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# The Processing of Coconut Oil into Solid Soap and Liquid Soap in Cangkarman Village, Bangkalan, Madura

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**Abstract**

This community service activities aim to: 1) increase the ability of me3mbers to make solid soap and liquid soap; 2) increase partner knowledge of solid soap and liquid soap processing that can provide economic benefit; 3) increase partner understanding of financial analysis of the business. This community service implementation method is an empowerment model for partners, farmer women grup namely "Anggrek" in Cangkarman village, Bangkalan. The implementation methods used the following steps: 1) Discussion; 2) Training ; 3) Mentoring and Evaluation. The methods of community service are training, mentoring, and practice of making solid soap and liquid soap according to the basic formulation, marketing management, packaging, and labeling. The results obtained from this activity include: 1) partners can process coconut oil into solid soap and liquid soap 2) Partners have skill in the process of producing solid soap and liquid soap; 3) Partners understand the benefits of making solid soap and liquid soap for increasing family income.

**Keywords**: coconut, oil, solid, liquid soap

## Introduction

Cangkarman Village is a village located in Konang District, Bangkalan Regency. The livelihoods of residents there are mostly farmers, ranchers, or fishermen. In this village, besides having rice farms and fields, many coconut trees have not been used optimally.

Agricultural commodities from all sub-sectors that can be produced are very diverse ranging from rice, crops, vegetables, fruits, and various types of sub-sector crops commodities such as sugar cane and coconut. But the population's knowledge of coconut processing is very lacking. Coconut is usually sold in the form of whole or grated coconut to take coconut milk to cook or make coconut oil. At the time of harvest, coconut production is very abundant and is only sold fresh in traditional markets. The research results of lecturers at UPN Veteran East Java showed that coconut can be processed into coconut oil and then processed into solid soap and liquid soap.

The soap was one of the surface-active agents, which is a compound that reduced the water surface tension. These characteristics caused the soap solution could enter the fiber, and get rid of the dirt and oil. (Sari *et al*., 2010). To fullfil the need of skin protection from the physics disruption such as hot

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and cold conditions, radiation and UV rays and bacterial disruption, was using cosmetic stuff such as soap (Sukawaty *et al*., 2016).

According to Maripa *et al*. (2015). NaOH concentration influenced the quality of solid soap from coconut oil. Widyasanti *et al*. (2016), studied the process and formulation of transparent solid soap production using palm oil and its effect on soap characteristics and the best treatment was the using of 0,5% palm oil of total soap-based which produced solid soap with chemical characteristics that were suitable with SNI No.06-3532-1994 of solid soap.

Based on the facts, it is necessary to carry out PKM, a community service program based on innovative, to process coconut oil into solid soap and liquid soap in Cangkarman Village, Konang District, Bangkalan Regency. The purpose of this PKM community service activity is to increase the knowledge and skills of the population in processing coconut oil into solid soap and liquid soap as a famous product in Cangkarman Village, Bangkalan and to introduce good packaging and marketing methods in supporting the development of solid soap and liquid soap to increase people's income.

Firstly, PKM team discussed with the leader of the group in coordinating and introducing the potential abundant crops in the village. After conducting several evaluations, coconut is the right product because of the abundant availability of Coconut in Cangkarman Village. Coconut can be processed into three products, namely, coconut milk, coconut oil, and solid soap and liquid soap. Transfer of knowledge to partners can be done because solid soap and liquid soap processing are easy.

## Research Method

Training on processing coconut oil into solid soap and liquid soap is provided by discussion, demonstration, training and mentoring, and packaging technique of product. In this training, the participant was given materials and concepts related to solid soap and liquid soap following the needs and target markets.

The demonstration of processing coconut oil and so; id and liquid soap used conventional tools. The next step was training and mentoring. Training provided to partners includes:

1. Training on making coconut oil.
2. Training on making soap and liquid soap

The procedures to make solid soap were as followed:

1. Take 50 ml of coconut oil and put it in a steam pan.
2. Add 50 ml of ethanol to the steam pan.
3. Add 30 ml of 10 M NaOH solution (16.8 grams), while stirring.
4. Cover the pan tightly and heat the mixture.
5. Continue evaporation until it does not smell of alcohol.
6. Add essential oils and coloring according to taste.
7. Pour into the mold.
8. Cool a few moments

## Result and Discussion

The soap was the primary need for humans. A good quality od soap could be affected by ingredients using in soap production. One of the potent ingredients in soap making was virgin coconut oil (Ismanto *et al*., 2016). The soap was divided into 2 kinds, which were solid soap and liquid soap. Sukeksi *et al.* (2016) studied the effect of alkali concentration and noni fruit on soap products using 70% of coconut oil, and the best treatment was 26% of NaOH solution and 30% noni extract which produced good transparent soap.

The methods of community service are training, mentoring, and practice of making solid soap and liquid soap according to the basic formulation, marketing management, packaging, and labeling (Tukiman *et al.*, 2017).

The results of this community service program show that the response of participants in the Cangkarman village is very good and enthusiastic to proactively participate in the program during all activities demonstration, training, and mentoring. In the initial stages, the team carried out coordinating activities with the leader of the farmer women group of Cangkarman village. After obtaining permission from the leader, and determined the time and place of program implementation as well as identify needs. The next stage is the delivery of the material the program is accompanied by discussions to evaluate the partner's responses to the material activities and sharing experiences between the community service team and the partners. The time determined for the implementation of this program following the activities of partners, so that it does not interfere with work and extension participants can understand the program described by the instructor.

Discussions and demonstrations were balanced with the activeness of participants, ranging from asking questions to carrying materials and equipment independently even though the instructor had provided them. This training activity is good and cooperative. It is expected that each participant is motivated to produce it themselves.

The training step was carried out after the hand out was given. The training step, this activity aimed at all participants can understand and know how to make solid and liquid soap. In the mentoring step, in this activity participants begin to learn to practice by themselves how to make solid and liquid soap. Finally, in the evaluation step, the whole program activities are evaluated to measure the degree of success of partners in following the program of community service activities, including the preparation step and the implementation of activities.


Figure 1. The community is very enthusiastic in demonstration and training on solid and liquid soap processing

After the training activities, the team carried out the mentoring step until the community can package and market these products according to the marketing strategy (Tjiptono, 2008). The community service team also helps in designing the packaging of the products (Fig 2) according to the theory of good packaging (Syarif & Irawati, 1988).

Figure 2. The packaging of the products

## Conclusion

It could be concluded that:

1. Partners can process solid soap and liquid soap as a famous product of Cangkarman village.
2. Increased partner's ability to pack the product.
3. Increased partner's understanding of financial analysis of products in terms of increasing their income.

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