Smart Society : Community Service and Empowerment Journal
Volume 3, Issue 1, 23-31.
e_ISSN: 2807-5757
https://www.journal.foundae.com/index.php/smartsoc/index

Economic Innovation in Soponyono Village: VCO Production as an Alternative Cooking Oil Solution

Laila Nur Anvasa *
Universitas Islam Negeri Raden Intan Lampung, INDONESIA

Antomi Saregar
Universitas Islam Negeri Raden Intan Lampung, INDONESIA

Adyt Anugrah
Universitas Islam Negeri Raden Intan Lampung, INDONESIA

Article Info

Article history:

Received: February 12, 2023
Revised: April 19, 2023
Accepted: June 25, 2023

Keywords:

cooking oil;
economy;
soponyono village;
virgin coconut oil (vco)

Abstract

The increase in cooking oil prices has become a significant economic issue, considering that cooking oil is one of the strategic commodities among the nine essential goods with many uses. This outreach program aims to provide knowledge on the production of Virgin Coconut Oil (VCO) as a healthier alternative to cooking oil, while also developing the potential of coconut as a source of income for the community in Soponyono Village, Wonosobo District, Tanggamus Regency. The method used was an outreach with a direct demonstration of VCO production, starting with an experiment. This outreach involved 24 participants from the Soponyono Village community and was conducted in person. The results of this program showed that the community gained new knowledge about VCO production, as well as the ability to optimally utilize natural resources, which can improve product quality and increase its market value.

To cite this article: Anvasa, L. N., Saregar, A., & Anugrah, A. (2023). Economic Innovation in Soponyono Village: VCO Production as an Alternative Cooking Oil Solution. *Smart Society: Community Service and Empowerment Journal, 3*(1), 23-31

INTRODUCTION

The high price of cooking oil in Indonesia from the fourth quarter of 2021 to early 2022 has become a significant economic issue. Cooking oil is one of the strategic commodities among the nine essential goods, with various important functions in daily life, both in households and the food industry. This price increase is primarily due to the rising price of Crude Palm Oil (CPO) in the international market, which reached a peak of IDR 15,000/kg at the end of January 2022, a 36.3% increase throughout 2021 (Ministry of Trade, 2022). This price hike directly affects the purchasing power of the community, particularly housewives and micro, small, and medium enterprises (MSMEs) that heavily rely on cooking oil as a primary raw material in their business activities (Lestari, 2023).

With the rising price of cooking oil, there is an urgent need to find more economical and healthier alternatives. One promising alternative is Virgin Coconut Oil (VCO), which is made from fresh coconut meat and contains a higher content of medium-chain fatty acids compared to palm oil (Fatimah et al., 2021). VCO is not only healthier, with the ability to lower cholesterol levels and improve the body's metabolic function (Putri et al., 2022), but it also has a higher market value, making it a potential additional source of income for communities with access to coconut trees (Hidayati et al., 2020).

* **Corresponding author:**
Laila Nur Anvasa, Universitas Islam Negeri Raden Intan Lampung, INDONESIA. ✉ Lailaanvasa07@gmail.com

Virgin Coconut Oil can be used as a healthier cooking oil alternative to the regular cooking oil you use daily. Soponyono Village itself has many resource potentials that can be processed and turned into economic value. Coconut plants are often found in the backyards of residents' homes and on privately owned plantations. These coconuts can be utilized to produce VCO, and from an economic perspective, VCO has a higher selling price compared to CPO.

Soponyono Village in Wonosobo District, Tanggamus Regency, is a region rich in coconut potential. Coconut trees grow abundantly in the yards of local residents and community-owned plantations, but this potential has not been fully utilized to improve the economic welfare of the community (Nuryani et al., 2022). Coconuts, which have so far only been sold in the form of low-priced nuts, have the potential to be processed into VCO, which has a higher economic value (Susanti et al., 2021). Given the advantages of VCO, not only economically but also health-wise, it is important to educate the community on VCO production techniques and its economic benefits.

Various studies have been conducted to educate communities on VCO production. For example, Diah Rahmawati et al. (2022) conducted VCO production training for disaster-affected communities in North Lombok, aiming to utilize coconut potential as a source of post-disaster income. Another study by Putri and Ali (2023) in Bulo Wattang Village also showed that VCO training can be a preventive measure to maintain community health through the consumption of healthier oil. Nurlisa Hidayati (2020) in her research in Tanjung Seteko Village emphasized the importance of demonstration-based outreach to ensure effective knowledge transfer on VCO production techniques.

However, previous studies have mostly used observational or hands-on practice methods, focusing on specific groups such as farmers or disaster-affected communities. This activity, focused on Soponyono Village, offers a different approach by focusing on a structured demonstration method for housewives and MSME traders, which is expected to have a broader and more significant economic impact on the local community. Therefore, the objectives of this activity are (1) to provide outreach to the community of Soponyono Village on VCO production as an alternative cooking oil during price hikes, and (2) to develop the market value of coconuts as a new source of income to improve the welfare of the community. The primary target of this activity is housewives in Hamlet 3 of Soponyono Village, with the hope that its positive impact will be felt by the entire community in the area.

METHOD

Research methodology is a systematic procedure or method used to achieve goals and obtain valid and reliable data in research or community service activities (Jaya, 2020). According to Sugiyono (2016), research or service methods are scientific ways used to obtain data with specific objectives, which are then analyzed to provide solutions to the problems faced.

This outreach activity was conducted using a demonstration method tailored to the needs and conditions of the community in Soponyono Village. The demonstration method was chosen because it has proven effective in transferring practical knowledge to the community, particularly in the context of training for producing products like VCO (Iskandar et al., 2023). The outreach involved 24 participants, consisting of housewives and local traders, who were purposively selected to ensure that the participants involved were those most affected by the rising cooking oil prices and had the potential to implement the knowledge gained in their daily lives.

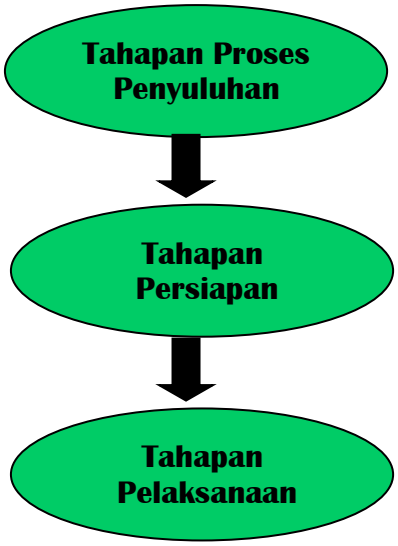


Figure 1. Stages of Activity Implementation

The stages of activity implementation can be seen in Figure 1. The details of these stages are as follows:

1. **Preparation Stage:**
   a. Location Survey: An initial survey was conducted in Soponyono Village to determine the most strategic location for the outreach. This survey also included identifying participants to be invited based on certain criteria, such as their dependence on cooking oil and their potential to process coconuts into VCO (Susanti et al., 2021).
   b. Material Preparation: The outreach materials were comprehensively prepared, covering basic theory about VCO, its benefits, and practical steps in VCO production. Teaching materials and visual aids were also prepared to help participants understand the VCO production process (Pratiwi et al., 2023).
   c. Procurement of Materials and Tools: Materials and tools to be used in the demonstration, such as 20 fresh coconuts, graters, basins, covered plastic containers, rubber bands, funnels, tissues/cloths, strainers, and plastic bottles, were procured and their quality verified to ensure optimal results (Fatimah et al., 2021).
2. **Implementation Stage:**
   a. Initial Experiment: Before the outreach, an experiment on VCO production was conducted on July 13-14, 2022, to ensure that all procedures to be demonstrated would work well and meet the established standards (Rahmawati et al., 2022).
   b. Outreach and Demonstration: The outreach was conducted on July 16, 2022, at 9:00 AM WIB at the Posyandu Hall in Soponyono Village. The outreach began with a presentation on the importance of VCO as a healthier alternative to cooking oil, followed by a live demonstration of the VCO production process. Each step in this process was explained in detail to the participants, who were also given the opportunity to ask questions and participate in the production process (Putri & Ali, 2023).
   c. Discussion and Evaluation: After the demonstration, a discussion session was held to answer participants' questions and evaluate their understanding of the material presented. Participants were asked to identify potential challenges in VCO production and work together to find solutions (Nuryani et al., 2022).
3. **Monitoring and Evaluation Stage:**
   a. Post-Outreach Monitoring: After the outreach, periodic monitoring was conducted to assess how well the knowledge gained had been applied by participants in their daily lives. This monitoring was done through direct visits to participants' homes and in-depth interviews (Hidayati, 2020).
   b. Impact Evaluation: Impact evaluation was conducted to measure the effectiveness of the outreach in improving participants' knowledge and skills, as well as its impact on increasing

their income. This evaluation was done by comparing data before and after the training, including an economic analysis of the VCO products produced by the participants (Suharyadi & Astuti, 2023).

The method used in this activity not only aims to transfer knowledge but also to build the capacity of the community to process local resources into high-value products, thereby improving their economic welfare in the future.

After the VCO production outreach, an evaluation was conducted to measure participants' responses to various aspects of the activity. The evaluation was carried out using a questionnaire filled out by participants in Soponyono Village. This questionnaire was designed to assess participants' understanding, the level of difficulty in making VCO, satisfaction with the activity, evaluation of the quality of the VCO produced, and their intention to apply the knowledge gained at home.

The evaluation was conducted using a Likert scale of 1-5, where participants were asked to rate each indicator from 1 (very low) to 5 (very high). The results of this questionnaire were then analyzed to obtain the average score and percentage of participant satisfaction with the outreach activity.

RESULTS AND DISCUSSION

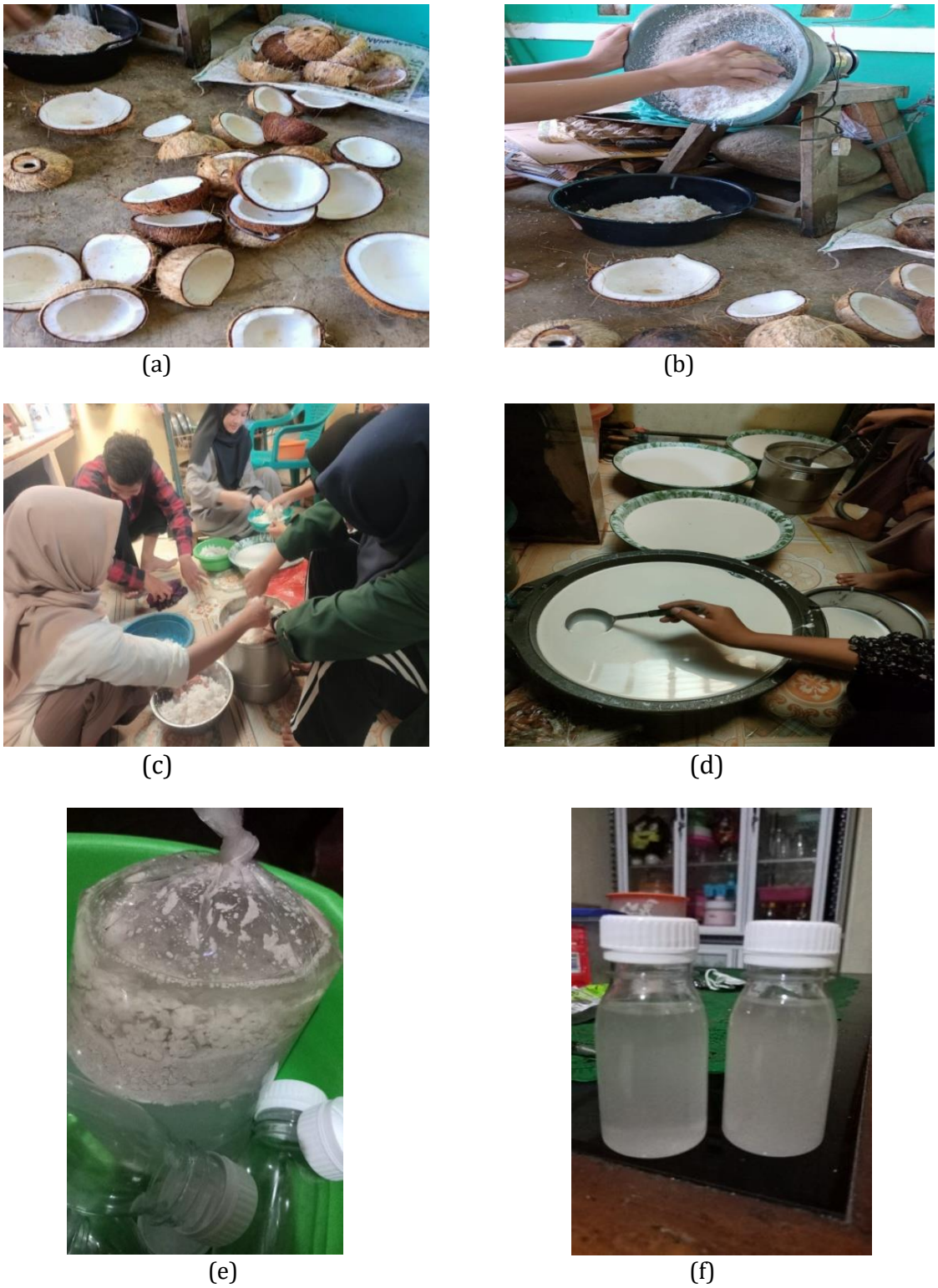
The Virgin Coconut Oil (VCO) production outreach activity in Soponyono Village, Wonosobo District, Tanggamus Regency, received very positive feedback from village officials and the community. A total of 24 participants, consisting of housewives and local traders, actively participated in this activity. This active participation demonstrates the community's high interest in improving their knowledge and skills in processing coconuts into high-value products. During the activity, several technical challenges were overcome thanks to good coordination and a gradual, structured implementation.

Process and Results of VCO Production

In this outreach activity, participants were introduced to VCO and its benefits as a healthier alternative to cooking oil (see Figure 2). The outreach continued with a demonstration of VCO production, involving all participants from the beginning to the end of the process. The production process started with the traditional method, namely extracting coconut milk from fresh coconuts, which was then fermented to produce VCO without heating and without the addition of chemicals.

Figure 2. VCO Production Outreach Activity

The initial experiment using 20 coconuts produced 24 bottles of VCO (each 60 ml). This process resulted in three layers: the top layer consisting of pure oil (VCO), the middle layer consisting of white blondo, and the bottom layer being water. The characteristics of the resulting VCO include a clear color, no rancid smell, and good stability, indicating that the non-heating method is effective in maintaining the quality of the VCO (Fatimah et al., 2021). The VCO production process can be seen in Figure 3.



(a) (b)

(c) (d)

(e) (f)

Figure 3. The VCO production process

However, some participants experienced difficulties in the VCO production process, particularly due to less than ideal production conditions, such as a damp location, and mistakes in overfilling the containers with coconut milk. These challenges highlight the importance of adjusting the environment and procedures to improve product quality (Iskandar et al., 2023). Figure 1 documents the VCO production carried out by the participants.

Analysis of Advantages and Disadvantages The non-heating method of VCO production has several advantages and disadvantages:

Advantages:

1. The resulting VCO is clear in color, does not undergo a heating process, and is free from chemical additives, ensuring that the fatty acid and antioxidant content remains high (Putri et al., 2022).
2. The product stability is better because it does not easily become rancid, which is due to the maintained composition of fatty acids.
3. The production cost is relatively low because it does not require energy for heating, and the simple processing allows for broad community participation.

Disadvantages:
1. The long protein denaturation process (around 24 hours) to separate the oil from the lipoprotein bonds is a major constraint, requiring more time compared to other methods (Susanti et al., 2021).
2. Less than ideal environmental conditions, such as a damp production area, can hinder the fermentation process and affect the final quality of the VCO.

Some participants also experienced failures in VCO production due to unsuitable production and storage locations and other technical errors. This indicates the need for further supervision and additional training to overcome these challenges (Pratiwi et al., 2023).

Social and Economic Impact The implementation of this program has had a positive impact on the participants, both in terms of knowledge and skills. The community not only gained new knowledge about VCO and its benefits but also became motivated to utilize the abundant coconut potential in their environment. This increased awareness is important to encourage the community to process coconuts into high-value products, which in turn can increase their income (Hidayati, 2020). The results of the participants' responses to the VCO production outreach and practice activities can be seen in Table 1.

Table 1. Results of Participants' Responses to the VCO Production Outreach and Practice Activities

No	Aspects Assessed	Average Score	Percentage (%)
1	Understanding of VCO	4.5	90%
2	Difficulty in Making VCO	3,2	64%
3	Satisfaction with the Activity	4,8	96%
4	Quality of the Produced VCO	4,3	86%
5	Intention to Apply the Knowledge	4,0	80%

The evaluation results indicate that the average score for understanding VCO is 4.5 (90%), showing that the majority of participants have understood the concept and benefits of VCO after participating in the activity. The difficulty level in making VCO received an average score of 3.2 (64%), indicating that although there were some difficulties, most participants felt sufficiently able to follow the instructions. Satisfaction with the outreach activity was rated very high, with an average score of 4.8 (96%), while the quality of the VCO produced was rated good, with an average score of 4.3 (86%). Additionally, the average score of 4.0 (80%) shows that most participants are interested in trying to make VCO at home. Overall, this data suggests that the outreach and demonstration methods applied were effective in improving participants' knowledge and skills while identifying areas that still require further assistance, such as technical difficulties in making VCO, which could be the focus of future training.

Economically, the potential for developing VCO products is substantial. With a higher selling price compared to raw coconuts, VCO can become an additional source of income for the community, especially amid the economic conditions impacted by the Covid-19 pandemic. Moreover, VCO products also have a broad market, both in the health and beauty sectors, opening new economic opportunities for the Soponyono Village community (Suharyadi & Astuti, 2023).

Evaluasi dan Rekomendasi

Although this activity successfully increased participants' knowledge and skills, several aspects need improvement in the future. First, it is crucial to ensure that the VCO production and storage

locations meet good standards to maintain product quality. Second, further training focusing on marketing techniques and product design is necessary to enable the community to reach a broader market and increase the selling value of VCO (Rahmawati et al., 2022). VCO production has significant economic potential, especially in rural areas rich in coconut trees. In the context of Soponyono Village, developing VCO as a high-value product can increase local community income. Studies show that methods such as low-pressure extraction can also be used to enhance VCO production without compromising quality, although this requires a more considerable initial investment in equipment (Ng et al., 2021). Other studies highlight the importance of quality control in the VCO production process, including preservation techniques such as using UV-C radiation to reduce microbial contamination without diminishing nutritional content. This is particularly important to ensure that the VCO produced has a long shelf life and remains safe for consumption.

CONCLUSION

The VCO production outreach program in Soponyono Village has successfully increased the community's knowledge and skills in optimizing the use of natural resources. The VCO produced can serve as a healthier and more economical alternative to cooking oil, which in turn can help improve the economic well-being of the community post-Covid-19 pandemic. The success of this program also highlights the significant potential for expanding its impact to other villages with similar resources. For further development, it is recommended that this outreach program be followed by additional training in processing and marketing aspects, as well as ongoing monitoring to ensure the quality and sustainability of VCO production. With consistent support and the development of adequate infrastructure, VCO could become a flagship product of the village, not only boosting the local economy but also enhancing the area's positive image as a producer of high-quality virgin coconut oil.

REFERENCES

Amanta, N. N. (2022). Produktivitas Kelapa Sawit Tetap Terbatas Seiring Melonjaknya Harga Minyak Goreng di Indonesia. Cilandak, Jakarta Selatan: Center for Indonesia Policy Studies.

Assya Octafany, D. S. (2021). Pengelolaan Lahan Pertanian Kelompok Tani Dalam Meningkatkan Perekonomian Pada Masa Pandemi Covid-19. Al-Mu'awanah: Jurnal Pengabdian Kepada Masyarakat, 2 (2), 85-92.

Dhika Wahyudi, M. d. (2021). Strategi Pengembangan Agroindustri Virgin Coconut Oil Di Desa Marsawa Kecamatan Sentajo Raya Kabupaten Kuantan Singingi (Studi Kasus Pada Usaha Agroindustri Vco Buk Suwastini). Jurnal Green Swarnadwipa , 10 (1), 51-58.

Diah Rahmawati, A. I. (2020). Pelatihan Pembuatan Minyak Virgin Coconut Oil (Vco) Bagi Masyarakat Terdampak Bencana Gempa Di Desa Dangiang Kabupaten Lombok Utara. Selaparang: Jurnal Pengabdian Masyarakat Berkemajuan , 4 (1), 684-691.

Erni Suryandari Fathmaningrum, M. D. (2020). Penyuluhan Dan Pelatihan Pemanfaatan Kelapa Sebagai Produk Jual Untuk Meningkatkan Ekonomi Masyarakat Desa Sawahan Trimurti Srandakan Kabupaten Bantul. Jurnal Abdi Insani Universitas Mataram , 7 (3), 272-278.

Farisa Wulandari, N. S. (2022). Dampak Kenaikan Harga Minyak Goreng Terhadap Industri Kecil Menengah (Ikm) Di Kota Tanjungpinang Tahun 2022. Madika: Jurnal Politik dan Governance , 2 (1), 33-44.

Gian Rabbani, F. M. (2021). Pemberdayaan Ekonomi Melalui Program Kelompok Mingguan (Pkkm) Dalam Meningkatkan Kesejahteraan Masyarakat. Al-Mu'awanah: Jurnal Pengabdian Kepada Masyarakat , 2 (1), 30-42.

Indri Meliyani Bouta, A. A. (2020). Nilai Bilangan Peroksida Dan Asam Lemak Bebas Pada Virgin Coconut Oil Hasil Fermentasi Yang Disuplementasi Dengan Kunyit (Curcuma longa L). Jambura Edu Biosfer Journal , 2 (2), 51-56.

Kasih Haryo Basuku, S. S. (2019, November 7). Pembuatan Virgin Coconut Oil (Vco) Dengan Metode Pancingan Dan Pemanfaatannya Untuk Kesehatan. Simposium Nasional Ilmiah , 1102-1106.

Murtiningsih, T. (2022). Nilai Tambah Pengolahan Kelapa Menjadi Vco Dengan Metode Biasa Dan Fermentasi. JASEP , 8 (1), 79-86.

Nurlisa Hidayati, H. F. (2022). Pembuatan Dan Penyuluhan Virgin Coconut Oil Di Desa Tanjung Seteko Indralaya Dan Manfaatnya Untuk Kesehatan. Jurnal Kreativitas Pengabdian Kepada Masyarakat (PKM) , 5 (7), 2094-2103.

Putri Sapira Ibrahim, R. A. (2019). Pelatihan Pembuatan Vco Untuk Meningkatkan Penghasilan Masyarakat. JPPM LPIP UMP: Jurnal Pengabdian dan Pemberdayaan Masyarakat , 3 (2), 197-200.

Rini Sahni Putri, A. A. (2021). Pelatihan Pembuatan Virgin Coconut Oil (VCO) di Desa Wattang sebagai Tindakan Preventif untuk Menjaga Kesehatan Masyarakat. PANRITA ABDI: Jurnal Pengabdian Kepada Masyarakat , 5 (1), 8-16.

Widiyanti, R. A. (2015, Maret 21). Pemanfaatan Kelapa Menjadi Vco (Virgin Coconut Oil) Sebagai Antibiotik Kesehatan Dalam Upaya Mendukung Visi Indonesia Sehat 2015. 577-584.