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EFFORTS TO IMPROVE ENTREPRENEURSHIP BASED ON CREATIVE ECONOMY IN DETERMINING THE SELLING PRICE OF ENVIRONMENTALLY FRIENDLY SOAP

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ABSTRACT

Community empowerment, particularly for women's groups (PKK), is a crucial strategy for improving economic and social well-being, and environmental preservation. One effective way is through the development of entrepreneurship based on environmentally friendly products, such as dishwashing soap made from natural ingredients that are safe for the body and the environment. The production of environmentally friendly dishwashing soap can be a solution to public health and environmental degradation. However, several challenges faced by PKK women and MSMEs in North Meruya Village include a lack of knowledge about environmentally friendly materials, leading them to use hazardous chemicals in dishwashing soap production; limited knowledge about the health benefits of eco-friendly soap and its impact on the ecosystem; and difficulty calculating competitive product prices due to a lack of understanding of detailed production cost calculations.The discussion and question-and-answer sessions are an important part of community service activities because they provide a space for participants to clarify any unclear material, share experiences or challenges during practice, and delve deeper into business opportunities and the sustainability of the activities. The result of this training is that the PKK mothers have additional knowledge in implementing environmentally friendly soap making practices and calculating production costs which can ultimately determine the selling price of the product, thereby increasing entrepreneurship.

Keywords: PKK, Environmentally Friendly, Selling Price

INTRODUCTION

The Family Welfare Empowerment Program (PKK) is an organization that plays a strategic role in empowering women and improving family welfare in Indonesia. As a social organization, the PKK's primary goal is to improve the quality of life through women's empowerment, which directly impacts the quality of life of families and the community as a whole. Creative and Entrepreneurial (PKK) if it uses a diverse approach, and has the perspective that entrepreneurship will make oneself independent both financially and in making decisions (Dwi et al., 2024). The result showed increased awareness, technical competence, and business insight among participants (Iskandar et al., 2025; Yuliana et al., 2025).

However, many PKK members still use hazardous chemicals in soap production due to limited environmental awareness (Rulianti et al., 2023).). Eco-friendly soap initiatives have been proven to reduce pollution and promote sustainability (Medhiatika et al., 2021). Limited knowledge about the health benefits of environmentally friendly soap and its impact on the ecosystem. One such training program conducted by Ernawati and Mahardhika in 2020 involved community service training in environmentally friendly soap making. The primary ingredient used in the training was used cooking oil, which aimed to reduce household waste while empowering the community. Furthermore,

teaching PKK members cost calculation skills such as determining the cost of goods sold (COGS) supports micro-entrepreneurial independence (Wibowo & Widodo, 2020).

Various programs implemented by the PKK involve housewives in activities focused on skills development, business development, health education, and environmental awareness. Within the context of women's empowerment, the PKK provides a space for housewives to actively participate in development, thereby transforming their families' economic conditions to become more independent and sustainable. One of these challenges is the limited knowledge and skills of housewives in optimally utilizing natural resources to produce environmentally friendly and high-quality products. Furthermore, many housewives still rely on conventional chemical-based products, which, while practical, have a negative impact on personal health and the environment. For example, dish soap is a household product used daily by most families. However, many dish soap products on the market contain harmful chemicals such as phosphates, synthetic surfactants, and preservatives that can damage the skin, causing irritation, allergies, and even more serious health problems. Using products containing these chemicals negatively impacts the health of both the user and other family members exposed to soap residue that isnot rinsed properly.

Furthermore, waste from this dish soap also pollutes water and the surrounding environment, having long-term impacts on water quality and the surrounding ecosystem. Benefits of eco-friendly dish soap: It does not contain phosphates, sulfates, or parabens, which are often found in conventional products. These chemicals can pollute water sources and damage ecosystems. Eco-friendly dishwashing soap avoids phosphates and sulfates, preserving water ecosystems while ensuring health safety. The objectives of this training were to improve health awareness, support creative entrepreneurship, and encourage eco-friendly production (Maulana et al., 2025; Putri et al., 2024). Safe for health because environmentally friendly products tend to be safer for the skin because they do not contain ingredients that can cause irritation or allergies.

The objectives of this activity are: To understand the health impacts of using chemical dishwashing soap, to raise awareness of the importance of environmentally friendly products, to empower women economically through creative economy-based entrepreneurship, to support the utilization of local natural resources and encourage entrepreneurship, and to increase environmental and health awareness.

This Community Service Program will be implemented in Meruya Utara Village, Kembangan District, West Jakarta. Participants are a community of women. This area covers 4.33 km² with a population of 47,451 (2016), divided into 15,748 families, consisting of 11 Community Associations (Rukun Warga) and 126 Neighborhood Associations (Rukun Tetangga). This area is one of the densely populated areas and has nearly 1,249 Micro, Small, and Medium Enterprises (MSMEs), most of which are under the auspices of Meruya Utara Village. This growth is expected to continue from 2023 to 2025.

METHOD OF IMPLEMENTATION

This community service activity will be implemented through several systematic and participatory stages, as follows:

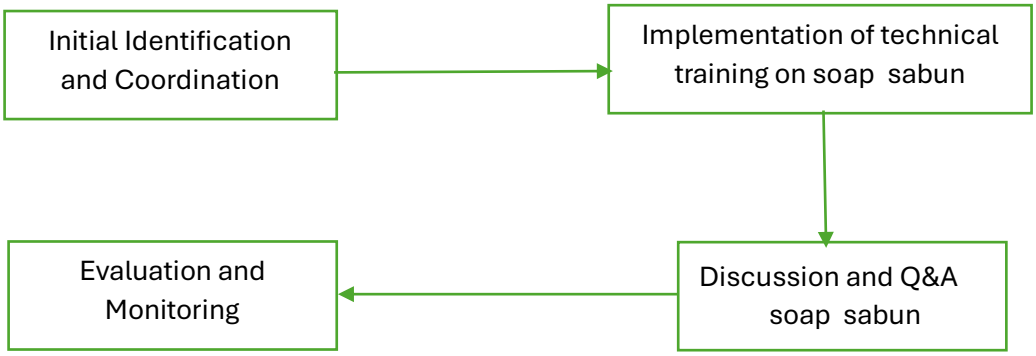


Figure 1. Activities

1. Initial Identification and Coordination.
Coordinate with partners, namely the Family Welfare Movement (PKK) administrators in North Meruya Village, to recruit participants from the PKK women's community and MSMEs to identify their needs and problems. This will also determine the time and location for the activity. This stage includes:
   a. Conducting a survey to understand the partner situation by holding informal meetings with PKK administrators to identify issues faced by PKK members and MSMEs in the North Meruya Village area.
   b. Conducting observations and determining training needs.
   c. Developing activity modules and materials, including educational slide presentations (PPT), printed modules on environmentally friendly soap production techniques, calculating the cost of goods manufactured (COGS), pricing and marketing strategies.
   d. Preparing logistics and equipment, by compiling a list of required tools and materials, documenting equipment, and purchasing and checking materials to ensure safety and suitability during the practice.
2. Implementation of technical training on soap making
   a. Theoretical Material Delivery Session
   b. This session provides basic knowledge before they can practice making eco-friendly dish soap. This material is delivered interactively to ensure it is easily understood by participants from various educational backgrounds. It includes:
   c. Eco-Friendly Soap Concept: Explanation of the types of natural ingredients used, the benefits of natural soap, and their impact on health and the environment.
   d. Manufacturing Techniques: Basic principles of saponification, raw material formulation, and steps for making natural dish soap.
   e. Calculating Cost of Goods Sold and Selling Price: How to calculate the costs of raw materials, labor, and packaging; simulation of setting a profitable selling price.
   f. Simple Marketing Strategy: Branding, packaging, word-of-mouth promotion, and the use of local social media (WhatsApp, Instagram).
   g. Liquid Soap Making Practical Session. Participants practiced making natural soap using a 100-liter stainless steel ribbon mixer. The equipment met food-grade standards and ensured safe production (Dewi et al., 2022). Selanjutnya, para

peserta mengevaluasi tekstur, aroma, dan kualitas sabun. Mereka juga mensimulasikan strategi penetapan harga dengan mempertimbangkan bahan baku, tenaga kerja, dan margin keuntungan yang wajar sebesar 20–40% (Wibowo & Widodo, 2020).

h. This session hones participants' skills through practical, hands-on experiences. This activity follows the theoretical material presentation so that participants can directly put their knowledge into practice under the guidance of the implementation team. Here are the steps:
i. Select and prepare natural raw materials, such as natural dyes and fragrances, and measure them according to the instructions.
j. Machine usage: Gradually add all ingredients to the mixing tank. Then, turn on the machine, which will automatically rotate the propeller at high speed to stir. Wait until all ingredients are thoroughly mixed. Next, turn off the machine and remove the liquid soap from the tank by opening the tap on the tank. Prepare a container under the tank to collect the finished liquid soap.
k. The technology used in this practice is a Soap Mixer (movable mixing machine): This machine is designed to mix natural ingredients into an environmentally friendly cleaner.



The following are the specifications for the environmentally friendly/green cleaner making machine:Kapasitas: 100 liter. Jenis Mixer: Mixer tipe ribbon, planetary, atau twin-screw tergantung pada jenis bahan dan viskositas campuran. Badan Mesin: Stainless steel food grade (SS304 atau SS316) untuk memastikan kebersihan dan ketahanan terhadap bahan kimia alami.

- Blade/Stirrer: Stainless steel with a special design for evenly and effectively mixing ingredients. For thick or coarse-textured ingredients, specific blade designs such as spiral or ribbon blades can be used.
- Tank: Cylindrical or elliptical tanks for more even mixing.
- Drive Motor: Electric motor with a power of between 1 and 5 HP, depending on the size and capacity of the mixer. Machine Dimensions: 1.5 m (length) x 1 m (width) x 1.5 m (height) for a capacity of 100 liters.
- Machine Weight: Approximately 150 - 500 kg.
- Drain Valve: Automatic or manual valve for discharging the mixture into a container or packaging.

- Power Supply: The machine uses 380V 3-phase electricity or 220V electricity, depending on the capacity and location of use.
- Evaluate the quality of the product using parameters such as texture, aroma, and shape.

3. Discussion and Q&A
   This session is an important part of the community service activity because it provides a space for participants to clarify any unclear material, share experiences or challenges during the practice, and delve deeper into business oportunities and the sustainability of the activity.
4. Evaluation and Monitoring
   The evaluation and monitoring phase aims to assess the extent to which the community service activity has achieved its stated objectives and to measure its impact on the participants (PKK mothers) and the community as a whole. This evaluation also serves as the basis for designing follow-up and program sustainability.

RESULTS AND DISCUSSION

Community Service activity themed "Empowering the Family Welfare Movement (PKK) Women's Community in the Production and Pricing of Eco-Friendly Dishwashing Soap as an Effort to Improve Health and Creative Economy-Based Entrepreneurship in Meruya Utara Village, West Jakarta" was held at the integrated public space (RPTRA) in Meruya Utara Village, Kembangan, West Jakarta, on Tuesday, April 29, 2025. The event was attended by the Head of Meruya Utara Village, Jufri, S.Sos., MM., along with his representatives and all staff. A team of lecturers and students from Mercu Buana University assisted in the implementation of the Community Service Program (PKM).

The activity began with a presentation of theoretical material covering the hazards of household waste, the process of making eco-friendly soap, and basic concepts of entrepreneurship and product pricing. The material was presented using an interactive and visual approach to ensure it was easily understood by participants from diverse educational backgrounds. The event then proceeded to a hands-on practical session, where participants worked in groups to produce dishwashing soap from natural, environmentally friendly ingredients. This process involves mixing the ingredients (lemon essential oil, baking soda, salt, water, and natural fragrance), stirring them with a machine until all the ingredients are combined and a liquid dish soap is formed. During the practical session, participants were guided directly by the implementation team and student mentors. Their enthusiasm was evident in their active participation in asking questions, experimenting with equipment, and discussing the resulting soap.

The next session, one of the main focuses of this PkM activity, was entrepreneurship education, covering the calculation of Cost of Goods Sold (COGS) and simple product pricing strategies, while still adhering to basic cost accounting principles. Participants were introduced to the components of COGS, such as direct materials, direct labor, and overhead costs. After understanding COGS, they were taught to determine selling prices by considering a reasonable profit margin (20–40%), market segmentation (selling to neighbors, social gatherings, neighborhood cooperatives), and competitor prices (other liquid soaps in nearby stores). Participants were invited to participate in a

simple simulation and discuss opportunities for home-based businesses based on environmentally friendly products.

A comprehensive evaluation of the program implementation has been conducted, covering various aspects of the program, including (1) Process Evaluation, the program was implemented according to schedule, including theoretical presentations, soap-making practices, entrepreneurship education, and question and answer sessions. Partners (PKK mothers) attended on time, actively participated, and showed high interest in the material. All stages of the program were monitored as effective, participatory, and adaptive to field conditions, (2) Field Practice Evaluation. The field practice evaluation aims to assess the extent to which participants, in this case PKK mothers, are able to apply the theoretical material presented in the actual practice of making environmentally friendly dishwashing soap from natural ingredients. This evaluation includes aspects of technical skills, procedural discipline, understanding of work safety, and final product results. Participants were assessed based on their accuracy in following soap-making procedures. The aspects evaluated were: mixing ingredients, work safety, cleanliness, and product results. The observation results showed that 95% of participants succeeded in producing soap of acceptable quality, (3) Post-Activity Monitoring. Post-activity monitoring is a crucial step to ensure that the PkM program does not stop at training, but rather provides a sustainable impact for partners. This activity was carried out by the implementation team through field visits, online communication, and technical assistance to participants after the main program ended. The team provided assistance for one month through visits and communication. Several participants actively reported on initial production and sales activities. (4) Overall, the PkM implementation process was effective, systematic, and participatory. The material was delivered well, the practice was carried out safely, and participants demonstrated active involvement. This evaluation shows that the program was not only technically successful, but also socially accepted by partners as a useful and applicable program. This aligns with previous research showing that eco-friendly product training enhances sustainability-driven entrepreneurship among women (Medhiatika et al., 2021; Maulana et al., 2025). The PkM program thus not only improved technical skills but also fostered innovation and financial literacy.

CONCLUSIONS AND SUGGESTIONS

A community service activity themed "Empowering the Family Welfare Movement (PKK) Women's Community in the Production and Pricing of Environmentally Friendly Dishwashing Soap" in North Meruya Village, West Jakarta, was implemented with very positive results and a tangible impact. This activity proved effective in improving the knowledge, technical skills, and critical awareness of the PKK women's community regarding the importance of using healthier and more environmentally friendly household products.

Through a participatory approach and hands-on practice, participants not only understood the concept of environmentally friendly soap but also were able to produce it independently from readily available and safe natural ingredients. This activity also successfully equipped participants with the skills to calculate the cost of goods manufactured (COGS), set competitive selling prices, and understand simple entrepreneurial strategies based on the creative economy. Participants demonstrated high enthusiasm, active involvement, and a commitment to continue this activity independently in their respective communities.

Evaluations showed that over 95% of participants successfully produced usable liquid soap, and most understood the steps for determining selling prices using a reasonable profit margin approach. This indicates that this community service activity was successful not only in terms of implementation, but also in terms of transforming knowledge into practical skills that can be implemented in daily life and business opportunities.

In terms of outputs, this activity produced various tangible contributions, such as applicable training modules, soap products produced through practice, mass media publications, video documentation of the activity, as well as drafts of scientific articles and Intellectual Property Rights (IPR) applications. Thus, this activity not only supports the Tri Dharma of Higher Education in terms of community service but also directly contributes to improving the welfare, health, and environmental awareness of the local community. Overall, this activity has paved the way for strengthening the capacity of women's communities in the areas of environmentally friendly production and household entrepreneurship, as well as promoting sustainable economic independence at the community level.

A follow-up program is needed, providing regular mentoring to participants to facilitate the production, branding, and marketing processes, so that these potential home businesses can develop into independent micro-enterprises. Marketing Network Strengthening: It is recommended that the Family Welfare Movement (PKK) community form joint business groups or small cooperatives to collectively market soap products, both offline at the neighborhood unit (RW)/sub-district level and online through digital platforms. Program Replication in Other Communities: Given the success of this activity, it is recommended that similar programs be replicated in other sub-districts with similar conditions, as part of the campus's contribution to environmentally-based urban community empowerment.

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