home garden land in Sungai Langka Village, including its area, can be found in **Table 1** below.

Table 1. *Forms of Homegarden Utilization and Their Areas in Sungai Langka Village*

Management Form	Percentage (%)	Average area (m ²)
Home garden (Tree and Multi-purpose tree species/MPTs)	90,33%	60,50
Livestock pens	66,33%	25,50
Gardens (ornamental plants and grass)	40,66%	30,25
Fishpond	20,50%	12,50

Resources: Primary data (2024)

Based on Table 1, it is evident that most farmers in Sungai Langka Village utilize their home garden land to meet family needs, both for subsistence and commercial purposes. Nearly all

residents of Sungai Langka Village use their home gardens to supplement their livelihoods. The forms of land utilization in the village include home gardens, livestock pens, ornamental gardens (with decorative plants and grass), and fishponds (**Figure 2**). The utilization of home gardens in this village is highly diverse, with the majority (90.33%) using them for vegetable gardens planted with trees and MPTs, followed by 66.33% who use them for livestock pens, such as for goats and chickens. Additionally, 40.66% of the residents use their home gardens for ornamental gardens (decorative plants and grass), and only a small proportion (20.55%) use them for fishponds. With the implementation of proper management practices, these home gardens can become a valuable resource to meet local food needs and enhance the overall food security of the community.



Figure 2. Condition of Home gardens in Sungai Langka Village, Pesawaran, Lampung

Home gardens are one of the most common forms of land use among farmers in Sungai Langka Village, accounting for 90.33%. This is believed to be due to the dual benefits of home gardens, which both meet family food needs and provide economic benefits. Swardana (2020) explains that households that manage their home gardens well can meet their domestic needs and improve their economy by selling home garden products. The use of home garden land in Sungai Langka Village reflects diversity, indicating that even with similar land conditions and sizes, farmers utilize their land for various purposes. Experience and preferences influence farmers' decisions in utilizing their home gardens. According to Purnamasari and Hernawati (2013), experience is a key factor that supports individuals in engaging in certain occupations. This aligns with the statement by Sanli and Carnahan (2024), which asserts that significant skills are gained through prolonged experience. Furthermore, farmers' preferences also play a crucial role in land utilization. Taluke et al. (2019) noted that preferences refer to likes or things people favor, leading farmers to choose land uses based on what they like.

C. The Contribution of Home Gardens to Farmers' Household Income

Home gardens' contribution to rural agriculture has significantly increased farmers' household income. Research conducted by Yulida (2012) indicates that using home gardens for farming provides sufficient harvests for household consumption and creates opportunities for the sale of surplus production, which directly boosts the farmers' family income. In Sungai Langka Village, home gardens are one of the most widely used landforms, with 97% of farmers engaging in this practice (Table 2). This is believed to be due to the dual benefits of home gardens, which both meet family food needs and provide economic advantages. Swardana (2020) states that households that can manage their home gardens effectively cannot only meet their domestic needs but can also enhance household economics by selling home garden products.

Table 2. *Percentage and Average Income from Homegardens per Year*

Income category	Income from Primary Occupation (IDR/Year)	Income from Home Garden (IDR/Year)	Total Income (IDR/Year)	Percentage Income from Home Garden (%)
High	34.800.000	5.800.000	40.600.000	16,66
Medium	21.900.000	2.850.000	24.750.000	13,01
Low	13.380.000	1.800.000	15.180.000	13,45

Resources: Primary data (2024)

Home gardens in Sungai Langka Village have contributed significantly to the farmers' household economy. This finding aligns with the report by Yulida (2012), which found that utilizing home gardens for farming produces sufficient harvests for household consumption and opens opportunities for selling surplus production, directly increasing the farmers' family income. Most respondents believe that gardening and livestock activities in the home garden are very helpful in meeting their food needs, especially when crops from fields or rice paddies are not yet harvested. In Sungai Langka Village, home garden use generally focuses on growing vegetables and fruits. Riah (2005) demonstrates that home gardens for cultivating vegetables and fruits can increase farmers' income by up to 30% annually. Therefore, home gardens serve as an important source of additional income for meeting the household needs of the village community.

In Sungai Langka Village, home gardens have become one of the most widely practiced forms of land use among farmers, accounting for 97%. This is due to the benefits of home gardens in meeting family food needs while providing economic advantages. Home gardens allow farmers to grow various food crops, such as vegetables and fruits, which the family can directly consume, with surplus production sold to increase income. This aligns with the report by Latuan (2021), which states that home garden utilization satisfies household consumption and creates economic opportunities. Additionally, proper management of home gardens can enhance food security and reduce dependence on markets, particularly during uncertain planting or harvesting seasons. Habowa (2024) also notes that households that effectively manage their home gardens can improve their family economy by selling garden products, creating dual benefits for farmers.

D. Homegarden Development Plan

A well-managed land utilization plan can support environmental sustainability and improve the welfare of the surrounding community. In Sungai Langka Village, most of the community plans to enhance the use of their home gardens, particularly by developing vegetable gardens. This development plan reflects the community's efforts to optimize land use to meet food needs while supporting the family economy. The detailed home garden development plans of the residents of Sungai Langka Village can be seen in **Table 3** below.

Table 3. *Development Plan for the Homegarden of Sungai Langka Village*

Development Plan	Reason for the development	Percentage (%)
- Homegarden expansion	Increasing income	43,33
- Fishpond construction	Increasing income	30,00
- Constructing livestock pens	Increasing income	23,33
- Constructing ornamental gardens	Enhancing Comfort	13,33

Resources: Primary data (2024)

The community of Sungai Langka village has a clear and promising plan to enhance their economy by utilizing their yard space, with the development of home gardens as the primary

focus, followed by the construction of fish ponds, livestock enclosures, and ornamental gardens. The diversity of these approaches reflects the community's efforts to make the most of their limited land for economic purposes. This planning demonstrates significant potential in improving the community's welfare; however, the main challenges include limited access to capital, seeds, and time. These factors may impact the success or failure of the planned development initiatives. For instance, the development of home gardens and fish ponds requires substantial initial investment, both in terms of seed provision and infrastructure. At the same time, effective time management is crucial for sustaining these ventures. These findings align with research by Sari (2019), which highlights that limited access to capital and other resources is often a major obstacle to agricultural business development in rural areas. Therefore, support from the government or relevant institutions in providing easy access to financing and training on time and resource management is essential for realizing more productive and sustainable home garden development plans.

CONCLUSION

The community in Sungai Langka Village, Gedong Tataan District, Pesawaran Regency, predominantly comprises farmers with varying income levels. Most farmers rely on agriculture as their primary source of income, although some still depend on side jobs to meet their living needs. The utilization of yard land by farmers in this village is mostly (90.33%) dedicated to home gardens, followed by livestock enclosures (66.33%), ornamental gardens (40.66%), and fishponds (20.50%). The home gardens cultivate food crops, vegetables, and plantation crops to meet family needs for personal consumption and as a source of additional income. Through this management, home gardens contribute significantly to household economies, with an estimated value of around IDR 5,800,000 annually. Given these significant benefits, most of the community (86.66%) prefer to develop their yard land as an additional source of income (home gardens 43.33%; fishponds 30%; and livestock enclosures 23.33%), while only a small portion (13.33%) plans to develop their yard for enhancing comfort by planting ornamental plants.

ACKNOWLEDGEMENT

The author would like to thank Agilang Ananda Purwayuda for all the assistance and collaboration during this research.

REFERENCES

- Alcaraz, M., Hayford, S. R., and Glick, J. E. 2022. Desired fertility and educational aspirations: Adolescent goals in rapidly changing social contexts. *Journal of Marriage and Family*, 84(1), 7-31. <https://doi.org/10.1111/jomf.12815>
- Barthel, S., Parker, J., and Ernstson, H. 2015. Food and green space in cities: A resilience lens on gardens and urban environmental movements. *Urban Studies*, 52(7), 1321-1338. <https://doi.org/10.1177/0042098012472744>
- Deaton, A and Dreze, J. 2010. Nutrition, Poverty and Calorie Fundamentalism: Response to Utsa Patnaik. *Economic and Political Weekly*, 45(14), 78–80.
- Ministry of Health Republic of Indonesia (Kemenkes RI). 2009. *Klasifikasi Umur Menurut Kategori*. Direktorat Jendral Pelayanan Kesehatan. 58 p.

- Duryat, D., Yuwono, S. B., Riniarti, M., Hidayat, K. F., Hidayat, W., Rodiani, R., and Damai, A. A. 2024. Mangrove Species Diversity and Its Use as Medicinal Plant by Coastal Communities of Lampung Timur Indonesia. *Journal of Multidisciplinary Applied Natural Science*, 4(2), 304-318. <https://doi.org/10.47352/jmans.2774-3047.217>
- Haryanto, S., and Yuliana, Y. 2018. Pengaruh luas lahan terhadap pendapatan petani dan ketergantungan pada pekerjaan sampingan di Jawa Tengah. *Jurnal Ekonomi Pertanian*, 23(1), 67-74.
- Habowa, C., Petros, C., and Kayusi, F. 2024. Cultivating Resilience: The Socio-Economic Impact of Homegardens in Kabwe District, Zambia. *Asian Research Journal of Current Science*, 219-235.
- Istinganah, N. F., and Widiyanto, W. 2020. Pengaruh Modal Usaha, Tingkat Pendidikan, dan Karakteristik Wirausaha Terhadap Perkembangan UKM. *Economic Education Analysis Journal*, 9(2):438–455. <https://doi.org/10.15294/eeaj.v9i2.39293>
- Kehlenbeck, K. 2007. Rural homegardens in Central Sulawesi, Indonesia: an example for a sustainable agro-ecosystem [disertation]. Göttingen: der Fakultät für Agrarwissenschaften, der Georg-August-Universität Göttingen. 172p. <http://dx.doi.org/10.53846/goediss-1859>
- Korpelainen, H. 2023. The role of home gardens in promoting biodiversity and food security. *Plants*, 12(13), 2473. <https://doi.org/10.3390/plants12132473>
- Lapian, M. T., Mumu, R., Zakarias, J. D. and Kandowangko, N. 2022. The Influence of Patriarchal Culture, Motivation and Image on Women's Political Participation in the Regional Representatives Council of North Sulawesi Province. *International Journal Papier Public Review*, 3(4), 15-26. <https://doi.org/10.47667/ijppr.v3i4.177>
- Latuan, E., Timung, A. P. and Botahala, L. 2021. Pemanfaatan pekarangan dalam meningkatkan pendapatan masyarakat. *Jurnal Ilmiah Abdi Mas TPB Unram*, 3(2), 141-147.
- Lope-Alzina, D. G. 2017. A conceptual approach to unveil traditional homegardens as fields of social practice. *Ethnobiol. Conserv*, 6, 1-16. <https://doi.org/10.15451/ec2017-11-6.19-1-16>
- Mardiharini, M. 2011. Model kawasan rumah pangan lestari dan Pangan Rumah Tangga Rawan Pangan. Analysis. Pengembangannya keseluruh provinsi di Indonesia. *Warta Penelitian Pusat Analisis Sosial Ekonomi dan Kebijakan Pertanian. Badan dan Pengembangan Pertanian* 6(3): 239-255.
- Marshall, E. J. P. and Moonen, A. C. 2002. Field margins in Northern Europe: Their functions and interactions with agriculture. *Agric Ecosyst Environ* 89:5–21
- Martín-Retortillo, M. and Pinilla, V. 2015. Patterns And Causes of The Growth Of European Agricultural Production, 1950 To 2005. *Agricultural History Review*, 63(1), 132–159.
- Mpiima, D. M., Manyire, H., Kabonesa, C. and Espiling, M. 2019. Crop production, gender roles, and the use of mobile phones and radios for agricultural information by farmers in Apac district, Northern Uganda. *Open Journal of Social Sciences*, 7(3), 89-111. <https://doi.org/10.4236/jss.2019.73007>
- Nurwati, N., Lidar, S. and Mufti. 2015. Model Pemberdayaan Pekarangan Di Kecamatan Rumbai Pesisir Kota Pekanbaru. *Jurnal Agribisnis*, 17(1), 1–9.

- Purnamasari, D. and Hernawati, E. 2013. Pengaruh Etika Auditor, Pengalaman, Pengetahuan Dan Perilaku Disfungsional Terhadap Kualitas Audit. *Neo-Bis*, 7(2):119-135. <https://doi.org/10.21107/nbs.v7i2.520>
- Puspita, D. and Ramli, D. 2019. Pengaruh tingkat pendidikan terhadap adopsi teknologi pertanian di Jawa Barat. *Jurnal Pertanian dan Teknologi*, 12(3), 101-108.
- Riah. 2005. *Pemanfaatan Lahan Pekarangan*. Penebar Swadaya. Jakarta.168p.
- Rodiani, D., Maryono, T. and Ramdini, D. A. 2023. *Avicennia marina*: a natural resource for male anti-fertility in family planning. *International Journal of Design & Nature and Ecodynamics*, 18(5), 1077-1085. <https://doi.org/10.18280/ij dne.180508>
- Sanli, E. A. and Carnahan, H. 2024. Long-term retention of skills in multi-day training contexts: A literature review. *International Journal of Industrial Ergonomics*, 66, 10-17. <http://dx.doi.org/10.1016/j.ergon.2018.02.001>
- Sedjati, H.W. 2010. Pengaruh Tingkat Pendidikan Sekolah terhadap Motivasi Bekerja pada Sektor Pertanian di Desa Karangnanas, Kecamatan Sokaraja Kabupaten Banyumas. *Khazanah Pendidikan*, 14(1), 15-22. <https://dx.doi.org/10.30595/jkp.v1i1.631>
- Sismihardjo. 2008. Kajian agronomi tanaman buah dan sayuran pada struktur agroforestri pekarangan di wilayah Bogor, Puncak dan Cianjur (Studi kasus di DAS Ciliwung dan DAS Cianjur) [Tesis]. Program Studi Agronomi, Sekolah Pascasarjana. Institut Pertanian Bogor. 154p.
- Smith, P. and Bustamante, M. In IPCC. 2014: *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. 146p.
- Swardana, A. 2020. Optimalisasi Lahan Pekarangan Sebagai Salah Satu Upaya Pencegahan Krisis Pangan di Masa Pandemi Covid-19. *Jagros : Jurnal Agroteknologi Dan Sains (Journal of Agrotechnology Science)*, 4(2), 246. <https://doi.org/10.52434/jagros.v4i2.922>
- Sylviani, M. 2020. Pentingnya Manajemen Waktu Dalam Mencapai Efektivitas Bagi Mahasiswa (Studi Kasus Mahasiswa Program Studi Manajemen Unisi). *Jurnal Analisis Manajemen*, 6(1):66-75. <https://doi.org/10.32520/jam.v6i1.1028>
- Taluke, D., Lakat, R. S. M., Sembel, A., Mangrove, E. and Bahwa, M. 2019. Analisis Preferensi Masyarakat Dalam Pengelolaan Ekosistem Mangrove Di Pesisir Pantai Kecamatan Loloda Kabupaten Halmahera Barat. *Spasial*, 6(2):531–540. <https://doi.org/10.35793/sp.v6i2.25357>
- Widyastuti, R. 2017. Pengaruh pendidikan terhadap pengelolaan usaha pertanian di Bali. *Jurnal Agribisnis*, 9(1), 45-52.
- Yee, S. S. and Man, N. 2023. Does participation of rural women in agriculture associated with socio-demographic characteristics? Case of Ranau District in Malaysia. *International Journal of Academic Research in Business & Social Sciences*, 13(10), 1304-1316. DOI:10.6007/IJARBSS/v13-i10/19006
- Yulida, R. 2012. Kontribusi Usahatani Lahan Pekarangan Terhadap Ekonomi Rumah Tangga Petani di Kecamatan Kerinci Kabupaten Pelalawan. *IJAE*, 3, 135–154.