

Improving Human Resources and Environmental Preservation Through Training in Making Aromatherapy Candles From Used Cooking Oil in Kupang Sub-District

Abdul Rahman Hilabi¹, Ahmad Sholihuddin Zen², Anggun Kurniasari¹, Safarina Husna¹, Siska Dwi Hariyani¹, Annisa Nova Rizke Putri¹, Ravita A'isyah³, Afifah Chaerani⁴, I'fa Lutfiyah⁵, Ipah Hudaifah⁵

¹Pendidikan Biologi, Universitas Islam Negeri Walisongo Semarang, Indonesia

²Pendidikan Matematika, Universitas Islam Negeri Walisongo Semarang, Indonesia

³Manajemen Haji dan Umrah, Universitas Islam Negeri Walisongo Semarang, Indonesia

⁴Kimia, Universitas Islam Negeri Walisongo Semarang, Indonesia

⁵Pendidikan Kimia, Universitas Islam Negeri Walisongo Semarang, Indonesia

*E-mail: hilabirahman2406@gmail.com, 2108056101@student.walisongo.ac.id, 2108085054@student.walisongo.ac.id, 2108086059@student.walisongo.ac.id, dwhariyanisiska@gmail.com, 2108086086@student.walisongo.ac.id , ravasyah0@gmail.com, afifahchaerabni01140@gmail.com, 2108076036@student.walisongo.ac.id, 21068076048@student.alisongo.ac.id

Abstrak

Pemanfaatan limbah minyak jelantah sebagai bahan dasar pembuatan lilin aromaterapi merupakan salah satu solusi inovatif untuk mengurangi pencemaran lingkungan dan meningkatkan nilai ekonomi limbah rumah tangga. Limbah minyak jelantah yang sering dibuang sembarangan dapat mencemari lingkungan dan mengganggu keseimbangan ekosistem. Melalui kegiatan pelatihan yang dilaksanakan di Kelurahan Kupang, ibu-ibu PKK diberikan pemahaman mengenai bahaya penggunaan minyak goreng berulang, dampak pencemaran minyak jelantah, serta cara pengolahannya menjadi lilin aromaterapi. Proses pelatihan mencakup tahapan persiapan alat dan bahan, pengolahan minyak jelantah, hingga pembuatan lilin aromaterapi yang ramah lingkungan dan bernilai jual. Hasil kegiatan menunjukkan antusiasme peserta yang tinggi, dengan lilin aromaterapi yang dihasilkan memiliki potensi sebagai produk usaha kreatif untuk meningkatkan pendapatan keluarga. Dengan modal yang relatif rendah, program ini diharapkan dapat meminimalisir pencemaran lingkungan sekaligus memberdayakan masyarakat melalui keterampilan wirausaha

Kata Kunci: Kelurahan Kupang; Lilin Aromaterapi; Minyak Jelantah

Abstract

Utilization of used cooking oil waste as a raw material for making aromatherapy candles is an innovative solution to reduce environmental pollution and increase the economic value of household waste. Used cooking oil waste that is often disposed of carelessly can pollute the environment and disrupt the balance of the ecosystem. Through training activities carried out in Kupang Village, PKK mothers were given an understanding of the dangers of repeated use of cooking oil, the impact of used cooking oil pollution, and how to process it into aromatherapy

candles. The training process includes the stages of preparing tools and materials, processing used cooking oil, to making environmentally friendly and valuable aromatherapy candles. The results of the activity showed high enthusiasm from the participants, with the aromatherapy candles produced having the potential as creative business products to increase family income. With relatively low capital, this program is expected to minimize environmental pollution while empowering the community through entrepreneurial skills

Keywords: Kupang Village; Aromatherapy Candles; Used Cooking Oil

Introduction

Used cooking oil is oil from leftover frying which is usually produced from cooking activities in the household. This waste oil can come from types of cooking oil such as corn oil, vegetable oil, ghee and so on. Used cooking oil is produced from the process of processing food ingredients with cooking oil. Used cooking oil is usually used repeatedly up to 4 times so that the quality of the oil has decreased. Used cooking oil waste poses a threat to humans if it is reused to process food ingredients (Kenarni, 2024). Disposal of used cooking oil without proper processing can cause environmental pollution problems because it is carcinogenic and is included in the category of hazardous B3 waste (Vanesaa & Bouta, 2017). Disposal of used cooking oil in water channels is still a problem that needs attention. Used cooking oil that flows into water sources can cover the surface layer of the water which causes sunlight not to penetrate the water and disrupts the balance of the ecosystem (Azhar et al., 2016). The process of restoring the environment contaminated by used cooking oil is also quite difficult and requires relatively large funds (Vanesaa & Bouta, 2017). Therefore, innovation is needed to utilize used cooking oil waste, so that it can reduce environmental pollution while producing valuable and useful products.

Reusing used cooking oil waste into useful materials is one alternative to reduce the level of environmental pollution. The less than optimal processing of used cooking oil waste causes used cooking oil to have great potential to be reprocessed into certain products such as aromatherapy candles. Aromatherapy candles are candles that are modified by utilizing additional aromatherapy oils which aim to provide a relaxing or calming aroma (Wardani et al., 2021).

Several articles have included programs for processing used cooking oil into candles. There is a work program for processing used cooking oil waste into aromatherapy candles at the Lintas Winongo waste bank, Bumijo Village, Jetis District, Yogyakarta City (Astuti et al., 2021). In addition, the utilization of used cooking oil and orange peel waste as aromatherapy candles in the MGMP Kimia East Jakarta 2 environment (Pratiwi et al., 2023). In Kebandingan Hamlet, Pener Village, Taman District, Pemalang Regency, there is a program to utilize used cooking oil in making aromatherapy candles (Kenari, 2022). In Pereng Village, Karanganyar, used cooking oil is utilized as an aromatherapy candle as a pioneering concept for a creative village

(Azahra et al., 2023). Utilizing used cooking oil as a material for making aromatherapy candles is one of the simple and easy ways to manage waste. Aromatherapy candles also have economic value that has the potential to be developed as an alternative additional income for the community. Through this community service activity, the method of making aromatherapy candles from used cooking oil waste will be socialized. Through this community service, it is hoped that PKK mothers in Kupang Village can learn about the utilization of used cooking oil waste to make aromatherapy candles which are useful for simple and economical relaxation therapy in order to minimize environmental pollution and improve entrepreneurial skills and spirit.

Methods

The training activity for making aromatherapy candles from used cooking oil waste was carried out through several stages as follows: (1) Socialization: Socialization was carried out using a direct delivery method to training participants. The materials presented included: (a) The dangers of repeated use of cooking oil, (b) Environmental pollution due to used cooking oil waste, (c.) Stages of making aromatherapy candles from used cooking oil. (2) Activity Location: This training activity was carried out in the hall of the Kupang Ambarawa Village Hall. The selection of this location took into account easy accessibility for participants and the availability of adequate facilities to support the implementation of the activity, (3) Target Subjects: The subjects in this activity were mothers who were members of the PKK from each RW in Kupang Village. To ensure even representation, each RW delegated two representatives to attend the training. This target was chosen with the aim of improving environmental skills and awareness in community groups that play an active role in their communities, (4) Training and Direct Practice: The training was conducted with direct guidance by KKN Posko 4 UIN Walisongo Semarang students. This training was designed so that participants not only understand the theory, but also have practical skills in making aromatherapy candles from used cooking oil.

Results

Kupang Village is the most populous area in Ambarawa District, resulting in a fairly high volume of household waste, especially used cooking oil. Based on field observations, the main problems faced in managing used cooking oil waste include the high amount of waste produced by households and the lack of efforts to optimally utilize the waste. Used cooking oil waste that is carelessly disposed of into waterways can cause environmental pollution. In addition, the low level of public awareness of the dangers of repeated use of cooking oil is a challenge in itself, because this practice can have a negative impact on long-term health. Seeing these conditions, KKN Posko 4 students took the initiative to help the community by providing training in processing

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used cooking oil waste into products with sales value, namely aromatherapy candles. This training activity went smoothly and was carried out offline in the Kupang Village Hall. Each RW in Kupang Village delegated two PKK members to take part in this training. The necessary tools and materials had been prepared before the implementation of the activity, so that the training process could take place without any obstacles. Training assistance was carried out directly by KKN Posko 4 students to the participants. Activity Program

The next activity is training on making aromatherapy candles from used cooking oil waste with PKK RW mothers in Kupang Village on Saturday, November 23, 2024, which will take place in the Kupang Village Hall. This training aims to provide knowledge and skills that are not only economically beneficial, but also provide practical solutions to household waste problems.

The implementation of the activity began with socialization to training participants, namely PKK RW mothers in Kupang Village, on Saturday, November 23, 2024, in the Kupang Village Hall. The material presented includes the dangers of repeated use of cooking oil, the impact of environmental pollution due to used cooking oil waste, and the stages in making aromatherapy candles from used cooking oil waste.

The training on making aromatherapy candles from used cooking oil waste aims to enable residents of Kupang Village, especially mothers, to gain insight and skills in utilizing used cooking oil waste. The aromatherapy candle products produced are expected to be a creative business idea or used for personal needs at home. Through this socialization, residents are expected to better understand the health risks of repeated use of cooking oil in the long term. In addition, this program is expected to be able to reduce environmental pollution due to used cooking oil waste in Kupang Village.

There are several stages in making aromatherapy candles from used cooking oil, including the following:

1) Preparation of Tools and Materials

Tools used:

- Large and small pans
- Spoons
- Knives
- Cloth
- Stove + gas
- Wick support wood

Materials used

- Used cooking oil

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- Aroma oil (essential oil)
- Stearic acid
- Crayons
- Wicks
- Charcoal

2) Preparation of Place

The making of aromatherapy candles was carried out in the hall of the Kupang sub-district hall, Ambarawa District, Semarang Regency, Central Java.

3) Process of making Aromatherapy Candles from Waste Cooking Oil

Preparation of Cooking Oil:

- Prepare cooking oil then filter it using a cloth
- Prepare charcoal in a bowl then add filtered cooking oil, let it sit overnight
- Strain the results of cooking oil, and place it in a container

Making candles

- Prepare a large pan and fill it with enough water and heat it
- Prepare a small pan, add 1½ tablespoons of cooking oil and ½ tablespoon of aroma oil
- Heat the small pan over the large pan
- Add stearic acid to the small pan gradually (8 tablespoons) while stirring
- Cut the colored crayons finely then add them to the small pan and stir until evenly distributed
- After a while, the small pan is removed and cooled until the temperature is felt to have dropped
- Pour it in a zigzag or circular motion into the candle container that has been given a wick
- Leave it some time until the wax solidifies (approximately 20 minutes)

4) How to Serve

Aromatherapy candles from used cooking oil waste can be used like candles in general, namely by lighting them using fire. Colorful aromatherapy candles will add to the beauty of the room and provide a relaxing or calming aroma. Aromatherapy candles can be used as needed, such as lighting candles for one to two hours when they are first lit, which is enough as a calming room freshener. The use of aromatherapy candles from

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used cooking oil waste which are environmentally friendly can overcome environmental pollution and the potential for repeated use of cooking oil. Aromatherapy candles are packaged in acrylic molds with various attractive shapes so that they are very suitable as creative entrepreneurial products.

The results of the training on making aromatherapy candles from used cooking oil can be observed immediately after the activity takes place. The participants showed high enthusiasm and gave a positive response to this activity. Household waste that is usually unused can now be processed into innovative crafts that are useful for everyday needs. Aromatherapy candles made during the training were taken home by participants and practiced again using materials available at home.

Utilization of household waste such as used cooking oil to be processed into aromatherapy candles teaches mothers in Kupang Village to be more creative in managing waste that has the potential to damage the environment. With a relatively low initial capital, this aromatherapy candle product has a high selling value and can be marketed to consumers around Kupang Village. The proceeds from the sale of this product are expected to improve the household economy, especially in Kupang Village, where the majority of the population are micro, small and medium enterprises (MSMEs).

Conclusion

Training on the utilization of used cooking oil waste into aromatherapy candles in Kupang Village has succeeded in providing new insights and skills for PKK mothers in managing household waste creatively. This activity not only contributes to minimizing environmental pollution, but also opens up new business opportunities with economic value. The enthusiasm of the participants shows the success of the training in increasing environmental awareness while encouraging the entrepreneurial spirit of the community. With low initial capital, the aromatherapy candles produced can be developed into high-value products. This program is expected to continue with additional innovations to increase economic benefits and expand its impact on community empowerment.

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