

The Empowerment of Kembangan Utara Community in Increasing the Value of Soap Products Made from Waste Cooking Oil Through Visual Branding

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ABSTRACT

Waste Cooking Oil (WCO) is a prevalent form of household waste in Indonesia, often mismanaged due to a lack of awareness and infrastructure. In the densely populated area of RW 06 Kembangan Utara, Jakarta, improper waste disposal exacerbates environmental issues. However, repurposing WCO into soap offers renewed benefits and utility. Despite this, the association of the product with WCO creates a stigma that hinders its acceptance and economic viability. This community empowerment initiative aimed to address these challenges by enhancing the perceived value of soap products through visual branding strategies. Conducted over 12 sessions, the program engaged the RW 06 Kembangan Utara community in six systematic stages, providing education on WCO processing, product development, and branding. As a result, the community not only gained awareness about sustainable waste management but also acquired skills in creating visually appealing packaging to market their soap products effectively. The initiative serves as a foundation for fostering environmental responsibility and economic empowerment, encouraging the community to continue this small but impactful step toward a healthier and more sustainable future.

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INTRODUCTION

Indonesia has yet to effectively manage waste cooking oil (WCO), a category of household waste. Research indicates that the average household in the JABODETABEK area (Jakarta, Bogor, Depok, Tangerang, and Bekasi) utilizes up to 1 liter of cooking oil

per week, with leftover oil often inadequately managed, resulting in environmental degradation (Mulyaningsih et al., 2023). Improper disposal of waste cooking oil (WCO) can deteriorate water and soil quality, disrupting ecosystems (Rumaisa et al., 2019). This pollution adversely affects soil fertility and reduces the mineral content of water that the community uses and consumes (Kusumaningtyas et al., 2019). Additionally, poorly managed waste contributes to an unhealthy environment, generates unpleasant odors, and can lead to water pollution, potentially causing various diseases (Puspandari et al., 2023). The extensive use of cooking oil for household and industrial purposes in Indonesia exacerbates the issue of WCO. Consequently, effective WCO management necessitates active community involvement to support environmental conservation efforts.



Population density in Kembangan Utara exceeds that of the other five subdistricts within the Kembangan District of West Jakarta. As of 2022, 22.36% of the area is inhabited by residents from lower-middle to upper-middle socioeconomic classes (West Jakarta Administrative City Statistics Office, 2022). This high population density exacerbates local waste management issues, primarily due to insufficient public education (Br Gultom et al., 2022), which has led to a tendency to dispose of waste in river embankments. This practice results in unsightly conditions, gas emissions, and unpleasant odors (Kritianto, 2011). In response to these challenges, there is a pressing need for the government to foster community engagement in waste management as part of a collaborative social movement (Nalhadi et al., 2020). Consequently, the government established the Kembangan Sejahtera Waste Bank in 2021 in RW 06 Kembangan Utara, West Jakarta, per the Decree of the Kembangan Utara Ward Chief of West Jakarta No. 12/2021. The waste bank is intended to serve as a platform for community empowerment, aimed at environmental improvement and enhancement of quality of life, in alignment with the "Healthy Indonesia" and "Healthy Jakarta" initiatives. Among its programs, the waste bank focuses on processing WCO from household consumption and the food industry into new products, thereby adding economic value for the local

community. Waste cooking oil (WCO) poses significant environmental challenges, including contamination of water sources and contributions to pollution if improperly disposed of. However, when transformed into soap, the harmful effects of WCO are mitigated, turning a waste product into a valuable resource. This conversion reduces the environment and produces a non-toxic product safe for humans. The process exemplifies the principles of circular economy and sustainability, aligning with global efforts to minimize waste and its associated impacts. Studies that show that soaps made from WCO are chemically stable and biodegradable support this approach. These studies also show that WCO is good for both human and environmental health. Waste cooking oil (WCO) poses significant environmental challenges, including contamination of water sources and contributions to pollution if improperly disposed of. When WCO enters aquatic environments, it can smother aquatic plants and disrupt marine life, leading to declines in fish populations and affecting both commercial and recreational fisheries.

According to Mr. Syafwan, Chairman of the Kembangan Sejahtera Waste Bank, the local community has attempted to produce candles from waste cooking oil (WCO) collected by women and youth in RW 06. However, the organization of the production and marketing systems remains inadequate. There is also interest in developing additional products, such as soap. Converting WCO into detergent soap represents a viable opportunity that could benefit the community (Aisyah et al., 2021). This presents a potential avenue for the RW 06 Kembangan Utara community, particularly through the Kembangan Sejahtera Waste Bank program.

Despite these efforts, the resulting products suffer from a negative perception, affecting their marketability. The association of soap with WCO creates hesitation among potential buyers due to the stigma attached to waste-derived products. So far, this negative perception has hindered the RW 06 Kembangan Utara community in West Jakarta from realizing its potential economic benefits. To address this issue, a community empowerment initiative funded by the Ministry of Education, Culture, Research, and Technology for 2024 was launched to enhance the value of WCO soap products through visual branding design.

The initiative aims to improve the market appeal of RW 06 Kembangan Utara's products, thereby supporting marketing efforts and generating economic benefits for the community. Several studies have supported processing WCO into soap through community service (PKM) activities. As an example, a PKM activity in Cikereti Village, Sukamaju, looked into how to make soap from WCO by breaking down fat in an alkaline solution to release glycerol (Aisyah et al., 2021). Similarly, a PKM activity in Sekaran

Village, Gunungpati District, Semarang, involved purifying WCO through multiple stages to produce soap (Kusumaningtyas et al., 2019). A women's association in Labuhan Ratu Baru Village also participated in a PKM program that included soap-making training using WCO (Yuniati et al., 2022). A PKM activity in Muara Fajar Village, Pekanbaru, also focused on producing soap bars from WCO for local women (Ginting et al., 2020). Lastly, a PKM activity at Jayabeka 02 Vocational School in Karawang trained students in converting used cooking oil into solid soap (Yustinah et al., 2023). Supporting research includes studies on product value enhancement (Widayati et al., 2023), visual branding strategies (Ulita et al., 2016), and leveraging online media for marketing (Wardhani, 2020).

While the introduction clearly outlines the challenges associated with waste cooking oil management, it focuses less on the central issue of visual branding. The title emphasizes visual branding, yet there is insufficient discussion about its significance and the challenges faced by the community in adopting effective branding strategies.

- Briefly mention how ineffective branding methods, such as generic packaging or poor design, limit product visibility and marketability.
- Compare the effectiveness of prior methods to the proposed strategies, emphasizing how improvements in branding can enhance product appeal and consumer trust.

LITERATURE REVIEW

Effective visual branding for community-based soap production requires leveraging strategies like color psychology, typography, and storytelling. By focusing on sustainability, local identity, and accessibility, small-scale producers can create impactful branding that enhances product recognition and sales. Practical tools and case studies illustrate how branding transforms simple products into compelling consumer experiences.

Visual branding is a critical component of brand identity, encompassing the visual elements used to communicate a brand's message, values, and personality. It strategically uses design elements such as logos, colors, typography, imagery, and layout to create a cohesive and recognizable brand image. According to Keller's Brand Equity Model (2008), strong visual branding fosters brand recognition and loyalty by creating consistent and meaningful consumer experiences. A well-designed visual identity enhances consumer trust and emotional connection, which is crucial for differentiating a product in a competitive market.

According to Singh (2006), principles and strategies of effective visual branding include:

1. Color Psychology:

Colors play a pivotal role in visual branding by evoking emotions and influencing perceptions. For instance, green is often associated with eco-friendliness and sustainability, making it a popular choice for community-based soap brands. Studies show that 85% of consumers consider color a primary factor in *purchasing* decisions.

2. Typography:

Typography reflects the brand's tone and personality. Serif fonts often convey tradition and reliability, while sans-serif fonts project modernity and simplicity. Effective typography ensures readability and enhances the overall visual appeal.

3. Brand Storytelling:

Integrating storytelling into visual branding humanizes the brand and creates emotional connections. For community-based soap production, showcasing how waste cooking oil is transformed into soap emphasizes sustainability and community impact, resonating with socially conscious consumers.

4. Consistency:

Consistency in visual branding across all platforms builds trust and enhances brand recall. This involves using the same logo, color scheme, and design elements in packaging, advertisements, and online presence.

Potential Branding Strategies for Community-Based Soap Production

1. Sustainability Focus:

Emphasizing eco-friendly practices in branding can strongly appeal to environmentally conscious consumers. Using recycled materials for packaging and incorporating natural elements, such as botanical motifs or earthy colors, in the design communicates the brand's commitment to sustainability. This approach aligns with reducing waste and promoting a greener planet.

2. Local Identity:

Highlighting local culture or traditions in the branding can create a unique and authentic identity for the soap products. This could involve integrating traditional patterns, regional symbols, or locally inspired color schemes into the packaging

and marketing materials. Celebrating the community's heritage attracts local customers and builds a deeper emotional connection with the brand.

3. Collaborative Branding:

Partnering with local artists or influencers provides an opportunity to co-create unique designs that resonate with the target audience. For instance, incorporating artwork from local talent or featuring influential community figures in promotional campaigns can increase the brand's visibility and appeal. Collaborative efforts also foster community involvement and support for the brand.

Lush Cosmetics is a globally recognized beauty and skincare brand known for its handmade, ethically sourced, and environmentally friendly products. Founded in 1995 in Poole, England, Lush emphasizes sustainability, transparency, and ethical business practices. is a globally recognized beauty and skincare brand known for its handmade, ethically sourced, and environmentally friendly products. Founded in 1995 in Poole, England, Lush emphasizes sustainability, transparency, and ethical business practices. Known for its vibrant and eco-conscious branding, Lush emphasizes its cruelty-free and ethical practices. Using bold colors, minimalistic packaging, and strong ethical messaging has helped the brand stand out and attract a loyal customer base.

These strategies and case studies demonstrate how thoughtful and intentional branding can elevate community-based soap products, making them more appealing to a broader audience.

METHODOLOGY

This community empowerment activity was conducted from July 4, 2024, to August 13, 2024, through 12 sessions aimed at educating the RW 06 Kembangan Utara community, following 6 main stages, as outlined below:

1. Enhancing public understanding of the environmental impacts of waste cooking oil (WCO), its management, and the potential for converting WCO into useful products. To gauge the effectiveness of this stage, questionnaires were distributed to assess participants' knowledge and views on the material presented (Nurlatifah et al., 2022).
2. Providing training on socialization and outreach to establish a team dedicated to processing soap from WCO.

3. Training in the purification of WCO using heated charcoal for filtering and mixing WCO with bleaching earth to refine the oil into soap-making raw materials. The training was tailored to the community's suitability, capacity, and potential. Involving housewives in the training aimed to motivate them to sustain the program and pursue entrepreneurship (Wahyuni, 2024).
4. Conducting a workshop focused on processing WCO into soap, providing practical benefits for the community.
5. Offering education on visual branding, including soap molds, packaging design, and promotional strategies to enhance the product's market value.
6. Digital marketing training to prepare distribution channels for the soap products that the community will market.

The activities were carried out using a participatory approach (Warisaura et al., 2024) through two main types of activities:

1. Educational or training sessions with resource persons from the team of lecturers involved in this PKM (community service) activity, according to their areas of expertise.
2. Workshops and technical guidance on soap-making from WCO, led by the lecturers and student teams involved in this PKM project.

The methodologies utilized included socialization, training/workshops, technology application, mentoring, and evaluation. This comprehensive approach ensured active community participation across all six stages, from WCO collection and refinement to the production and marketing of soap products.

The methodology should address the following:

1. Targeted Community: Specify the number of participants involved in the branding skill enhancement activity, along with demographic details (e.g., age, gender, or profession, if relevant).
2. Skill Improvement Focus: Detail how the activity emphasizes branding skill improvement. For example:
 - Training on creating visually appealing labels and packaging.
 - Workshops on developing a cohesive brand identity, including logos and taglines.
 - Hands-on sessions for using accessible design tools or software.

3. Evaluation Mechanisms: Explain how the effectiveness of the activity will be evaluated, such as through pre- and post-training assessments, feedback surveys, or sales performance comparisons after implementing the new branding.

RESULTS AND DISCUSSION

Before conducting the activities, the PkM implementation team (involving lecturers and students) conducted an experimental trial of filtering waste cooking oil (WCO) using several references from literature studies and social media archives regarding WCO processing. Based on the trial results, a tutorial video was created, which was used as a training/workshop tool to demonstrate the process of turning WCO into soap products. This included the filtration process, purification of WCO, and soap-making. The video was then uploaded to the social media platform YouTube (account name: Kemara Jakarta) as a long-term educational resource for the RW 06 community.

In addition to creating the tutorial video, the PKM team developed a complete guide with measurements and ingredients that were presented in an infographic poster. This poster was intended to help the community remember the steps for producing soap from WCO. The measurements and ingredients were determined based on previous trial results and various references. Using expertise in visual communication design (VCD), the complex information was made easier for the community to understand in a structured and gradual manner.

On July 4-8, 2024, stages one and two were conducted: educating the community through outreach on WCO management and training on the WCO filtration process using charcoal to prepare raw materials for soap production. The resource persons for these activities were environmental practitioners and lecturers involved in the PKM project. They provided outreach on the harmful environmental impacts of WCO, ways to process WCO into valuable products, and the importance of strategies for increasing product value to create added value and potential that the community can develop sustainably.

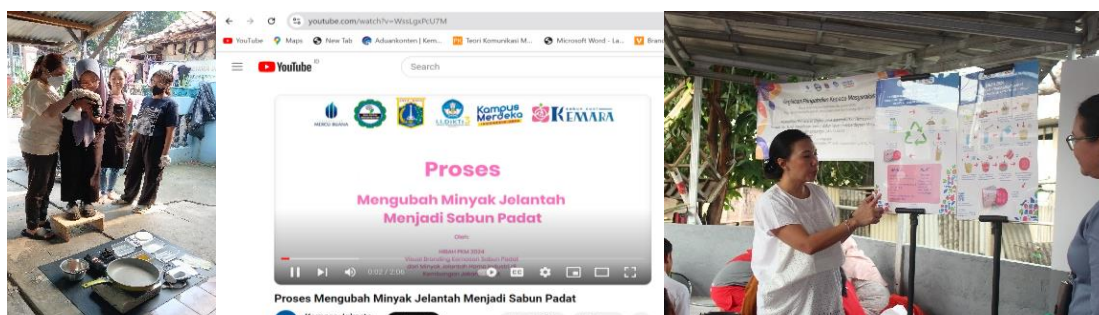


Figure 2. Creation of Tutorial Videos and Infographic Posters for Processing WCO into Solid Soap

A filtration training/charcoal workshop was held in the third stage from July 15-20, 2024. In the fourth stage, a soap-making training/workshop from WCO waste was conducted with 25 women from RW 06, divided into 4 small groups. During the workshop, lecturers and students guided each group's participants through infographic posters and provided assistance. Each group received the same raw materials and equipment, with adjusted measurements to facilitate the training process.



Figure 3. Training on Soap Making from WCO

In the fifth stage, education on enhancing product value was provided through brand name and logo design, silicone soap moulds, soap packaging design, tote bag design, and promotional design for "Kemara" soap on Instagram (account name: kemarajakarta).

The final stage of this PKM activity involved digital marketing training focused on the power of visual promotion and content development on Instagram. This training was held from August 26 to September 5, 2024, at the Universitas Mercu Buana campus. The training was attended by 25 women from RW 06 and one youth member, who will manage the social media accounts established by the PKM team.



Figure 4. Design Planning for Enhancing the Value of Kemara Soap Products

The successful outcomes achieved from this activity include an increase in knowledge, as evidenced by the questionnaire results, involvement of lecturers and students outside the campus, intellectual property rights for the brand, silicone molds, packaging design, infographic posters, and publication in several national online media and scientific articles. Overall, the RW 06 Kembangan Utara community has benefited from the activities in managing WCO waste, independently producing soap from WCO, and market the "Kemara" soap products using the media provided by the PKM team.



Figure 5. Education on Digital Marketing at Universitas Mercu Buana Campus

The empowerment of the Kembangan Utara community through visual branding provided critical insights into how branding can elevate the value of soap products made from waste cooking oil (WCO). The initiative highlighted the gaps in previous practices and introduced innovative strategies to address them. Below is a detailed explanation of the findings: The empowerment of the Kembangan Utara community through visual branding provided critical insights into how branding can elevate the value of soap products made from waste cooking oil (WCO). The initiative highlighted the gaps in previous practices and introduced innovative strategies to address them. The empowerment project successfully introduced visual branding techniques that transformed the Kembangan Utara community's soap products. By addressing gaps in previous practices and implementing professional branding strategies, the initiative enhanced the marketability and perceived value of the soaps. These improvements increased sales and instilled a sense of pride and ownership within the community. Moving forward, the branding templates and principles established during the project can serve as a sustainable model for other community-based ventures.

CONCLUSION

The community empowerment activities have yielded substantial benefits for the RW 06 Kembangan Utara community through the Kembangan Sejahtera Waste Bank

program. The initiative has significantly enhanced local knowledge regarding waste cooking oil (WCO) management, the conversion of WCO into soap products, and the augmentation of product value through visual branding. These improvements have rendered the products more marketable and saleable. RW 06 Kembangan Utara community members, particularly women and youth, have acknowledged the importance of maintaining this program as a progressive step toward environmental health and economic benefit. The success of this program not only contributes to a healthier local environment but also has the potential to generate additional income through the production and marketing of these products. This model can be a replicable example for other regions, especially within the JABODETABEK area, one of Indonesia's major urban centers.

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