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Entrepreneurship assistance of citizens with special needs family and community-based

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ABSTRACT The increase in used cooking oil waste results in pollution that can affect the environment. A lack of public understanding and awareness of waste processing also supports this. If these activities continue, the impacts will result in declining water quality and even natural disasters. Used cooking oil waste is also produced by all residents of the village of Russia, which has an area of 12.00 km 2 and is dominated by coconut plantations. To be able to prevent impacts that will harm people's health as well as pollution of ecotourism spots around Rusaba village and to spread awareness about waste processing, one of the work programs in the Serumpun Melayu Real Work Lecture (KKN) service activities is utilizing used cooking oil as aromatherapy candles. The service activity was conducted on Thursday, 24 August 2023, at the Rusaba village community hall, Punduh Pedada sub-district, Peshawar district. Service activities are carried out using socialization and training methods through several steps, from conducting surveys and observations, preparing for socialization by coordinating with the village, carrying out socialization activities with material presented through presentations and direct practice, and evaluating activities by conducting questions and answers and receiving responses. Participants regarding the socialization activities carried out. The implementation of socialization activities for making aromatherapy candles from used cooking oil waste has proven effective and can be used to increase MSMEs for homemakers.

1. INTRODUCTION

The practice of immediately depositing rubbish into the environment has exhibited a consistent upward trend over time (Abed, 2018; Lopes, 2020; Manasikana et al., 2022). This assertion is substantiated by the limited comprehension and recognition among the general population regarding trash management, including the daily accumulation of garbage resulting from domestic endeavours (R. Chen, 2019; Orjuela, 2020). The resultant debris will exert a significant influence by diminishing water quality and potentially precipitating catastrophic events (García-Martín, 2019; Sari et al., 2023a; Yuniwati et al., 2012). The decline in water quality will hurt the reduction of human consumption of potable water.

The environmental impact of kitchen garbage is not the exclusive concern, as all forms of home waste have detrimental effects on the surrounding environment (Milano, 2018; Muddarisna et al., 2020; Yuniwati et al., 2023). Based on data provided by the Ministry of Environment and Forestry (KLHK), it is evident that residential garbage output surpasses other waste sources, constituting 36% of the total waste produced. In comparison, waste generated from traditional markets accounts for a mere 24% (Adipura KLHK Data 2015 - 2016).

The daily generation of household trash among Indonesian individuals, particularly those residing in Rusaba village, predominantly consists of cooking oil residues (Castejón, 2017; Sungkawati, 2015; Yuniwati & Lestari, 2020). This observation was made during an interview, which revealed that most culinary practices conducted by Rusaba village residents involve the process of frying. According to the data provided by BPS Pesawaran in 2020, Rusaba village, including an area of 12.00 km^2, exhibits a prevailing presence of coconut plantations mainly utilized for the production of edible oil (Gao, 2022; Moazeni, 2019). This can lead to elevated quantities of used cooking oil. There has been a notable rise in cooking oil consumption in Indonesia.

In addition to the substantial quantity of trash generated from spent cooking oil, it is anticipated that various repercussions will emerge based on the findings obtained from conducted interviews. According to a study conducted by (Sarno, 2019), it has been found that a significant number of individuals residing in Russian villages tend to reuse cooking oil on several occasions (Hosseinzadeh-Bandbafha, 2022; Sahar, 2018). The research suggests that reusing cooking oil more than three times may adversely affect health due to the probable increase in fatty acid levels in the body.

Based on the interviews, it was seen that the Russian village's inhabitants had not taken any measures to effectively handle the disposal of their used cooking oil (Lopes, 2019; Mansir, 2018). Instead, they resorted to discarding it onto the surrounding land or the nearby river close to their dwellings. The environmental impact arises from the improper disposal of used cooking oil, as its deposition on the ground might disturb the microorganism activity inside the soil. Furthermore, the disposal of used cooking oil into ditches or rivers can damage the resident ecology (C. Chen, 2021; Liu, 2018).

Implementing an alternate solution is essential to effectively manage the disposal of wasted cooking oil, thereby mitigating potential adverse effects on public health and preserving ecotourism sites in the vicinity of the community. The lack of initiative among Rusaba village residents in addressing pollution and promoting waste management has prompted the inclusion of a project in the Serumpun Melayu Real Work Lecture (KKN) service activities. This project involves the utilization of used cooking oil as a means to create scented candles. Therapy is a form of treatment that aims to address psychological, emotional, or behavioral.

2. METHOD

The service activity is scheduled for Thursday, August 24, 2023, at the People's Hall in Rusaba village, Punduh Pedada sub-district, Peshawar district. The service is implemented sequentially through socialization and training techniques (Karunia et al., 2023). The first stage involved implementing a survey and observing Rusaba village, specifically focusing on the utilization of cooking oil and how residents dispose of used cooking oil within the village.

The subsequent phase involves the preparatory stage for socialization, which entails coordinating with the local authorities to obtain the necessary licenses for socialization activities. Additionally, invitations will be distributed to the mothers of residents in Rusaba village. The subsequent phase involves conducting socialization activities and disseminating the material through presentations and hands-on exercises. The ultimate stage involves the assessment of the training program through the implementation of question and answer sessions, as well as the collection of participants' feedback regarding the socialization activities.

3. RESULTS AND DISCUSSION

This outreach-based community service initiative aims to enhance comprehension of effective management strategies for spent cooking oil waste through its utilization in the production of aromatherapy candles. To mitigate pollution in Rusaba hamlet, located in the Punduh Pedada subdistrict, several activities can be implemented to utilize used cooking oil waste to produce aromatherapy candles effectively. One notable finding from prior studies is the potential for adaptation based on the specific geographical context. Rusaba village is situated in a coastal region characterized by a significant presence of water puddles, hence fostering the proliferation of mosquito breeding sites. Aromatherapy candles demonstrate suitability as a product for implementation within the context of Rusaba village.

In the process of creating aromatherapy candles using recycled cooking oil, various instruments, and supplies are required, which can be categorized as follows (Zahroh et al., 2023): a) Materials: Utilized cooking oil, Stearic acid, Eucalyptus oil, Crayons, Charcoal. Next b) tools: The tools required for this task include a stove, candle wick, mold, spoon, simple measuring cup, and pan.

Figure 1. Tools and Materials for Making Aromatherapy Candles. Source: Personal Documentation (2023)

The manufacturing technique employed for the production of aromatherapy candles utilizing spent cooking oil is as follows:

a. The procedure involves the collection of used cooking oil waste, followed by a 24-hour soaking period in charcoal, which effectively eliminates the residual fried odor present in the used cooking oil.

b. The Stearic acid should be heated over a low heat setting, followed by adding the filtered used cooking oil in a 1:1 ratio. The mixture should be thoroughly stirred.

c. The crayons should be placed in the pan until the

color is uniformly blended with the utilized frying oil and stearic acid.

d. I apologize, but cannot respond without any text or context. Please provide more incorporated aromatherapy by introducing eucalyptus oil into the mixture, utilizing a ratio of 10 drops per 100 ml of previously utilized cooking oil. Proceed to blend the components until a homogeneous mixture is achieved thoroughly.

e. To commence the process, arranging a mold or glass vessel equipped with a wick is necessary. Subsequently, the cooked materials are to be carefully poured into the aforementioned receptacle. Following this step, it is imperative to allow a duration of 12 hours for the wax to solidify and reach a hardened state.

f. The hardened wax should be extracted from the mold. The aromatherapy candle is prepared for utilization.

The Serumpun Malay KKN students provided information and conducted training sessions for the Rusaba village locals based on their actions.

1) The training session focuses on creating aromatherapy candles using recycled cooking oil.

Directly observable results are obtained immediately following the action. The passion and positive response exhibited by the participants in the socialization program indicate that the utilization of daily garbage to create new crafts with commercial value is evident (Kurniawan et al., 2023; Kusnawan et al., 2023; Sari et al., 2023b). The outcomes of the aromatherapy candle experiment conducted in this study were subsequently replicated at home using the provided raw materials following the training session.

2) *The process of instilling awareness and understanding of the significance of environmental preservation within society*.

Utilized oil for frying, sometimes called used cooking oil, denotes vegetable oil employed throughout the frying procedure. It is typically discarded once its color has transitioned to a dark brown hue. Typically, this oil is discarded due to its inability to be further utilized (D. Sudiantini et al., 2023; Wibowo et al., 2023; Zain et al., 2023). The improper disposal of spent oil can harm the environment, mainly when discarded into rivers or stored in plastic bags. This is mostly due to the inherent challenges associated with its decomposition, which can subsequently give rise to other environmental complications. Hence, it is imperative to implement strategies to effectively manage household garbage to mitigate the environmental contamination caused by liquid waste disposal. Improper management of spent cooking oil disposal can lead to challenging and costly environmental remediation efforts.

3) The process of socializing entrepreneurial possibilities.

Aromatherapy candles are a type of candles that, once ignited, release fragrances capable of inducing a state of relaxation in individuals who perceive them. In addition to their fragrance, consumers frequently select aromatherapy candles due to their aesthetic appeal and suitability for indoor decor. The surge in popularity of the aromatherapy candle craze is thought to have originated during the pandemic, as individuals were compelled to remain indoors and were motivated to prioritize the ambiance and visual appeal of their living spaces.

Regarding economic considerations, those who manage household affairs are similarly driven to actively participate in generating family revenue (Cholily et al., 2022; B. S. G. D. Sudiantini, 2023; Suharsiwi et al., 2023). Nevertheless, homemakers sometimes encounter challenges when it comes to augmenting household income while also pursuing entrepreneurial aspirations. The challenges entrepreneurs face include financial resources, technological capabilities, and a dearth of expertise in business administration (Eriyanti et al., 2022; Fitriana et al., 2021; Zahroh & Hartiningtyas, 2023). The creation of aromatherapy candles using recycled frying oil can generate supplementary revenue due to its comparatively low costs and the economic value associated with the resulting products.

Based on the post-activity evaluation conducted through a question-and-answer session following the practical session on creating aromatherapy candles, it is evident that the participants engaged in socialization activities have acquired comprehension regarding the undertaken tasks (Putriani & Mujahidin, 2023; Riono et al., 2023; Setyaningrum et al., 2023). Consequently, they have expressed intentions to establish an aromatherapy candle enterprise, with a marketing strategy targeting specific events to offer them as souvenirs. Additionally, they plan to distribute their products at various tourist destinations near Rusaba village.

4. CONCLUSION

Using cooking oil as a raw material for producing aromatherapy candles presents a viable approach to mitigating environmental pollution. The efficacy of incorporating socialization activities to facilitate the production of aromatherapy candles using discarded cooking oil waste has been demonstrated in Rusaba Village. These activities have effectively conveyed educational and informative messages about waste management. By introducing the manufacturing process of aromatherapy candles from used cooking oil waste and offering guidance on their proper management, these activities have enabled the marketing of these candles, thereby contributing to income generation.

Thanks to The Serumpun Malay KKN Batch IV, students express their gratitude to the individuals and organizations who contributed to the successful implementation of this meaningful initiative for the residents of Russia Village. We would like to extend our gratitude to the residents of Russia Village for their active involvement in the initiative aimed at utilizing used cooking oil waste for the production of aromatherapy candles. This endeavor is a preventive measure against pollution in Rusaba Village, located in the Punduh Pedada District.

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