



Empowering Rural Women Through Aromatherapy Soap Production using Local Essential Oils in Indonesia

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ABSTRACT

This community engagement program aimed to empower rural women from the PKK group in Mendalo Darat Village, Indonesia, through training in aromatherapy soap production using locally sourced citronella essential oil. The program involved socialization sessions, hands-on training, and mentoring to enhance participants' knowledge and practical skills. Participants were actively engaged in the entire soap-making process, including formulation, mixing, molding, and packaging. The training improved participants' technical competencies and increased their interest in home-based entrepreneurship. Additionally, participants were introduced to the use of digital media for product promotion, marking a significant step toward digital literacy and market access. While the program successfully boosted initial skills and confidence, it also revealed a need for further training in business management and sustainable marketing practices. This initiative demonstrates the potential of combining local resources with skill-building to support women's economic empowerment in rural settings. Future programs should include entrepreneurship development and SME partnerships to strengthen long-term sustainability and impact.

Keywords: Aromatherapy, Citronella, Empowerment, Soap-Making, Women

INTRODUCTION

Currently, society—especially women—is increasingly drawn to beauty products and heavily reliant on their daily use. According to Rahmawati et al. (2021), the use of cosmetic products among women continues to rise significantly each day. This is reflected in the high sales volume of cosmetics, not only in modern and traditional markets but also in rural areas. This phenomenon shows that the majority of women use various types of cosmetics, which has encouraged companies to continually innovate and develop new cosmetic products.

The abundance of beauty product choices requires consumers to be more selective. One growing trend is the increasing interest in

natural-based beauty products. Roberts (2021) stated that current consumer trends indicate a preference for natural ingredients and additives, particularly in cosmetics. According to a report by Future Market Insights (2019), the global market for natural and organic cosmetics is projected to grow at a compound annual growth rate (CAGR) of 5.2% from 2018 to 2027, with the market value expected to increase from USD 34.5 billion in 2018 to USD 54.5 billion in 2027.

Zhang et al. (2019) and Dong et al. (2020) noted that market interest in environmentally conscious issues is growing, including the preference for eco-friendly or “green” products. Liobikienė and Bernatoniene (2017) emphasized that the main criteria for green

cosmetics include the use of organic or natural ingredients that are environmentally safe—derived from plants cultivated without harmful pesticides or herbicides, free from chemicals, and without synthetic fertilizers.

Among the wide variety of cosmetics, soap is considered one of the most essential products for daily use (Sinaga et al., 2023; Susannah Rita et al., 2018). Soap is one of the earliest known chemical compounds and has long been used as a cleanser, fragrance carrier, and skin health supporter (Jalaluddin et al., 2018). It is typically made from a blend of fatty acids derived from vegetable or animal oils through a saponification reaction between the acids and alkali such as sodium or potassium hydroxide at temperatures ranging from 80–100°C (Asngad et al., 2018; Jalaluddin et al., 2018; Tahir & Abidin, 2023).

To enhance soap quality in terms of benefits and appeal, coloring and fragrance agents are often added. The inclusion of aromatherapy components can provide relaxation effects, reduce stress, and improve mood (Unvaresi Misonia Beladona et al., 2023). The term aromatherapy originates from "aroma," meaning fragrance, and "therapy," meaning treatment (Ali et al., 2015). Aromatherapy uses essential oils as its main therapeutic agents, which are concentrated substances extracted from flowers, leaves, stems, fruits, roots, and resins (Dunning, 2013).

These oils are incorporated into cosmetic products for skin, body, face, and hair due to their cleansing, moisturizing, drying, and firming effects. Healthy skin can be supported through the application of essential oils in skincare routines. Aromatherapy-based cosmetic use, such as full-body or foot soaks, is a simple and effective way to experience its benefits. A few drops of the appropriate oil can provide a refreshing and uplifting experience (Ziosi et al., 2010).

Mendalo Darat is a village located in Jambi Luar Kota District, Muaro Jambi Regency, Jambi Province, Indonesia. This community service program targeted the PKK (Family Welfare

Movement), a women's organization at the village level in Indonesia, specifically the group in RT 33, Perumahan Kembar Lestari 1, which consists of 42 members, around 80% of whom are aged between 20 and 45. Observations showed that 50% are housewives, 40% work part-time in the informal sector (e.g., domestic helpers, food vendors, or tailors), and 10% are civil servants.

Currently, the PKK group's activities are limited to weekly religious study and social gatherings. However, many members have spare time that could be used for productive activities. According to Hubaybah et al. (2019), PKK activities can be expanded to include initiatives such as skill development, educational improvement, community development, income enhancement, food quality improvement, health promotion, environmental preservation, and family economic planning through saving habits.

On the other hand, the PKK women have limited knowledge and skills in producing aromatherapy-based soap, despite the relatively simple process and accessible ingredients. Therefore, empowerment efforts are needed to improve their competencies. As stated by Disman et al. (2023), community empowerment is a socio-economic movement that creates business opportunities, particularly in rural areas. It not only supports microeconomic development but also contributes to national economic growth.

This community engagement program aimed to enhance the knowledge and skills of PKK women in RT 33, Mendalo Darat Village, in producing natural-based aromatherapy soap. The goal was to turn this activity into a productive and empowering economic opportunity. This is in line with Susanti and Susilowati (2016), who empowered PKK women in Joho, Mojolaban through soap and detergent-making workshops to foster entrepreneurship, form independent economic groups, and improve productivity, independence, and creativity.

Given the increasing public interest in natural beauty products (Marjanah, 2019), aromatherapy soap-making training is highly relevant and holds strong potential for further development within PKK communities. Beyond fulfilling personal needs, this skill can serve as a foundation for small-scale businesses that generate added value for both families and the surrounding community.

METHODS

This community service program employed a method of direct socialization and practical training for members of the PKK women's group in RT 33, Kembar Lestari 1 Housing Complex, Mendalo Darat Village, Jambi Luar Kota Subdistrict, Muaro Jambi Regency. The socialization focused on fundamental knowledge of aromatherapy soap, particularly with the addition of citronella essential oil. The program was carried out in three main stages:

1. Preparation Stage, which included:
 - a. Literature review on aromatherapy soap and citronella essential oil;
 - b. Preliminary field survey to identify participant characteristics;
 - c. Selection of training materials and participants;
 - d. Coordination with relevant stakeholders (PKK leadership);
 - e. Preparation of teaching materials and practical tools.
2. Socialization Stage
This phase involved the delivery of information directly to participants, covering:
 - a. Basic concepts of aromatherapy soap;
 - b. Benefits of citronella essential oil in soap making;
 - c. Potential of soap as a household product and small business opportunity.
3. Practical Training Stage
In this stage, participants underwent:
 - a. Hands-on training on aromatherapy soap production
 - b. Mentoring throughout the mixing process, soap molding, and finishing stages.

The activities were held in the PKK community of RT 33, targeting 42 active members. Evaluation was conducted informally through observation of participant engagement during the training, as well as the quality of the final soap products produced by each participant.

RESULTS AND DISCUSSIONS

The implementation of this community service program involved several key stages, from initial needs assessment to training execution and outcome evaluation. The following section outlines the results and discussions based on each phase of the activity.

1. Needs Assessment and Program Preparation

The community service program began with a needs assessment phase, which was carried out through field observations and direct interviews with the head of the PKK women's group in RT 33, Mendalo Darat Village. This phase aimed to obtain authentic information regarding the social conditions, aspirations, and potential of the target group, namely the PKK women.

Findings from this stage indicated a clear need for productive activities that could fill idle time while potentially increasing household income. There was also a noticeable gap in the utilization of local resources, particularly in practical, economically viable skills. As a result, the training on aromatherapy soap production was chosen as the main intervention, given its simple application process and commercial potential. Samah et al. (2023) highlight that both soap and aromatherapy carry economic value. The collaboration between Lux and Lipton in creating aromatherapy soap demonstrates that combining relaxation benefits with cleansing functions offers unique value, differentiating products in the market and enhancing consumer appeal.

2. Implementation of Socialization and Training

The training program consisted of two main stages: a knowledge dissemination session and hands-on practice. The socialization activities were conducted interactively by the lecturers

involved in the community service program. According to Juhariah et al. (2023) and Jasrani et al. (2023), interactive socialization typically produces more positive and sustainable impacts.

Figure 1 illustrates the delivery of information regarding the benefits of aromatherapy soap and its economic potential, particularly when using locally sourced ingredients such as citronella essential oil as a natural fragrance.



Figure 1. Presentation on the Topic of Aromatherapy Soap.

In the practical stage, as shown in Figure 2, participants were directly involved in the soap-making process, from mixing the ingredients, adding the fragrance, to molding the soap. The students acted as facilitators to guide and assist the participants in understanding each step technically.

Table 1. Formulation for Making Aromatherapy Soap

No	Ingredient	Quantity (grams)
1	Caustic soda	122
2	Water	250
3	VCO Oil	450
4	Palm oil	450
5	Aromatherapy Oil	0,5

The formulation in Table 1 uses main ingredients such as palm oil, VCO, and citronella essential oil. This composition is adjusted to ensure it can be easily replicated by participants at home, considering the availability of ingredients in their local environment.



Figure 2. Practical Activities and Aromatherapy Soap Products.

The final product, as shown in Figure 3, is packaged with a simple label designed by the community service team to serve as an example of visual branding. This step was also intended to emphasize the importance of packaging and product presentation in the marketing process.

Although packaging was once considered merely a part of the product concept, it has now become an essential variable in marketing strategies (Rundh, 2016). Packaging design can utilize the material, shape, color, branding, and dimensions of the package to attract customers and inform their decisions in the store or at a retail outlet (Rundh, 2009; Azzi, 2012).



Figure 2. Aromatherapy Soap Products

3. Impact of the Activity on Participants

The training resulted in an increase in participants' technical skills in making aromatherapy soap. Participants were highly engaged, showing enthusiasm in learning and directly practicing the process. Some participants even expressed interest in

independently reproducing the process at home as a potential home business. Elnaga and Imran (2013), in the context of organizations, state that effective training plays a crucial role in improving employee performance by strengthening their skills, knowledge, motivation, and commitment.

4. Outcomes of the Activity and Digital Media
As part of the program outcomes, the community service team utilized social media to document and disseminate the results, as illustrated in Figure 4. An Instagram account and a YouTube channel were created to showcase the training process and final products to a broader audience.



Figure 4. Social Media Account and Branding as an Example of Product Marketing Media

Social media plays an essential role in product promotion by allowing businesses to build closer and more interactive relationships with customers. Malthouse et al. (2013) emphasize that through social media, companies can increase direct customer engagement, which in turn strengthens promotional effectiveness and supports customer acquisition and retention strategies. Otokiti et al. (2021) highlight that social media is critical in product marketing strategies for female entrepreneurs in Nigeria. Through platforms such as Facebook

and Instagram, they can increase business visibility, reach a broader market, and build closer relationships with customers, ultimately contributing to the growth and profitability of their businesses.

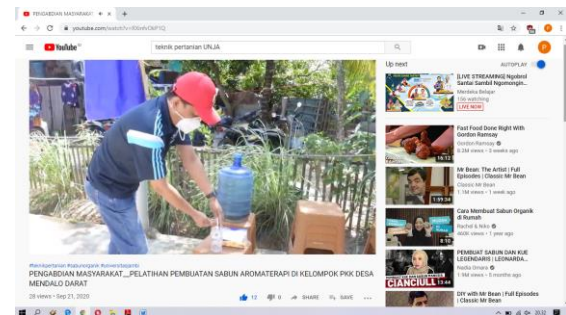


Figure 5. Publication of Community Service Activities on the Youtube Channel

Through this medium, participants were introduced to the concept of digital branding as part of modern marketing strategies, which can also be utilized in small home-based businesses.

Digital marketing refers to the activity of promoting products/brands using digital media or the internet (Sari et al., 2023). Digital marketing is an activity in the marketing field that utilizes internet platforms to reach target consumers (Agus, 2012).

This community service activity demonstrates synergy between the needs of the community and the solutions offered. The choice of aromatherapy soap training as an intervention not only addresses the need for productive activities but also opens up economic opportunities based on home businesses. The participatory needs assessment process ensures that the designed activity is truly relevant to the social context and local potential of the community.

From the perspective of training approaches, the hands-on method proved effective in enhancing participants' understanding. The experiential learning model is highly appropriate for adult target groups, as it allows for the internalization of knowledge through direct experience. Active participant involvement during practice indicates success

in building motivation and self-confidence, which are important foundations in empowerment.

Taylor and Hamdy (2013) state that experiential learning impacts adult education by positioning the educator as a facilitator who designs and manages the learning experience. Meanwhile, according to Yulianah (2021), this approach is highly effective in rural communities because it is practical and aligns with the existing academic limitations. Through direct involvement in the project, participants can build experience while understanding the planning process more efficiently.

The use of local materials such as citronella also reflects a contextual approach that supports sustainability. The products produced are not only functional but also marketable, especially if further developed with packaging innovation and appropriate marketing strategies. This is where digital media plays a strategic role: not just as a documentation tool, but as a means of promotion and learning about the importance of product image in the digital era.

From an empowerment perspective, this activity also contributes to strengthening the role of women in the community economy. By acquiring technical skills and access to marketing information, housewives have the opportunity to become micro-entrepreneurs. This aligns with the principles of gender equality and women's empowerment in local socio-economic development. Tresiana and Duadji (2019) state that gender equality is crucial in achieving fair and sustainable development, where the conditions, contributions, and benefits of development are felt and received equally by both women and men, thus driving women's economic empowerment.

Although the activity successfully enhanced participants' basic skills, there were some limitations, such as the lack of in-depth discussion on entrepreneurship, business management, and marketing. The evaluation of the activity was also still qualitative in nature. Several follow-up suggestions include:

1. The development of simple training modules as a guide for independent practice;
2. Advanced training on entrepreneurship and marketing;
3. Partnerships with local SMEs to expand business networks;
4. Quantitative evaluation to systematically measure participants' competency improvements.

However, the limitations in the material scope, particularly in business management and sustainability aspects, remain an important note. This activity could be followed up with more intensive mentoring and the establishment of community-based business groups to ensure longer-term impact. The integration of skills training, business networking, and strengthening managerial capacity will reinforce a holistic and sustainable community empowerment model.

CONCLUSION

This community service program successfully enhanced the practical skills of the PKK women of RT 33, Mendalo Darat Village, in producing aromatherapy soap made from natural ingredients, particularly citronella essential oil. The hands-on training method with a participatory approach proved effective in fostering technical understanding and boosting the participants' confidence. In addition to technical training, participants were also introduced to the importance of packaging design and digital marketing strategies through social media. Limitations of this activity include the lack of in-depth focus on entrepreneurship, business sustainability, and the absence of quantitative evaluation on participants' competency improvements. Recommended follow-up plans include the development of entrepreneurship and business management training modules, advanced digital marketing training, and the formation of community-based business networks to strengthen long-term impact and economic sustainability for participants' households.

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