



AVOCADO BASED FOOD PRODUCT DIVERSIFICATION: HIGH-FIBER STEAMED CAKE AT SCHOOL OF THEOLOGY CIANJUR

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Abstract. *This Community Service activity aims to improve community skills in diversifying local food products based on avocado through a training session on making high fiber steamed cakes. The activity was conducted on April 24–25, 2025, at the STT-SAPPI Campus, Palalangan Village, Ciranjang District, Cianjur Regency, involving 44 participants consisting of pastoral candidates. The implementation method included lectures, demonstrations of avocado steamed cake preparation, distribution of recipe brochures, and interactive question-and-answer sessions. This activity was designed in alignment with STT-SAPPI's holistic curriculum, which focuses on rural ministry, providing practical knowledge for future ministers to help develop local economies through food processing. Evaluation results showed that 100% of participants considered the activity beneficial and were willing to join similar future events, while 88% expressed high satisfaction with its implementation. This activity proves that simple food processing training can serve as a tool for community empowerment and increasing the value of local agricultural products. It also demonstrates that applicable food technology skills can serve as a strategic asset for pastoral candidates in fostering economic self-sufficiency among church communities in their areas of ministry.*

Keywords: Avocado; Fiber; Food Product Diversification; Steamed Cake; STT-SAPPI.

Abstrak. Kegiatan Pengabdian kepada Masyarakat (PkM) ini bertujuan untuk meningkatkan keterampilan masyarakat dalam diversifikasi produk pangan lokal berbasis alpukat melalui pelatihan pembuatan *cake* kukus tinggi serat. Kegiatan dilaksanakan pada tanggal 24–25 April 2025 di Kampus STT SAPPI, Desa Palalangan, Kecamatan Ciranjang, Kabupaten Cianjur, dengan melibatkan 44 peserta yang terdiri dari calon pendeta. Metode pelaksanaan kegiatan meliputi penyampaian materi, demonstrasi pembuatan *cake* kukus alpukat, pembagian brosur resep, serta sesi diskusi dan tanya jawab interaktif. Kegiatan ini dirancang selaras dengan kurikulum STT SAPPI yang bersifat holistik dan berorientasi pada pelayanan di pedesaan, sehingga memberikan bekal praktis bagi para calon hamba Tuhan untuk turut mengembangkan ekonomi lokal melalui pengolahan pangan. Hasil evaluasi menunjukkan bahwa 100% peserta menganggap kegiatan ini bermanfaat dan bersedia mengikuti kegiatan serupa lagi, sementara 88% menyatakan sangat puas terhadap pelaksanaannya. Kegiatan ini membuktikan bahwa pelatihan pengolahan pangan sederhana dapat menjadi sarana pemberdayaan masyarakat dan peningkatan nilai tambah hasil pertanian lokal. Kegiatan ini menunjukkan bahwa keterampilan teknologi pangan yang aplikatif dapat menjadi modal strategis bagi calon pendeta dalam membangun kemandirian ekonomi jemaat di daerah pelayanan mereka.

Kata Kunci: Pengabdian kepada Masyarakat; Diversifikasi Pangan; Alpukat; *Cake* Kukus; STT SAPPI

1. INTRODUCTION

Food availability is one of the fundamental factors determining the quality of human resources. However, not all members of society are able to obtain sufficient food sources due to various challenges and problems encountered. Agricultural and food



experts state that one of the main issues in the food sector is the shrinking of agricultural land, particularly paddy fields, which has an impact on the reduction of harvested areas and food production. One of the primary constraints in increasing per capita food production availability is the very limited growth of harvested areas, as the expansion rate of new agricultural land is relatively low and the conversion of agricultural land to non-agricultural purposes is difficult to control (Zulpikar *et al.*, 2020).

On the other hand, Indonesia is a developing country with a high diversity of staple foods resulting from its rich ethnic composition and geographical variation (Cakranegara, 2022). This potential represents significant capital for strengthening the national food system. Nevertheless, this diversity of natural resources has not been optimally utilized and developed due to several factors, including limited community knowledge and skills, cultural and religious considerations, dependence on imports, and even simple taste preferences (Parhusip *et al.*, 2025). As a result, the nation's food security remains below the global average.

Avocado (*Persea americana* Mill.) is one of the climacteric fruits whose production has increased in recent years due to its popularity and widespread consumption (Aprilliani *et al.*, 2021). It is a horticultural crop rich in nutrients and provides multiple health benefits (Directorate General of Horticulture, Ministry of Agriculture, 2022). Although avocado cultivation has not yet become a major farming business in Indonesia, the tree is often planted in home gardens to make use of available land productively while providing access to nutritious fruit. The flesh of the avocado is soft and savory, and it contains carotenoids, fatty acids, minerals, phenolic compounds, proteins, and vitamins that collectively contribute to daily nutritional needs and promote health (Hartati *et al.*, 2022). Regular consumption of avocados supplies the body with vitamins A, B6, C, E, K1, and B8, which support growth and help maintain bodily functions (Hidayat, 2023). Furthermore, avocado oil offers additional benefits for skin and hair care and may help reduce or stabilize levels of low-density lipoprotein (LDL) cholesterol (Novianty *et al.*, 2023). Processing avocados into various products such as juices, fruit soups, and donuts has been shown to increase their economic value (Hastuti *et al.*, 2025; Bahraini, *et al.*, 2018).



Food product diversification efforts have been implemented in Palalangan Village, located in Ciranjang District, Cianjur Regency, West Java Province, where most residents rely on agriculture as their primary livelihood. One of the village's key potential lies in its local avocado production, which can be developed into high-value processed products such as high-fiber steamed cakes. However, local communities still require further training and knowledge to process avocado into marketable derivative products. Empowering villagers through skills development in food diversification, particularly in avocado-based products, is expected to enhance local economic activity, generate additional income, and improve overall welfare and quality of life (Azizah *et al.*, 2023).

To address these challenges, a community service program (Pengabdian kepada Masyarakat - PkM) was initiated by the Food Technology Study Program of Universitas Pelita Harapan (UPH) in collaboration with the School of Theology–Bible Studies for Indonesian Rural Development (STT-SAPPI). The program aims to strengthen community capacity in food processing, promote the use of local agricultural resources, and foster interdisciplinary collaboration between technology and theology.

STT-SAPPI, as a theological higher-education institution, adopts a holistic and contextual educational model designed to prepare pastors and Christian teachers who not only possess servant leadership and strong Christian character but also creativity in community empowerment. Through this collaboration, theology students are equipped with practical food-technology skills that enable them to serve as agents of change in rural areas. By mastering simple food-processing techniques such as the production of high-fiber avocado-based cakes, these future pastors can contribute to the economic resilience of the congregations they will later serve.

Therefore, this community engagement activity serves a dual purpose: enhancing the economic value of local avocado-based food products and strengthening the fundamental capacity of future church leaders to address real challenges in agrarian communities. In doing so, it embodies a holistic approach to ministry integrating spiritual, social, and economic dimensions of service toward sustainable rural development in Indonesia.



2. METHOD

The Community Service (PkM) activity was carried out at the campus of the School of Theology–Bible Studies for Indonesian Rural Development (STT-SAPPI), located in Palalangon Village, Ciranjang District, Cianjur Regency, West Java Province, on April 24–25, 2025. This activity was a collaborative program between the Food Technology Study Program of Universitas Pelita Harapan (UPH) and STT-SAPPI as the community partner. The implementation aimed to transfer knowledge and practical skills in food diversification, particularly in developing avocado-based products that possess high nutritional and economic value. The method used in this PkM combines educational extension and direct practical demonstration, integrating theoretical understanding with applied training through a hands-on approach. The main focus of the session was the diversification of avocado-based food products, emphasizing the production of high-fiber steamed avocado cake, along with two other complementary product themes—avocado-based donuts and brownies. The choice of steamed cake was based on its popularity as a traditional snack commonly sold in local markets and served during social gatherings such as community meetings and family events (Malau *et al.*, 2019). The incorporation of avocado as a high-fiber ingredient added both nutritional and functional value, aligning with modern consumer trends that seek food products capable of promoting health and serving as alternative sources of therapeutic nutrition (Parhusip *et al.*, 2019).

The training activities were implemented through several structured stages, beginning with planning, followed by execution and evaluation. The planning stage involved coordination between UPH and STT-SAPPI in preparing materials, tools, and illustrated brochures. These brochures contained clear, step-by-step instructions for preparing steamed avocado cake, donuts, and brownies (Figure 1). Designed with visual elements, the brochures were intended as an effective learning medium that combined text and imagery to enhance comprehension (Amanah *et al.*, 2021). The implementation stage took place on April 24, 2025, through an interactive class led by lecturers and students from the Food Technology Study Program, UPH, and was conducted in the STT-SAPPI classroom and practical kitchen. Participants received theoretical material on avocado nutrition, techniques for making batter using high-fiber ingredients,

steaming procedures, and simple packaging methods. The hands-on method enabled participants to engage directly in the production process, thereby deepening their understanding through experience.



Figure 1: Brochures that contain clear, step-by-step instructions for preparing steamed avocado cake, donuts, and brownies.

The evaluation phase was conducted after the practical training through questionnaires, short quizzes, and educational games designed to measure participants' comprehension, enthusiasm, and feedback. The results of these evaluations were analyzed quantitatively using descriptive statistical techniques to determine the effectiveness of the training in improving knowledge and skills among participants (Taufik, 2020). The participants of this program were students of STT-SAPPI who are theology majors preparing for pastoral service in rural areas across Indonesia. A total of around thirty participants joined the session, representing a key demographic for this program, as they are expected to serve in agrarian communities where food-processing knowledge can become a means of economic empowerment and local capacity building.

To assess the success of the program, pre- and post-training evaluations were carried out. The participants completed questionnaires before and after the activity to measure changes in their understanding of avocado processing, entrepreneurial awareness, and knowledge of food diversification. Data were analyzed descriptively,



and the results indicated improvements in comprehension levels and participant satisfaction. Quantitative indicators of success included an increase in participants' knowledge scores by approximately thirty percent after the training and a satisfaction rate exceeding eighty percent, as reflected in the evaluation results. In addition to numerical data, qualitative observations by facilitators showed that participants demonstrated enhanced creativity and independence during practical sessions.

Scientifically, this method integrates nutrition education, food technology, and community empowerment into a holistic framework that bridges academic learning and social application. The structured combination of theoretical instruction, practical demonstration, and quantitative evaluation provides a replicable and evidence-based model for community service. The activity not only succeeded in transferring knowledge and skills to the participants but also established a sustainable foundation for future food diversification initiatives that promote both health and local economic development in rural Indonesia.

3. RESULT AND DISCUSSION

The Community Service (PkM) activity was held at STT-SAPPI, located in Palalangan Village, Ciranjang District, Cianjur Regency, on April 24–25, 2025. The activity carried the theme “Avocado Based Food Product Diversification: High-Fiber Steamed Cake at School of Theology Cianjur” A total of 34 participants took part in this program, consisting of STT-SAPPI students and representatives from the surrounding community.

The event began with welcoming remarks from representatives of STT-SAPPI and the lecturer team from the Food Technology Study Program, Universitas Pelita Harapan (UPH). During this opening session, participants were introduced to the concepts of food security and sovereignty, the importance of local food diversification, and the potential of avocado as a highly nutritious food material with significant post-harvest value. The session also provided background information on the rationale for choosing avocado as the main raw material, emphasizing its availability in the region and its nutritional advantages. A photo of the presentation session is shown in Figure 2.



Figure 2: Presentation Session

The main part of the activity was a demonstration and direct practice session on the production of high-fiber steamed cake made from avocado. Participants were divided into small groups to ensure that each had the opportunity to complete the entire process, including the selection and preparation of ripe avocados as the main ingredient, mixing the materials according to the formulation order, adjusting texture and flavor using sugar, milk, eggs, and oil, followed by steaming and organoleptic evaluation based on texture, aroma, color, and taste. The final product had an appealing appearance, a soft and savory flavor, and a consistent texture suitable for development as a functional food. Participants expressed their enthusiasm and willingness to reproduce the recipe later when serving in their future community ministries. A photo of the practice session is shown in Figure 3.



Figure 3: Practice Session

During the training, each participant received a brochure containing the recipe, step-by-step preparation instructions, storage tips, and an estimated cost of production for the steamed avocado cake. The PkM team also discussed simple marketing strategies, including selling products during church events, village community markets, and through social media platforms. Participants were guided on basic pricing strategies and the efficient use of local ingredients to minimize production costs. Evaluation of the activity was conducted through questionnaires distributed to all participants (Figure 4).

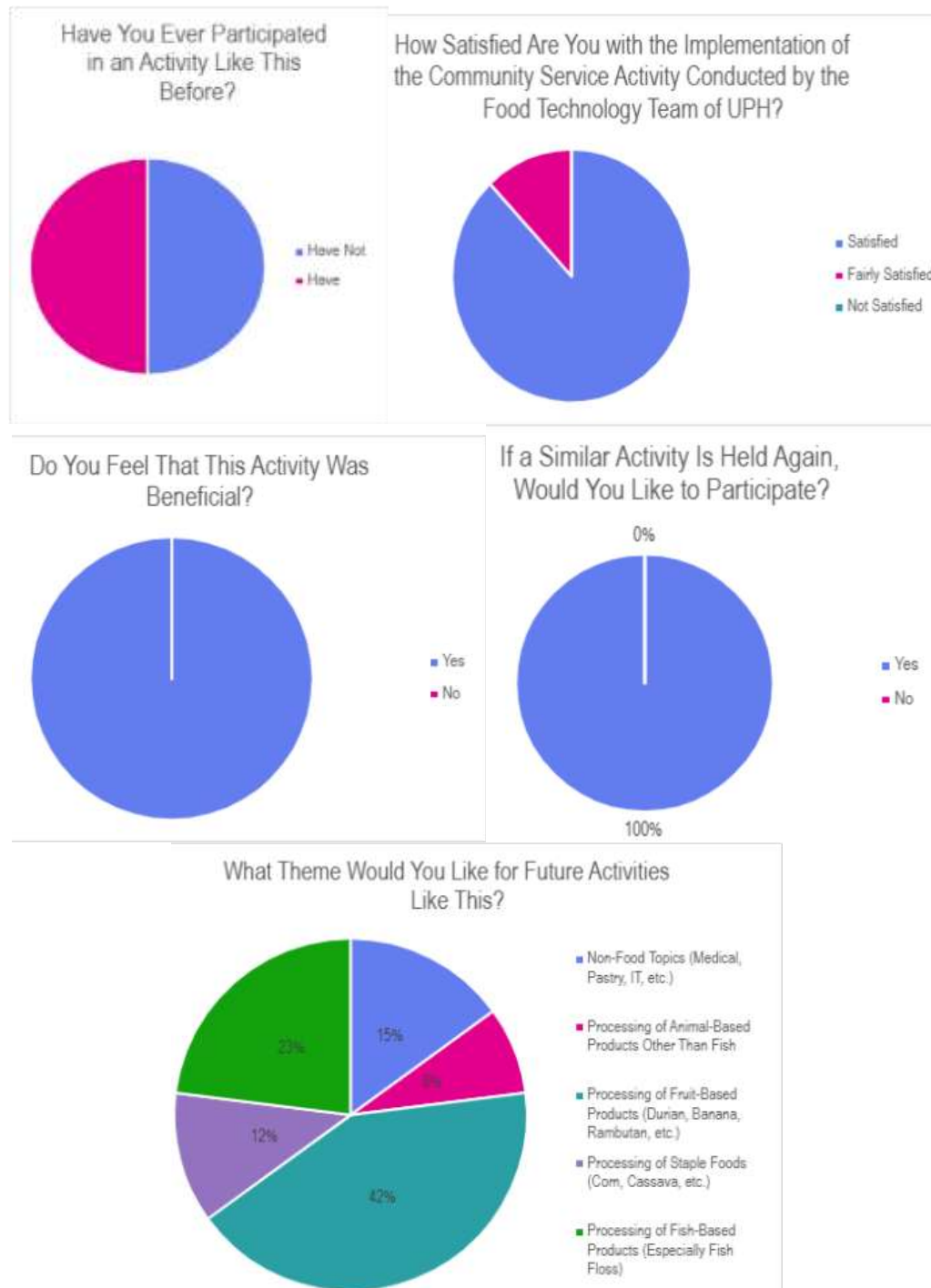


Figure 4. The results of the PkM activity evaluation through questionnaires with 100% of respondents

Of 34 respondents, 50% had previously participated in similar activities, while the other 50% were first-time participants. A total of 88% of participants stated that they were satisfied, 12% were fairly satisfied, and none expressed dissatisfaction with the activity. All participants (100%) agreed that the activity was beneficial. Furthermore,



every participant indicated their interest in joining similar programs in the future. The results of this evaluation are presented in Figure 4.

In addition to the satisfaction survey, participants were asked to suggest future training topics. The responses showed that 42% of participants were interested in fruit processing (such as durian, rambutan, and banana), 23% in fish-based products (such as fish floss), 15% in non-food topics (such as medical, IT, or pastry themes), 12% in staple food processing (such as rice, corn, and cassava), and 8% in animal-based products other than fish. These findings indicate that the participants not only gained knowledge and practical skills but also developed a strong interest in continuing to explore creativity in local food processing. Based on all feedback received from participants, it can be concluded that the PkM activity was well-executed and achieved its objectives effectively. Participants provided positive responses and expressed appreciation for the program, acknowledging its relevance to community needs and its potential for local economic improvement.

4. CONCLUSION AND SUGGESTIONS

The PkM activity involving 34 participants was successfully implemented and achieved its goal of enhancing participants' knowledge and skills in processing local food products with high market value. The activity contributed to improving household income potential and fostering entrepreneurial awareness among the participants. The responses were overwhelmingly positive, with all participants stating that the program was beneficial and expressing enthusiasm for future activities. This program also supports the mission of STT-SAPPI to equip theology students with practical skills in food technology as part of their ministry and efforts to improve rural economic welfare through the utilization of local resources such as avocado. Since 42% of respondents expressed interest in fruit processing (such as durian, rambutan, and banana), it is recommended that upcoming training sessions explore innovative methods for developing fruit-based products other than avocado.



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BIBLIOGRAPHY

- Amanah, Harjito, & Sunarya. (2021). Brosur Sebagai Media Pembelajaran Smp/Mts Di Kota Semarang. *Teks: Jurnal Penelitian Bahasa, Sastra, Dan Pengajarannya*, 6(1), 93–104. <https://doi.org/10.26877/teks.v6i1.8268>
- Aprilliani, F., Atmiasih, D., & Ristiono, A. (2021). Evaluasi Tingkat Kematangan Buah Alpukat (*Persea americana* Mill.) dengan Teknonolgi Pengolahan Citra. *Jurnal Penelitian Pascapanen Pertanian*, 18(1), 1–2. <https://doi.org/10.21082/jpasca.v18n1.2021.1-8>
- Azizah, S., Rosida, & Hidayah, A. (2023). Pelatihan Pembuatan Aneka Sosis Sehat Berbahan Jamur Tiram Dan Ayam Boiler Untuk Pekerja Sektor Informal Terdampak Pandemi Covid-19 Di Jember. *Jurnal Pengabdian Kolaborasi Dan Inovasi IPTEKS*, 1(5), 461–479.
- BPN. (2023). *Indeks Ketahanan Pangan*. Badan Penerbit BPN.
- Bahraini, B., Diana, D., Nawas, F., Ritna, R., Salonga, H., & Wijaya Cipta, A. (2018). KRIBOU (Keripik dan Bolu Uwi) Aneka rasa inovasi cemilan sehat khas Luwu. *CARADDE: Jurnal Pengabdian Kepada Masyarakat*, 1(1), 1–7. <https://doi.org/10.31960/caradde.v1i1.15>
- Cakranegara, J. J. S. (2022). Diversitas Pangan Pokok Dalam Sejarah Kebijakan Pangan Di Indonesia. *Handep: Jurnal Sejarah Dan Budaya*, 6(1), 17–40. <https://doi.org/10.33652/handep.v6i1.283>
- Hartati, S., Yunus, A., Nandariyah, N., Yuniastuti, E., Pujiasmanto, B., Purwanto, E., Samanhudi, S., Sulandjari, S., Ratriyanto, A., Prastowo, S., Manurung, I. R., Suryanti, V., Susilowati, A., Artanti, A. N., Mulyani, S., & Dirgahayu, P. (2022). Diversifikasi Tanaman Pekarangan Dengan Tanaman Alpukat Untuk Meningkatkan Gizi Keluarga. *SEMAR (Jurnal Ilmu Pengetahuan, Teknologi, Dan Seni Bagi Masyarakat)*, 11(2), 161–166. <https://doi.org/10.20961/semar.v11i2.61199>
- Hastuti, H., Marlina, S., & Rusdianto. (2025). Pelatihan Pembuatan Olahan Kreatif Berbahan Dasar Labu Siam Pada Ibu-Ibu Kelompok Tani Boritallasa , Kab. Gowa. 6(2), 3161–3166. <https://doi.org/http://doi.org/10.55338/jpkmn.v6i2.4943>
- Hidayat, M.N.F. (2023). Klasifikasi Buah Alpukat Berdasarkan Tekstur Buah

-
- Menggunakan Metode Backpropagation Berbasis Image Processing. *Jurnal Informatika Dan Rekayasa Elektronik*, 6(2), 181–188. <https://doi.org/10.36595/jire.v6i2.725>
- Malau, Y. N., Lilia, W., Dini, S., Purnasari, N., Sitorus, F. D., & Butar-butur, R. S. (2019). *Sosialisasi Kewirausahaan Dalam Usaha Kue Kukus Dan Kelepon Ubi Rambat Pada Yayasan Nurul Islam Indonesia Di Sumatera Utara*. https://doi.org/https://doi.org/10.34012/mitra_prima.v1i1.942
- Novianty, R., Jasril, Muhdarina, Devy, S., & Yuharmen. (2023). Pengenalan minyak alpukat di SMKN 8 Pekanbaru. *Jurnal Pengabdian Kepada Masyarakat Nusantara*, 4(2), 1598–1602. <https://doi.org/https://doi.org/10.55338/jpkmn.v4i2.1155>
- Parhusip, AJN., Anugrahati, N. A., Matita, I., Handayani, R., Madeline, A., Nadine, E., & Aretha, D. (2025). Pengembangan Usaha Alpukat Beku di Desa Cibugel dan Diversifikasi Produk Turunannya. *Jurnal Pengabdian Kepada Masyarakat Nusantara (JPkMN)*, 6(2), 1642–1649.
- Parhusip, AJN., Natania, Handayani, R., & Eveline. (2019). Penyuluhan Mengenai Pengenalan Pangan Fungsional di GSJA Hosana, Kabupaten Bogor. *Prosiding PKM-CSR*, 2.
- Parhusip, AJN., Nuri A. Anugrahati, Intan Matita, Ratna Handayani, Nadine E. Todia, Kezia G Suryadi. (2024). Peningkatan Ketahanan Pangan Melalui Diseminasi Dan Pengembangan Sup Jagung Pulut Instan Pada Beberapa Kelompok Wanita Tani Tangerang Selatan. *Jurnal Pengabdian kepada Masyarakat Nusantara (JPkMN)* Vol. 5 (1) |pp: 281-290. <https://doi.org/10.55338/jpkmn.v5i1.2355>
- Pertanian, D. H. K. (2022). *Kementan Tinjau Potensi Alpukat Kalibening Unggulan Kabupaten Semarang*.
- Lubis, P. S. I. & Rofila Salsabila. (2024). Peran UMKM (Usaha Mikro, Kecil, Dan Menengah) Dalam Meningkatkan Pembangunan Ekonomi Di Indonesia. *MUQADDIMAH: Jurnal Ekonomi, Manajemen, Akuntansi Dan Bisnis*, 2(2), 91–110. <https://doi.org/10.59246/muqaddimah.v2i2.716>
- Taufik, D. A. (2020). PDCA Cycle Method implementation in Industries: A Systematic Literature Review. *IJIEM - Indonesian Journal of Industrial Engineering and Management*, 1(3), 157. <https://doi.org/10.22441/ijiem.v1i3.10244>
- Zulpikar, F., Gandhy, A., & El Kiyat, W. (2020). Improving food access for marginal urban community through vertical and organic farming training. *Jurnal Sinergitas PkM & CSR*, 4(2), 115–123.