

**SOCIALIZATION OF UTILIZATION OF WASTE COOKING OIL TO BE A
CANDLE IN THE FORM OF REDUCING ENVIRONMENTAL POLLUTION
AND BAD IMPACT FOR HEALTH
(Padukuhan Dondong, Jetis, Saptosari, Gunungkidul, D.I. Yogyakarta)**

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ABSTRACT. *Community service carried out by KKN 111 group 84 UIN Sunan Kalijaga entitle socialization of utilization of waste cooking oil to be a candle in reducing environmental pollution and bad impact for health involving housewives in padukuhan Dondong had been carried out on August 15, 2023. The aim of this program is to reduce environmental pollution caused by waste cooking oil and the danger for health. This waste cooking oil is recycled into a candle, so that this candle can be useful product and has economic value. To achieve the target, this program is devided into two session which is awareness and capacity building. In this program, the participant feel motivated and enthusiastic and respond positively. It can be seen clearly during the socialization. It hopes that from this program, participant can have a knowledge and understanding about the utilization of waste cooking oil as well as develop their skill in making creative business idea.*

Keyword : *Waste Cooking Oil, Waste Management, Candle*

1. INTRODUCTION

Padukuhan Dondong is one of sub-village in Jetis, Saptosari distric, Gunungkidul city, special region of Yogyakarta. For right now, padukuhan Dondong consist of 1.165 people which are 565 for men and 550 for women with 250 family card. Each family card utilize cooking oil leaving used cooking oil after frying which is called waste cooking oil (minyak jelantah).

Waste cooking oil is the oil which has been used more than three times and it is categorized as a waste. This is because the waste cooking oil which is used on and on will affect the nutrition on the food that can cause many kindsof diseases. The content inside of it it have a chemical composition or carcinogenic (cancer-causing) compounds such as peroxides, epioxides, and others that are formed as a result of the frying process. The use of used cooking oil that is used many times can also cause health problems such as damage to the small intestine, blood vessels, heart and liver (Junaidi et al, 2022).

Beside causing health problem, disposal of waste cooking oil can pollute the environment by reducing soil fertility. The use of waste cooking oil normally can be found in food seller that use a large capacity of cooking oil. So, to save and get more profits they use waste cooking oil.

Waste of waste cooking oil is known to be household waste that is difficult to recycle. This waste cooking oil is household waste which is classified as B3 waste (Wardana et al, 2023). Disposal of waste cooking oil around the neighborhood can cause environmental pollution. This environmental pollution which is caused by waste cooking oil can be found at any places such as land, rivers, sewers and water. The lack of public awareness of the impacts arising from waste cooking oil cause there are still alot of citizen throw away the waste cooking oil carelessly. Therefore, the problem of waste cooking oil which can pollute the neighborhood need to be solved.

Seeing the problem arising from the difficulty of recycling waste cooking oil which is consumed harmful to the body and if it is throw away will pollute around the neighborhood, so it needs an innovation which can overcome that problem. One of the way to overcome the problem is by recycling the waste of cooking oil into a new product as like a candle.

Candles are a source of lighting consisting of a wick covered in solid fuel (Minah et al, 2017). Making a candle with adding some fragrances can turn the candle into aromatherapy candles beside as a lighting. these candles are also beneficial for health and repel flies or mosquitoes. Beside it is useful for lighting and health, aromatherapy candle also has economic value. It can be brought to the market or become souvenir which has economic value. It is also potential to increase people's income. The aim of this program is to reduce the waste of cooking oil and give more experiece to the society about aromatherapy production which has economic value.

Based on the description above, researcher is interested in providing outreach and training regarding utilization of waste cooking oil to make a candle.

2. METHOD

The outreach and training program of making a candle with waste cooking oil is held on August 15th 2023 which is started at 2.30 to 5 P.M located in Balai padukuhan Dondong. The society who becomes the participants in this program is mother's representatives from each RT in padukuhan Dondong. During the program, KKN 111 from Group 84 prepared tools and equipment materials such as electric stoves, pans, candle holders, wicks, used cooking oil, dyes, fragrances and stearic acid.

Here is the flow of socialization and training of making a candle from waste cooking oil :

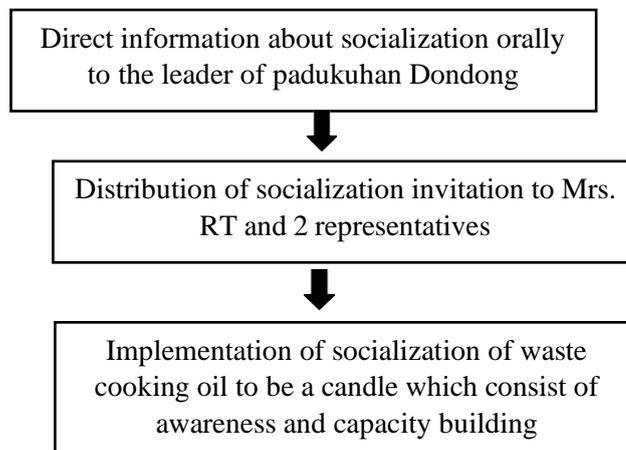


Figure 1. The flow of socialization

3. RESULT AND DISCUSSION

The socialization activity was carried out in the form of a results presentation which was held at Balai padukuhan Dondong and attended by Mrs. hamlet as health cadres, Mrs. RT 01 to 10, Mrs. RW 04, and another two representative from each RT. This program was carried out based on the coordination and permission from the leader of padukuhan Dondong. After completing the permission then distribute the invitation letter to all the participants, we prepared the materials for the socialization of utilization of waste cooking oil into a candle. The material presented is about the danger of using cooking oil on and on or more than three times and the impact of waste cooking oil for health and neighborhood pollution, utilization of waste cooking oil into a candle, and the process of making the candle.

In this program, the utilization of waste cooking oil into a candle is divided into two steps which are awareness and capacity building.

A. Awareness

The first step is the stage of giving them understanding in the form of

motivation so that they can solve the problem. In this stage, KKN from group 84 give the understanding to the participants about the danger of using waste cooking oil more than three times. It can cause many kinds of diseases such as cancer cholesterol, heart attacks and so on. We also give them understanding about the impact of throwing the waste of cooking oil away to the soil fertility. Beside giving them the understanding orally KKN from group 84 also give pamphlets containing the information about the danger, impact of waste cooking oil for health and environment, and stepsto make waste cooking oil into a candle. We call out the tagline #stopbuangminyakjelantah “Dikonsumsi tidak baik untuk kesehatan, Dibuang mencemari lingkungan”. This pamphlet is also one of the medium in awareness step. Thus, this step is aim to increase society’s awareness in padukuhan Dondong especially housewives to know and understand about the danger of waste cooking oil and how to utilize it properly.



Figure 2. information pamphlet of utilization of waste cooking oil to be a candle

B. Capacity

Capacity building is the stage of giving ability or skill to the society. In this stage, KKN from group 84 gives training in the form of practicing to make a candle from waste cooking oil to the participant. The practice of making a candle is done after presenting the material to the participant. This step is aim to improve the skill in making a candle from waste cooking oil. This is one of the way to reduce the danger for health and environmental pollution. It is also to make the housewives to be more productive that they can make a candle which has economic value such as souvenir, and so on.

Here are the steps to make a candle from waste cooking oil, as follow:

1. Materials and tools

Materials : waste cooking oil, Stearin, Candle dye, candle fragrance (lavender, coffee powder), and wick

Tools : stove, pot, stirrer (spoon), candle holder

2. How to make a candle from waste cooking oil

- Soak waste cooking oil along with charcoal for 24 hours.
- Pour 300 ml of the oil into the pan.
- Mix about 100 grams of stearin, dye and fragrance's candle. Dye can be replaced with crayons, while the fragrance can be replaced with eucalyptus oil, coffee powder, and so on.
- Heat the mixture of waste cooking oil in low heat, stir it until dissolved and well blended.
- Turn off the stove, pour it into candle holder or container which is already given a wick.
- Let it harden and the candle is ready to use.

Beside the training of making a candle from waste cooking oil, KKN from group 84 also gives the materials such as stearin, wick, dye, and candle fragrance to the housewives of padukuhan Dondong who is represented by Mrs. hamlet. Every participant will also get two products of candle as the souvenir to bring home.

The result from the program of making a candle from waste cooking oil can be analyzed during the socialization in which every participant feels enthusiastic and gives a positive response during the socialization. It is because the waste that is actually so dangerous can be recycled into a product that is not only gives a lot of benefit in some situations but also has economic value. Thus, because of this socialization, training, and giving the material, the housewives can practice to make the candle at home.



Figure 3. socialization and training of making a candle from waste cooking oil



Figure 4. candle's product and giving the materials

4. CONCLUSION

Based on the program carried out by KKN 111 group 84 UIN Sunan Kalijaga with the title "Sosialisasi Pemanfaatan Minyak Jelantah Menjadi Lilin Dalam Upaya Menekan Pencemaran Lingkungan dan Dampak Bagi Kesehatan" in padukuhan Dondong, Jetis, Saptosari distric, Gunungkidul city, special region of Yogyakarta can be concluded that *first*, participant has good enthusiasm and positive respond to the program especially during the practice of making the candle that they take a part on it. *Second*, waste of cooking oil can produce a useful product which is reusable. That also can be asouvenir which has economic value so that can reduce the waste of cooking oil that has bad impact for health and environmental pollution. *Third*, from this socialization we hope that society especially housewives realize about the danger of waste cooking oil for health and environment. It is also to trigerthe society to be more creative and innovative to utilize household's waste namely waste cooking oil (minyak jelantah).

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