

## Strengthening The Creative Economy Of The Community Through The Utilization Of Used Cooking Oil Waste Into Aromatherapy Candles

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### Abstract

*Used cooking oil refers to the waste oil generated by households that has not been effectively utilized by the majority of individuals. The objective of this course on candle-making using waste cooking oil is to acquire valuable expertise in repurposing waste cooking oil. The produced candles can be utilized by individuals as a creative entrepreneurial venture or for personal use in their own homes. The method used in this activity is socialization and training by playing a video of the impact of continuous use of used cooking oil, followed by discussion and then practice. The target in the community service activity was the women of Pengajian Ngembul Hamlet. The results of the training and socialization of processing used cooking oil waste into economically valuable items such as aromatherapy candles make the product has its own selling value. The enthusiasm of the participants was very high and satisfied, apart from the fact that they had never thought about the benefits of cooking oil waste. The positive impact of this community service activity is that it can reduce waste cooking oil.*

**Keywords:** *Aroma Therapy Candles, Creative Economy, Waste Cooking Oil*

### Abstrak

Minyak jelantah adalah limbah minyak yang dihasilkan oleh rumah tangga yang belum dimanfaatkan secara efektif oleh sebagian besar orang. Tujuan dari pelatihan pembuatan lilin dengan menggunakan minyak jelantah ini adalah untuk memperoleh keahlian yang berharga dalam memanfaatkan kembali minyak jelantah. Lilin yang dihasilkan dapat dimanfaatkan oleh individu sebagai usaha wirausaha kreatif atau untuk penggunaan pribadi di rumah mereka sendiri. Metode yang digunakan dalam kegiatan ini adalah sosialisasi dan pelatihan dengan memutar video tentang dampak penggunaan minyak jelantah secara terus menerus, dilanjutkan dengan diskusi dan kemudian praktek. Sasaran dalam kegiatan pengabdian masyarakat ini adalah ibu-ibu Dusun Pengajian Ngembul. Hasil dari pelatihan dan sosialisasi pengolahan limbah minyak jelantah menjadi barang bernilai ekonomis seperti lilin aromaterapi menjadikan produk tersebut memiliki nilai jual tersendiri. Antusiasme peserta sangat tinggi dan merasa puas, selain karena selama ini mereka tidak pernah terpikirkan akan manfaat dari limbah minyak jelantah. Dampak positif dari kegiatan pengabdian masyarakat ini adalah dapat mengurangi limbah minyak goreng.

**Kata kunci:** *Lilin Aroma Terapi, Ekonomi Kreatif, Minyak Jelantah*

## Introduction

Palm oil is the predominant cooking oil consumed by people in Indonesia. According to a survey conducted by the Indonesian Palm Oil Association, the consumption of palm oil in Indonesia is 18.5 million tons in 2021 (Gapki.id, 2022). This amount increased by 6.63% from the previous year of 17.35 million tons and is the largest amount since 2015 (Gapki.id, 2022). The decline in palm oil use only occurred in 2017, which was 13.2% from 12.75 million tons to 11.06 million tons. Meanwhile, Indonesia's palm oil consumption in 2021 was mostly used for food needs, amounting to 8.95 million tons (Gapki.id, 2022). The increasing consumption of cooking oil will automatically result in an increasing amount of used cooking oil waste (Auliya et al., 2024)

Used cooking oil is cooking oil that is used continuously on a regular basis to fry food. The continuous use of cooking oil can affect the quality of the cooking oil itself. In addition, it can also affect the nutrition of the fried food. So that it can make food from the results of frying used cooking oil can cause disease. Another problem is the disposal of used cooking oil in the environment which can pollute or damage the environment (Said & Hidayanti, 2023)

Aromatherapy is a therapeutic practice that involves inhaling scent or volatile substances to treat, diminish, or prevent sickness, infection, and anxiety (Setyani et al., 2023). Aromatherapy can also improve blood circulation, so it can reduce muscle spasms. The great benefits of aromatherapy cause this product to be loved by many Indonesians because it can be used to relax, especially in the form of candles (Martha et al., 2022). Aromatherapy candles with the addition of natural ingredients are better than fragrances added with synthetic ingredients because they can actually interfere with the health of those who inhale them (Wulandari & Listiaji, 2024). Natural aromatherapy candles can be made with essential oils.

Based on the conditions found in Ngembul Hamlet, Kalipare Village, Kalipare Sub-district, the main problem faced in the reprocessing of used cooking oil waste is the high volume of used cooking oil waste generated from households and the absence of efforts to utilize used cooking oil waste so that it is not disposed of carelessly in waterways which can cause environmental pollution (Sari et al., 2023). Apart from these problems, the lack of awareness of people who still use cooking oil repeatedly is still a major problem because it can result in long-term health conditions (Nurhidayah et al., 2023).

Used cooking oil refers to the oil that is discarded by households and has not been effectively utilized by the majority of individuals. If not handled, it can pollute the environment on the ground and in water and will cause many problems of a number of diseases (Destiana et al., 2024). In addition, the disposal of used cooking oil on the ground, in ditches or waterways can cause environmental pollution. Therefore, it is necessary to innovate the utilization of used cooking oil so that it does not cause waste and pollute the environment and can have a selling value (Rinanto et al., 2024). In addition to damaging the environment, used cooking oil can also be a bad result for humans if they consume it in large quantities. Excessive consumption of cooking oil can cause many problems such as potential health problems, abnormal fat deposits, cancer, central nervous system control disorders (Muthmainah et al., 2024).

The purpose of this candle-making training from used cooking oil waste is that the residents of Ngembul Hamlet, Kalipare Village, Kalipare Subdistrict, especially the ladies of the Pengajian can gain useful knowledge about the utilization of used cooking oil waste, as well as the candle products produced can be utilized by residents as a creative business idea or used for personal needs in their respective homes (Nurhidayah et al., 2023). With the socialization conducted, it is expected that residents can know the dangers of repeated use of cooking oil for health in the long run (Melvianawati et al., 2022). In addition, with this program, it is hoped that environmental pollution that occurs due to used cooking oil waste in the area can be resolved.

Students from the Islamic University of Malang conducted community service with the Thematic Bachelor Candidate Program (KSM-T) to empower community potential in Ngembul Hamlet, Kalipare Village, Kalipare District. In the service in the village, the problem faced is the high volume of used cooking oil waste generated from households and there is no effort to utilize used cooking oil waste so that it is not disposed of carelessly in waterways which can cause environmental pollution (Rochman et al., 2023). The members of team conducted socialization and training by utilizing used cooking oil which was made into an aromatherapy candle product.

Aromatherapy candles are candles that are modified from existing candles by utilizing available and easily obtained materials such as using used cooking oil as the main ingredient and additional aromatherapy oil which aims to provide a relaxing or calming aroma (A. F. K. Sari et al., 2022). The objective of this community empowerment initiative is to enhance community awareness regarding the effects of using and disposing of used cooking oil on human health and the environment (Wahdi, 2023). Additionally, it aims to educate the community about the various products that can be made from used cooking oil, specifically aromatherapy candles. Furthermore, the activity aims to provide training on the process of creating aromatherapy candles using used cooking oil as the primary ingredient.

Through the Community Empowerment program in the team program, the authors conducted socialization and training in making aromatherapy candles made from waste cooking oil in Ngembul Hamlet, Kalipare Village, Kalipare District, Malang Regency. The results of this program are in the form of aromatherapy candle products that can be used as a form of reducing used cooking oil waste generated from households, so that with this program, environmental pollution due to used cooking oil waste in Ngembul Hamlet can be resolved. This empowerment program aims to increase the community's understanding in managing household waste. In addition, the community is also taught skills in producing recycled products for resale.

## **Service Method**

### **Location and Participants**

The execution of community service endeavors The event was conducted at the residence of a resident in Ngembul Hamlet, Kalipare Village, Kalipare District, Malang Regency. The approach employed in this activity involves socialization and training through the utilization of a movie showcasing the consequences of prolonged usage of recycled cooking oil. This is subsequently followed by a discussion and practical application. The focus of the community

service initiative was the female residents of Pengajian Ngembul Hamlet. A total of 30 individuals participated in the training and socialization event.

### Activity Stages

The sequence of activities conducted consists of the following stages: preparation, counseling, training, and evaluation (Sudaryanti et al., 2022).

- a. Preparation: This stage commences with a site inspection conducted by the service team, who visit the designated area. The service team held a direct meeting with the Ngembul Hamlet government to discuss the goals and objectives of implementing this activity. They also identified the target group to be included in this activity and reached a scheduling agreement with them.
- b. Socialization Exercise: The purpose of this activity was to educate and inform the community about the process of creating aromatherapy candles using sweet orange essential oil. The content provided encompasses the advantages of aromatherapy candles.
  1. Benefits of aromatherapy candles
  2. Benefits of sweet orange essential oil
  3. Technique for creating aromatherapy candles
- c. Training Activities: The training offered to the target demographic is designed to impart fresh expertise in the art of crafting aromatherapy candles.
- d. Evaluation: This stage is conducted to assess the effectiveness of the service program in meeting the predetermined objectives. At this stage, an assessment is conducted via a questionnaire to gauge the community's proficiency and expertise in crafting aromatherapy candles.

### Results and Discussion Socialization Activities

Prior to commencing the exercise, participants were initially provided with a questionnaire in order to assess their comprehension of cooking oil-based aromatherapy candles. The analysis of the questionnaire revealed that the participants possessed limited awareness of the utilization of spent cooking oil in the production of aromatherapy candles (Ermawati & Karlan, 2024). Furthermore, none of the participants have ever used aromatherapy candles as a kind of complementary therapy for the purpose of relaxation and alleviating stress. The participants who engaged in this activity displayed a keen interest in the offered information, particularly the mothers who are consistently occupied with daily responsibilities and so require a means of relaxation. No counseling or training activities on the production of aromatherapy candles have ever taken place in Ngembul Hamlet, Kalipare Village, Kalipare District, Malang Regency.

The counseling session on creating aromatherapy candles using recycled cooking oil was conducted through a presentation style utilizing Power Point slides and video materials. The team provided direct explanations during the session. Following the completion of the presentation, a demonstration or hands-on activity involving the creation of aromatherapy candles is conducted in the presence of the Recitation mothers. There were a total of 30 participants from the Recitation mothers. The objective was for the Recitation mothers to effectively



utilize leftover cooking oil as a highly marketable product and as a potential business opportunity. After being able to practice making aromatherapy candles independently, it is hoped that the women can invite other people in Ngembul Hamlet to utilize used cooking oil.

### Training Activities

This training activity was carried out with the aim of providing new skills to the community regarding the manufacture of aromatherapy candles. This training activity begins with introducing the materials that will be used in making aromatherapy candles such as: Sterin acid powder, essential oils, wicks, and used crayons. While the equipment used include: glass containers for candles, bowls, Teflon, and stoves. KSM-T UNISMA students practiced how to make aromatherapy candles with the activity participants.



Image 2. Aromatherapy Candle Making Training Activity

In this counseling activity, the speaker conveyed the stages of making sweet aromatherapy candles as follows: First, before the candle making process is carried out, it is necessary to prepare a container for candles, including the preparation of the wick in the container, where the length of the wick is adjusted to the length of the container, the top of the wick is tied to a toothpick and then the toothpick is placed in the center of the container with the wick sticking out below it. After the container for the candle is ready, then proceed with the process of making aromatherapy candles. The steps that must be taken are:

1. Prepare sterin acid powder dissolved with used cooking oil in a saucepan using medium heat until boiling.
2. After melting, colorants from used crayons are added, then essential oils are added while continuing to stir until dissolved.
3. Once dissolved, poured into a container
4. It is then left to stand for 24 hours until the wax hardens and the aromatherapy candle is ready for use.



Image 3. Aromatherapy Candle Products

After learning about the simple processing method, the women of Pengajian Ngembul Hamlet have high enthusiasm to learn to try and make their own aromatherapy candles at home and even want to sell them. After the

community service activities are carried out, the next stage is the evaluation stage of the activities to see whether the activity program is successful or not. Participants feel more able to understand about making environmentally friendly aromatherapy candles, the most prominent is about increasing knowledge about entrepreneurship for mothers in the village. The thinking of the women of Kebandingan Hamlet is more open because of the direction of the KSM 70 UNISMA team.

The demonstration of making aromatherapy candles from used cooking oil went well and smoothly. This activity received a good response from the women of Pengajian Ngembul Hamlet. The response was assessed from the number of women who attended the program according to the target and the number of questions asked during the aromatherapy candle making practice session. During the counseling, the ladies were very enthusiastic in the demonstration that was carried out as a whole.

The processing of household waste in the form of used cooking oil into candles teaches the women of Ngembul Hamlet to be more innovative in utilizing waste that has a negative impact on the environment. With relatively low initial capital and easy to obtain and produce products that have selling value so that they can be marketed to consumers around Ngembul Hamlet. After knowing how to process which is quite simple, the Pengjian women have high enthusiasm to learn to try and make their own candles at home and even want to sell them. After the community service activities are carried out, the next stage is the evaluation stage of the activities to see whether the activity program is successful or not. The recitation participants felt more able to understand about making environmentally friendly candles, the most prominent was about increasing knowledge about entrepreneurship. The participants' minds were more open because of the direction from the UNISMA KSM-T 70 team.

The processing of used cooking oil waste into economically valuable goods such as aromatherapy candles makes the product has its own selling value. With the composition of waste cooking oil, converted into aromatherapy candles that help soothe, has 2 variants of lavender and zwitsal. Aromatherapy candles can be packaged using attractive packaging and with the selection of beautiful colors as a characteristic variant, the right size glass and label as product information, the product can be sold to consumers.

## **Evaluation**

The evaluation was conducted by administering a questionnaire to 30 participants before to the activity, with the objective of assessing the effectiveness of the implemented activities. The metrics employed to assess the effectiveness of the implementation of this service activity encompass the subsequent factors:

**Table 1.** Satisfaction Questionnaire of Training and Socialization of Aromatherapy Candles from Used Cooking Oils

No.	Aspects assessed	Total	Average	Description
1	The implementation of the PKM application enables the community to gain empowerment, allowing them to work autonomously.	251	4,2	Satisfied
2	PKM programs are executed based on the specific requirements of the community.	275	4,6	Very Satisfied
3	The PKM program has offered provisions to the community in the form of cognitive abilities or other competencies.	250	4,2	Satisfied
4	The utilization of PKM in community learning initiatives has effectively enhanced the community's cognitive abilities.	195	3,25	Quite Satisfied
5	The use of PKM has facilitated problem-solving within the community, resulting in tangible benefits and assistance.	250	4,2	Satisfied
<b>Total Average</b>			<b>4</b>	<b>Satisfied</b>

Based on the data presented in the table, it is evident that the women in Ngembul hamlet, Kalipare sub-district, are content with the training and socialization program for producing aromatherapy candles using recycled cooking oil.

### Conclusion

The Counseling and Training on the Utilization of Used Cooking Oil into Candles was conducive with 60 participants from the recitation ladies of Ngembul Hamlet, Kalipare Village, Kalipare District, Malang Regency. Participants participated in the activity enthusiastically and interactively so that they could understand the presentation delivered by members of KSM-T 70 UNISMA. In addition, participants were also enthusiastic in making economic products in the form of candles made from used cooking oil as an alternative to utilizing used cooking oil. The enthusiasm of the participants was very high, apart from the fact that they had never thought about the benefits of cooking oil waste. . The increase in knowledge of the recitation ladies about the impact of the use and disposal of used cooking oil on the environment and the increase in participants' knowledge of recycled products from used cooking oil.

The positive impact of this community service activity is that it can reduce used cooking oil waste. This activity is an activity with new alternatives in overcoming the increasing intensity of waste, so that the village government can socialize it more to the community, by utilizing easily available household materials into environmentally friendly products, namely aromatherapy candles so as to improve community welfare and increase community creativity. So that from the training and socialization can make the participants have creativity and can produce products that are worth selling with capital that is relatively cheap and easy to obtain

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