

## EDUCATION ON MAKING AROMATHERAPY CANDLES FROM USED COOKING OIL WASTE IN LEGUNDI HAMLET, PLANJAN VILLAGE, SAPTOSARI DISTRICT, GUNUNG KIDUL REGENCY

Abdurrahman Aydeed<sup>1\*</sup>, Fani Al Falakh<sup>1</sup>, Indar Mery Sulya Aryani<sup>1</sup>, Noorkhaliza Maulidyani Safira<sup>1</sup>

<sup>1</sup> Sunan Kalijaga State Islamic University, Yogyakarta  
[\\*21105010043@student.uin-suka.ac.id](mailto:*21105010043@student.uin-suka.ac.id)

**Abstract** - *The programme to utilise used cooking oil as a base material for making aromatherapy candles in Legundi Hamlet, Planjan Village, Saptosari District, Gunung Kidul Regency aims to reduce the negative impact of household waste while creating new business opportunities. Used cooking oil that is thrown away carelessly has the potential to pollute the environment, especially water and soil. The programme began with socialisation on the dangers of repeated use of cooking oil and the impact of environmental pollution due to the disposal of used cooking oil. Next, a training on making aromatherapy candles using used cooking oil was conducted, accompanied by the KKN Team of Group 114 Planjan. Participants, consisting of local mothers, were taught how to turn used cooking oil into aromatherapy candles with an easy process that can be applied independently. This training not only improves the community's skills in waste management, but also opens up sustainable creative economy-based business opportunities. The programme evaluation was conducted through the active participation of participants as well as their ability to produce candles independently. The programme is expected to increase community awareness on the importance of waste management and encourage them to utilise used cooking oil waste as products with economic value. As a result, in addition to reducing environmental pollution, the community can also develop innovative products that have market potential.*

**Keywords:** *Used Cooking Oil, Aromatherapy Candles, Household Waste, Community Empowerment, Creative Economy*

## 1. INTRODUCTION

Used cooking oil is defined in the Big Indonesian Dictionary as leftover or used cooking oil used for frying. Used cooking oil is oil made from frying residue. Excessive use of used cooking oil can affect the quality, nutritional value, and health of fried foods. The use of used cooking oil can cause damage to the small intestine, blood vessels, heart, and liver. Used cooking oil is very dangerous for several organs because it has been oxidised by unsaturated fatty acids, which can produce free radicals.

If done continuously, the disposal of used cooking oil in the environment can cause environmental pollution. Besides being carcinogenic, used cooking oil is a hazardous waste that is harmful to the environment if disposed of freely. Therefore, in order for used cooking oil waste to be put to good use and not be dumped and pollute the environment, new innovations are needed. If used cooking oil is dumped into sewers or the ground, it will pollute the water and soil. Waste control can reduce environmental pollution. Without treatment, waste cooking oil will cause high environmental damage. To solve this problem, various efforts are made to prevent used cooking oil waste from becoming an environmental problem. (Rifqi T, 2011)

Based on this, the Collaborative KKN Group of UIN Sunan Kalijaga, IAIN Kediri and IAIN Parepare in 2024 who served in Legundi Hamlet, Planjan Village, Saptosari Sub-District, Gunung Kidul tried to reuse used cooking oil waste in Legundi Hamlet into a usable material and could reduce the negative impact of used cooking oil waste, for example making aroma therapy candles from used cooking oil. The utilisation of used cooking oil waste as aroma therapy candles can be used to reduce environmental pollution due to household waste. Candles can be used as a source of lighting, room decoration, and aroma therapy media.

Aroma therapy candles are candles made with fragrance ingredients for various purposes such as helping with insomnia, muscle pain and pressure, reducing stress, and maintaining concentration. Once burnt, aroma therapy candles will emit an aroma that has a calming and soothing therapeutic effect. One easy-to-do step is to make aroma therapy candles using cooking oil. In addition, aroma therapy candles may be financially beneficial if developed as an alternative source of additional income for the community. (Nohe et al., 2020) The community of Legundi Hamlet will be educated on how to manage waste from cooking oil or used cooking oil to be used as aroma therapy candles, which will reduce environmental pollution.

The utilisation of used cooking oil as a base material for making aromatherapy candles in Legundi Hamlet raises several important questions related to the impact and potential of this programme. First, how can innovations be applied in the processing of used cooking oil waste to produce products of economic value and environmental friendliness? Second, what is the right strategy to introduce and market aromatherapy candles from used cooking oil in the community? Thirdly, what are the obstacles and opportunities that exist in the development of the business of making aromatherapy candles based on used cooking oil, especially in rural environments such as Legundi Hamlet?

This programme aims to educate the community about the dangers of used cooking oil waste to the environment and health and provide practical solutions for its management. One of the innovations introduced is the making of aromatherapy candles from used cooking oil, which in addition to being environmentally friendly also has economic value. This programme aims to increase community awareness and skills in managing used cooking oil waste, as well as opening new business opportunities through the production of aromatherapy candles. In addition, the programme is also intended to create an effective product marketing strategy, both locally and online, to ensure the sustainability of the business.

The expected benefits of this programme include several aspects. Ecologically, the programme helps reduce environmental pollution caused by the indiscriminate disposal of used cooking oil. Economically, the community can gain new skills in producing valuable aromatherapy candles, thus opening up new sustainable business opportunities. This programme can also increase community awareness of the importance of responsible waste management, as well as contribute to improving the quality of life of the community through the implementation of an environmentally-based creative economy.

## **2. METHOD**

To achieve the planned targets, this programme was implemented through several stages as follows:

### **1. Socialisation**

Socialisation was conducted using a direct delivery method to the participants. The materials presented included:

- Health risks from repeated use of cooking oil.
- The impact of environmental pollution caused by used cooking oil waste.
- Stages of making aroma therapy candles made from used cooking oil.

### **2. Activity Location**

The training activity on making aroma therapy candles from used cooking oil was held at RT 07 RW 03, Legundi Hamlet, Planjan Village, Saptosari District, Gunung Kidul Regency, Central Java.

### **3. Target Subjects**

The target subjects of this programme are women in Legundi Hamlet, Planjan Village, Saptosari District, Gunung Kidul Regency, who will practice making aroma therapy candles from used cooking oil.

### **4. Training and Hands-on Practices**

This training was accompanied directly by the KKN Team of Group 114 Planjan Village. The hands-on method was applied to improve participants' skills in making aroma therapy candles from used cooking oil.

### **5. Evaluation**

Evaluation of the success of the programme was conducted in the following ways:

- Evaluation of socialisation is done by looking at the participation and activeness of participants in the question and answer session.

- The main evaluation of this programme is the achievement of the target, where the residents of Planjan Village are able to make aroma therapy candles from used cooking oil independently.

### 3. RESULTS AND DISCUSSION

The utilisation of used cooking oil into aroma therapy candles in Legundi Hamlet is an important effort in reducing the negative impact of used cooking oil waste on the environment. Improper processing of used cooking oil can lead to water and soil pollution, as is the case in many areas, where disposal of waste oil without proper treatment can result in significant environmental damage. (Ernis, 2023)

In the context of Dusun Legundi, the training programme on making aroma therapy candles from used cooking oil aims to provide practical solutions for the community in dealing with used cooking oil waste. This training is also a platform to increase community awareness of the importance of environmentally friendly waste management and provide new skills that can become business opportunities. In addition, it provides residents of Legundi Hamlet with creative economic ideas that can be developed and marketed.

The methods applied in this activity include socialisation on the dangers of using cooking oil repeatedly, as well as hands-on practice in making aroma therapy candles. Where socialisation and hands-on training proved effective in improving community knowledge and skills. (Adhani & Fatmawati, 2019) This activity not only focuses on environmental aspects, but also on improving the household economy through the utilisation of products made from used cooking oil. Making candles from used cooking oil has the following process:

Materials:

1. Used Cooking Oil (300 ml)
2. Charcoal
3. Palm Wax (100g)
4. Essential Oil / Eucalyptus Oil / Perfume
5. Crayon
6. Used glass cup for container

- Tools:
1. Pan
  2. Cotton thread as candle wick
  3. Toothpick
  4. Spatula
  5. Spoon for stirring
  6. Stove
  7. Candle
  8. Scales

Manufacturing Procedure:

1. Prepare tools and materials.
2. Soak used cooking oil with charcoal for 24 hours.
3. Filter the used cooking oil that has been soaked with charcoal.

4. Slice the crayon into small pieces.
5. After filtering, heat the used cooking oil on low heat, then add 100g palm wax, crayon, and aroma therapy (essential oil), then stir until smooth.
6. Ready the glass, put the cotton thread with toothpick at the end in the glass.
7. Pour the wax mixture into the glass that has been given a wick.
8. Wait 24 hours for the wax mixture to harden.
9. Candle is ready to use.

With this program, it is hoped that the people of Legundi Hamlet can be wiser in handling used cooking oil waste, reduce environmental pollution, and at the same time open up new sustainable business opportunities. Programmes like this show how a simple approach to household waste management can have far-reaching positive impacts, both ecologically and economically.



**Figure 1.** Candle making process



**Figure 2.** The candle



**Figure 3.** KKN Team with Legundi People

#### 4. CONCLUSION

The educational program on making aromatherapy candles from used cooking oil in Legundi Hamlet, Planjan Village, is an initiative that aims to address environmental pollution due to used cooking oil waste. Through this training, the community is taught to utilise used cooking oil, which is harmful to health and the environment, into products with economic value. The training not only positively impacts the environment by reducing hazardous waste, but also provides new skills for residents to create business opportunities through the production of aromatherapy candles.

The program has also had a significant impact in raising residents' awareness about the importance of managing household waste wisely. With a simple approach, residents are not only trained to keep the environment clean, but also given the

opportunity to improve the family economy through small businesses. The innovation of making candles from used cooking oil shows that waste can be transformed into useful and marketable products.

In addition, this training encourages community independence in managing the resources around them. The success of this program is not only measured by the number of products produced, but also by the increased active participation of the community in efforts to preserve the environment. Through socialisation and hands-on practice, the residents of Legundi Hamlet are expected to continue the production of aromatherapy candles independently and sustainably, and become an example for other villages in managing waste in a creative and environmentally friendly way.

This program confirms the importance of a community-based approach to household waste management, where communities are encouraged to innovate and work together to achieve positive outcomes, both for the environment and their economic well-being.

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