

IMPROVING THE SKILLS OF HOUSEWIVES IN ASSESSING COOKING OIL WASTE IN SUKARAPIH VILLAGE

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ABSTRAK

Cooking oil is one of the ingredients that is widely used by the community, especially in households and culinary businesses. Cooking oil used in cooking activities does not always run out in one use. The use of cooking oil that many times can harm human health. Throwing the remaining cooking oil into the environment will cause environmental damage. This happens because cooking oil contains a lot of fat which can interfere with the growth/metabolism of biota/microorganisms in nature. It is necessary to make efforts to utilize the waste cooking oil by reprocessing it both as a useful product and with economic value, such as hand washing soap. Partners in this activity are a group of PKK women who work as housewives with a lower middle socioeconomic level and the education level of which depends on the income of the head of the family. The solution offered in this activity is to provide training on how to make hand washing soap from cooking oil waste and to assist the efforts of PKK women in taking advantage of the business opportunities of making hand washing soap. Efforts to improve the skills of PKK women to utilize cooking oil waste, besides being able to minimize the negative impact of cooking oil waste, also open up business opportunities in producing hand washing soap.

Keywords: PKK Mother, Waste Cooking Oil, Soap, Training, Family Economics

1. BACKGROUND

Cooking oil is one of the ingredients that are widely utilized by the community, especially in household and culinary businesses. The use of cooking oil is usually used as a medium of frying foodstuffs and flavor enhancers. Cooking oil used in cooking activities is not always exhausted in one use. This certainly leads to more and more waste cooking oil as the use of cooking oil in cooking activities. The use of cooking oil that many times can harm human health. Vegetable oils with high levels of saturated fatty acids will cause fried foods to become harmful to health, such as abnormal fat deposits, cancer, imperfect control of the nerve center (Afrozi et al., 2017). On the other hand, throwing the rest of the cooking oil into the environment will cause environmental damage. This happens because cooking oil contains a lot of fat that can interfere with the growth/metabolism of biota/microorganisms in nature (Khuzaimah, 2016). Therefore, there needs to be efforts to make use of cooking oil waste by reprocessing it both as a useful product and economical value, such as handwashing soap.

Sukarapih village is a highly developed residential area. Sukarapih village is a village with a dominant area in the form of rice fields and self-help houses. This village is one of the areas that cannot be converted from agricultural areas (rice fields) into other areas. The education of its citizens is mostly junior high school /senior high school and the socioeconomic level of the middle and lower (BPS, 2019). Pkk Sukarapih village group is active is mostly housewives who only depend on income from the head of the family who works as farmers and workers so that this condition sometimes makes the condition uncomfortable if there is a large and urgent financial needs and also with the increase in the price of household goods. This

condition needs to be anticipated with an understanding of the concept of entrepreneurship for this group. In general, PKK mothers are having a common character in using cooking oil that is used many times and also the waste is thrown away into the environment. With a considerable potential, the waste of cooking oil produced will be a lot. The reasons people use cooking oil repeatedly is very diverse, but in general because to make savings, so that people use cooking oil repeatedly even until it is black. This can have an adverse impact on the health of the people who consume it. While there are efforts that can be made by utilizing used cooking oil or cooking oil to make alternative products such as dish soap, transparent soap and solid soap, where it can be developed as a side business that generates profits. People in sukarapih village, especially housewives, are generally unproductive, unemployed and in large family incomes are people with lower middle income. By providing pemahaman used cooking oil regeneration techniques and its utilization for various soap products is expected to be a means to increase the skills of housewives in the environment and at the same time can also help the economy of partner families.

Therefore, it is necessary to conduct a training program on how to utilize waste *jelantah* so that it has added value. Therefore, it is expected that through training on the application of appropriate technology for the manufacture of soap from cooking oil can utilize restaurant waste so as to increase the income of the community in Tambelang Subdistrict.

2. METHOD

Based on the identification of the problem faced, programs are proposed based on the appropriate method of problem solving and relevant to the problem.

The problem of PKK partners in Sukarapih Village – Tambelang Bekasi Regency to improve the ability to maintain the economic stability of the family can be done by using the transfer of assistance technology regarding the regeneration of used cooking oil or jelantah oil so that it can be used as raw materials in various soap products (Erviانا, 2019). Solusi that can be done to solve the existing problems can be done by the following approach methods:

1. Transfer information about the dangers of using repeated cooking oil or cooking oil for health and solutions to the problem.
2. Transfer technology and assistance in the regeneration of used cooking oil or cooking oil used repeated frying pans both from households and street food and chicken / fried bird traders become in accordance with sni standards located around the village Sukarapi-Tambelang Bekasi regency and also processing into soap with the basic process of saponification (Putri et al., 2015).
3. Transfer technology and assistance for partners in the utilization of cooking oil regeneration into a variety of soap products that have the potential to be developed as a productive business for partners (Girgis, 2003).

3. RESULTS AND DISCUSSION

Meeting and Coordination Between Teams and partners

Meetings and coordination between the team and partners. The team meeting and coordination was held at the Tambelang District Office, Bekasi Regency. The result of the meeting and coordination was that Mutra was willing to support and contribute directly to the use of waste cooking oil as raw material for transparent soap in Sukarapih Village, Tambelang District, Bekasi. As a follow-up to this discussion, an MoU will be made at the level of Sahid University with Tambelang District.



Figure 1. Team meeting with Tambelang District

The signing of the MoU between Sahid University and Tambelang District

The signing of the MoU was carried out by the Vice Chancellor for Academic and Student Affairs at Sahid University, Drs. Bernard Hasibuan, MMSI., Ph.D representing the Chancellor of Sahid University with the Camat Tambelang, Mrs. dr. Firzawati S.Si., Apt, MKM. The scope of the MoU includes the activities of the tridharma of higher education, education and teaching, research and community service.



Figure 2. The signing of the MoU between Sahid University and Tambelang District

Socialization of The Dangers of Jelantah Oil Waste

This program aims to provide socialization and understanding of the dangers of waste cooking oil for health and the environment. This program involves a group of PKK women in Sukarapih, Tambelang District, Bekasi.



Figure 3. Socialization of the Hazards of Waste Cooking Oil

Training in Processing Waste Oil Jelantah into soap.

Training on processing waste cooking oil into soap based on Zero Waste Industry. Fostering a culture of love for the environment based on Zero Waste Industry which consists of Reduce, Reuse and Recycle (3R). The partners involved in this activity are PKK women in Sukarapih Village, Tambelang District, Bekasi. The training was conducted by explaining the mechanism and procedures for making soap from used cooking oil, followed by the practice of making soap in groups (there were 3 groups) and reviews from other groups.



Figure 4. Training on Waste Cooking Oil into soap

Evaluation of activities

Evaluation of activities was carried out through distributing questionnaires to the training participants. Questionnaires were distributed to measure the level of understanding of the training participants before and after the training. Based on Figure 5 Demographics of respondents, all participants are women who are PKK

women in Sukarapih Village. Most of the participants were over 40 years old (60%). The education level of the trainees is on average junior high and high school, while for work most of the participants (80%) are housewives.

Based on the results of the pre-test conducted, all participants were interested in participating in the soap-making training. Six percent of the participants (1 person) were familiar with the manufacturing process. All participants stated that it was important to use crude oil for the environment, but they did not know how to use it. All participants stated that they did not know the bad effects of road oil. All participants did not know the benefits of used cooking oil.

After the training program is completed, a post test is conducted for the participants which aims to measure the level of understanding of the training participants. Based on the results of the post test conducted, all participants stated that they knew and understood the adverse effects of road oil. All participants know the benefits of jalantah oil. All participants know and understand the process of making soap. All participants realized that used cooking oil had an opportunity to be used. All participants were interested in exploring the process of making soap from used cooking oil to have economic value. All participants were satisfied with the material, explanations from resource persons and implementation. All participants stated that this training was very useful.

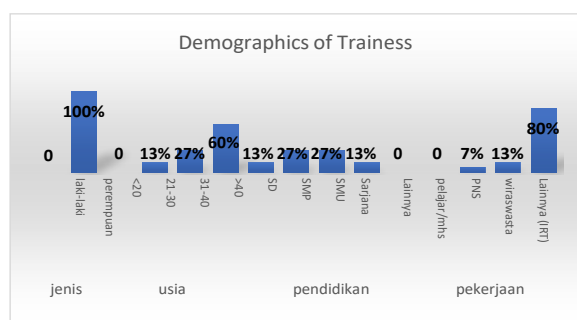


Figure 5. Demographics of trainees

Soap products from used cooking oil as a result of this training program can be commercialized by the target audience so that they can provide financial benefits. This program is able to become a formidable engine of economic progress for the people of Sukarapih village. In addition, this activity can also have a positive impact by opening up business opportunities for processing soap from used cooking oil and increasing employment, which will have an impact on increasing economic growth in the surrounding environment.

CONCLUSION

The implementation of this soap making training activity really helps the community to utilize waste cooking oil based on zero waste industry. This activity reduces the risk of groundwater contamination. Soap that has been

processed can also become an item of economic value, in addition to reducing the disposal of used cooking oil, preserving the environment, health and increasing people's sources of income. These activities need to be developed in various regions in order to increase public awareness of used cooking oil waste to be reprocessed into value-added goods based on industrial zero waste. Waste that was originally worthless can even damage the environment has now become an item of economic value.

This activity is expected to be able to become a formidable engine of economic progress for training participants if it is carried out continuously. The need for assistance from Sahid University, so that the sustainability of the results of this activity can be maintained. This activity needs to be expanded to other locations with the types of products and businesses that are in accordance with the potential and market in that location.

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REFERENCES

- Afrozi, A. S., Iswadi, D., Nuraeni, N., & Pratiwi, G. I. (2017). Pembuatan Sabun dari Limbah Minyak Jelantah Sawit dan Ekstraksi Daun Serai dengan Metode Semi Pendidihan. *Jurnal Ilmiah Teknik Kimia UNPAM*, 1(1), 2.
- BPS. (2019). Kecamatan Tambelang Dalam Angka 2019. 283.
- Erviana, V. Y. (2019). Pelatihan pengolahan minyak jelantah menjadi sabun dan strategi pemasaran di desa Kemiri. *Jurnal Pemberdayaan: Publikasi Hasil Pengabdian Kepada Masyarakat*, 3(1), 17–22. <https://ejurnal.itats.ac.id/iptek/article/download/436/305>
- Girgis, A. Y. (2003). Production of high quality castile soap from high rancid olive oil. *Grasas y Aceites*, 54(3), 226–233. <https://doi.org/10.3989/gya.2003.v54.i3.235>
- Khuzaimah, S. (2016). Pembuatan Sabun Padat dari Minyak Goreng Bekas Ditinjau dari Kinetika Reaksi Kimia. *Teknik Kimia*, 2(2), 42–48.
- Putri, N. P., Djabir, N., Palebangan, A., & Batti, M. (2015). Pembuatan Sabun Lunak dari Minyak Goreng Bekas. *Sustainable Energy and Mineral for National Competitiveness*, Oktober.