

COMMUNITY SOCIAL RESPONSIBILITY AND KNOWLEDGE TRANSFER: CULTIVATING INNOVATION AND IMPROVING ECONOMIC LEVELS FOR INDIGENOUS COMMUNITIES

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Abstract: *This paper explores the impact of a community social responsibility (CSR) project focused on transferring knowledge to the indigenous community of Kg Beswok, Pos Yum Sg. Siput, Perak. The project emphasizes the production of soap from wasted cooking oil, aiming to foster innovation and enhance the economic standing of the community. The study highlights the methods of knowledge transfer, the innovation process, and the resultant economic benefits. The CSR initiative involved a session of workshops and continuous mentorship to ensure the sustainability of soap production within the community. By leveraging local resources and providing technical training, the project empowered community members to create a new source of income while addressing environmental concerns related to waste disposal. The paper also discusses the cooperative model adopted by the community, which facilitated resource sharing and collective problem-solving. The findings suggest that such CSR initiatives can significantly contribute to sustainable community development, economic empowerment, and environmental sustainability. The project's success demonstrates the potential of knowledge transfer to foster innovation and economic resilience in marginalized communities. Future research and similar projects could further explore the scalability and long-term impacts of these initiatives in other indigenous communities.*

Keywords: *Community Social Responsibility, Knowledge Transfer, Innovation, Economic Empowerment, Indigenous Community.*

Introduction

Community Social Responsibility (CSR) is a multifaceted concept that encompasses sustainable development and community engagement, in addition to corporate philanthropy. CSR practices have the potential to influence stakeholder relationships and place-making by shaping local ontologies (Ehrnström-Fuentes & Böhm, 2023). Research suggests that corporate social responsibility (CSR) has a beneficial impact on community resilience, thereby improving collective efficacy and adaptability (Rela et al., 2020). It is imperative to comprehend the viewpoints of the host community in order to effectively implement corporate social responsibility (Kasim et al., 2022). Governments are instrumental in the promotion of corporate social responsibility (CSR) by means of partnerships, awareness campaigns, and the implementation of soft laws (Wirba, 2023).

This paper focuses on a CSR project implemented in Kg Beswok, a village in Malaysia, with the primary goal of transferring knowledge and skills related to soap production from wasted cooking oil. Kg Beswok is a predominantly indigenous community facing several socio-economic challenges, including limited access to education, healthcare, and employment opportunities. The community relies heavily on traditional agricultural practices and subsistence farming, which often provide insufficient income to meet their needs. The introduction of innovative and sustainable economic activities is essential to improve the living standards and economic resilience of the community.

The CSR project discussed in this paper aims to address these challenges by introducing a novel approach to waste management and economic empowerment through the production of soap from wasted cooking oil. This initiative not only addresses environmental concerns by reducing waste but also provides the community with a sustainable source of income. By transferring the necessary knowledge and skills to the community members, the project seeks to empower them to become self-sufficient entrepreneurs.

The concept of knowledge transfer is central to this project. Effective knowledge transfer involves the dissemination of skills, expertise, and practices from one group to another, enabling the recipient group to apply this knowledge independently. In the context of Kg Beswok, knowledge transfer includes technical training in soap production, business management skills, and ongoing mentorship to ensure the community can sustain and expand their entrepreneurial activities. Innovation plays a crucial role in the success of this project. By encouraging the community to experiment with different soap formulations and production techniques, the project fosters a culture of creativity and continuous improvement. Innovation is not limited to the product itself but extends to the business models and marketing strategies employed by the community to sell their products.

The economic impact of the project is multifaceted. It provides direct income through the sale of soap, reduces dependency on traditional farming, and opens up opportunities for community members to engage in other entrepreneurial activities. The project also aims to build social capital by strengthening community ties and promoting a collaborative approach to problem-solving.

This paper is structured as follows: the literature review section provides an overview of existing research on soap production from wasted cooking oil, highlighting its environmental and economic benefits. The discussion section details the implementation of the CSR project in Kg Beswok, focusing on the knowledge transfer mechanisms, innovation processes, and economic impacts. Finally, the conclusion summarizes the key findings and suggests directions for future research and similar projects in other communities. By examining this CSR project, this paper contributes to the understanding of how knowledge transfer and community empowerment can drive innovation and economic improvement in marginalized communities. It underscores the importance of sustainable practices and the potential for CSR initiatives to create long-lasting positive change.

Soap Production from Wasted Cooking Oil

The literature on soap production from wasted cooking oil indicates a sustainable and economically viable method for waste management and community development.

1. Environmental and Economic Benefits:

o Environmental Impact:

- Converting waste cooking oil (WCO) into soap through recycling provides both environmental and economic advantages as compared to incorrect disposal methods (Thushari & Babel, 2022). Saponification is the chemical process in which triglycerides react with alkaline solutions (Abera et al., 2023). Research has investigated many approaches, such as employing activated charcoal to diminish odour and color, and fine-tuning NaOH concentrations to achieve optimal soap consistency (Rahayu et al., 2021). (The Life Cycle Assessment (LCA) demonstrates that the recycling process has a significant influence on climate change and acidification indicators, as indicated by (Hartini et al., 2021). Soap manufacture using waste cooking oil (WCO) typically exhibits superior environmental performance compared to other methods (Thushari & Babel, 2022). Local initiatives have effectively increased knowledge and offered instruction on soap making using waste cooking oil (WCO) (Azme et al., 2023; Mediathika, 2021). These projects not only tackle environmental issues but also provide prospects for generating cash (Azme et al., 2023). Current study is investigating the use of natural ingredients and fragrances to improve the qualities of soap and meet the tastes of consumers (Soni et al., 2024).

o Economic Viability:

- Recent research has examined the economic feasibility and environmental advantages of utilizing waste cooking oil (WCO) for the manufacturing of soap and biodiesel. The soap produced using Waste Cooking Oil (WCO) and Endod plant extract exhibited a similar level of quality as the soap available in the market, according to (Abera et al., 2023). The study conducted by (Azme et al., 2023) showed that soap production at the community level using waste cooking oil (WCO) has the potential to generate income and promote environmental awareness. Research has demonstrated that soap derived from waste cooking oil (WCO) can satisfy established quality criteria and yield financial gains

(Abera et al., 2023; Hartini et al., 2021). Indigenous communities in Nigeria have already derived advantages from the production and commercialization of traditional black soap (Adewusi & Akanle, 2020).

2. Process and Techniques:

This approach involves distilled water with lemon extract mixed with lye (sodium hydroxide), with precaution due to lye's heat characteristics and chemicals which may trigger tissue peeling. The resultant mixture has been cooled to ambient temperature prior to being incorporated together with the wasted purified palm oil. The mixture of liquid lye and oil merely requires been stirred for roughly five seconds considering palm oil's primary constituent is triacylglycerol (TAG) as specified by Lichtenstein (2013). TAG consists of three fatty acids (which represent the starting point in lipid structure) esterified to glycerol molecules, therefore may result palm-oil in delayed crystallization behavior, leading to post-hardening (Omar et al., 2015; Zou et al., 2012). In the absence of synthetic additives, this mixture undergoes cooling and permitted to cure at ambient temperature for 4 weeks until the pH reaches 7 to 10 for safer soap consumption.

3. Community-Based Projects:

Indigenous communities may encounter substantial improvements and gain social advantages through the implementation of community-based programs. These endeavours frequently entail collaborations between researchers and Indigenous communities, with a specific emphasis on traditional knowledge and cultural customs (Bennett-Levy et al., 2021; Packer et al., 2019). Collaborations of this nature have the potential to facilitate the creation of digital resources that are culturally suitable (Bennett-Levy et al., 2021) and enhance the economic prospects of Indigenous women (Durán-Díaz et al., 2020). Community-led companies, namely those focused on the gathering of indigenous plants and the protection of seeds, have the potential to strengthen adaptability and safeguard biocultural (Duthie-Kannikkatt et al., 2019; Gorman et al., 2023). According to (Scherrer, 2020), tourism firms that are operated by indigenous communities have the ability to generate value for stakeholders while also upholding cultural objectives. Significantly, conservation initiatives that empower Indigenous peoples and local communities tend to be more effective and fairer (Dawson et al., 2021). Health therapies that incorporate traditional practices based on culture can enhance the mental, physical, spiritual, and social well-being of participants (Murdoch-Flowers et al., 2019).

The Execution of the Knowledge Transfer Program

The success of this project was largely dependent on the effective execution of the knowledge transfer program. This section details the steps taken to ensure the program's success.

1. The Mentors and Community

- For this program, the team of mentors are the members of Research Interest Group from Universiti Teknologi MARA Perlis Branch known as “CommUniCare”. Below are the details of the mentors:

Table 1: Mentors Background and Experiences

Number of mentors	Background	Experiences in CSR project
1	Computer Science	16 years
1	Agrotechnology and Plantation	17 years
1	Geomatics	18 years
1	Business Administration	17 years
1	Islamic Studies	16 years

- As for participant, total of 80 individuals involved in this program.

2. Initial Assessment and Community Engagement:

- **Needs Assessment:**
 - Before the program's implementation, a thorough needs assessment was conducted to understand the community's current knowledge levels, resources, and needs. Surveys and focus group discussions were utilized to gather data.



Figure 1: Initial Assessment by Facilitators



Figure 2: Assessments About Basic Knowledge

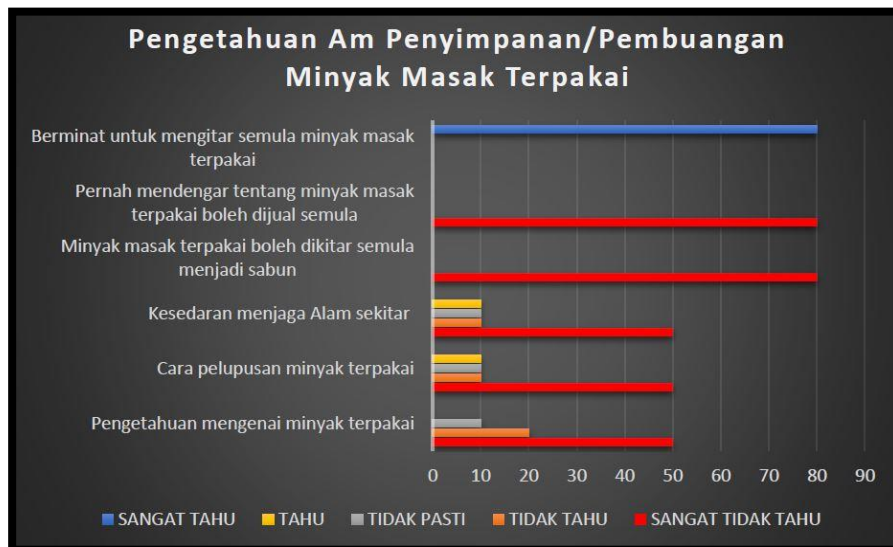


Figure 3 : General knowledge about storage/disposal waste cooking oil

o **Community Involvement**

- Community leaders and members were involved from the beginning to ensure their buy-in and active participation. This was crucial for tailoring the program to the community's specific context and needs.



Figure 4: Session with Community Leader (Tok Batin)

3. **Training and Capacity Building:**

o **Workshops and Hands-On Training:**

- Workshops were organized to provide hands-on training in soap production using wasted cooking oil. Experienced trainers demonstrated the processes of oil collection, filtration, and soap making.



Figure 5: Explanation about the soap making process



Figure 6: Explanation about hot soap process

- A survey to determine the type of soap that participants are interested in producing as part of this program.

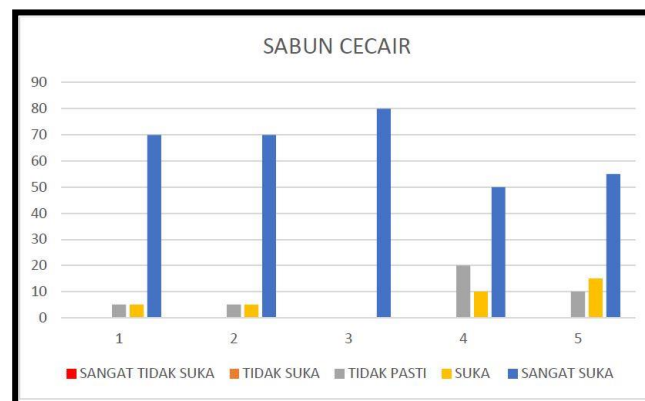


Figure 7: Community interest in making Liquid Soap

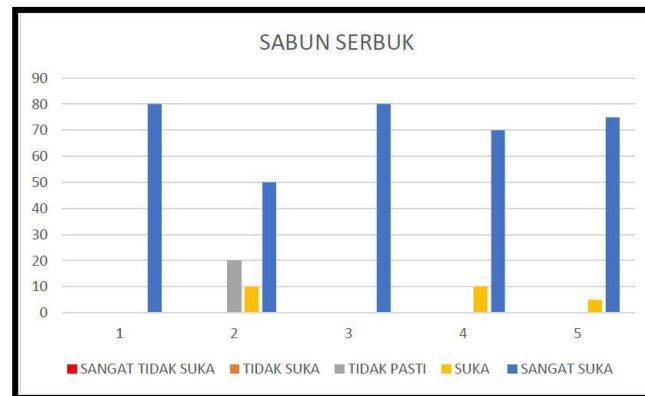


Figure 8: Community interest in making Powder Soap

○ **Educational Materials:**

- Comprehensive educational materials, including manuals and video tutorials, were provided to the participants. These resources served as references that community members could use after the workshops.

4. **Mentorship and Support:**

○ **Continuous Mentorship:**

- A mentorship program was established to provide ongoing support. Mentors visited the village regularly to offer guidance, troubleshoot problems, and provide additional training as needed.



Figure 9: The explanation about upcoming workshops

○ **Resource Provision:**

- Essential resources such as soap moulds, measuring equipment, and safety gear were supplied to ensure participants had the necessary tools to start production.



Figure 10: The necessary equipment for making soap

5. Monitoring and Evaluation:

○ Progress Tracking:

- Regular monitoring was conducted to track the progress of participants and the overall impact of the program. Surveys and interviews were used to gather feedback and identify areas for improvement.



Figure 11: Monitoring and assisting participants

Discussion

The CSR project in Kg Beswok was designed with a dual focus: innovation and economic improvement.

1. Knowledge Transfer Mechanisms:

○ Workshops and Training Sessions:

- The project conducted several workshops to teach community members the technical skills required for soap production. These sessions included hands-on training and theoretical knowledge about soap making, oil filtration, and safety measures.
- Below are the responses from community towards the output of the Hard Soap.

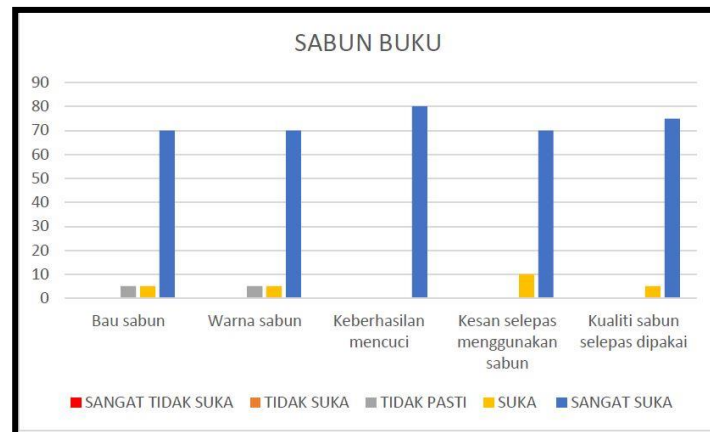


Figure 12: Responses for the Hard Soap output

- **Continuous Support and Mentorship:**
 - After initial training, continuous support and mentorship were provided to ensure the sustainability of the project. Mentors visited the community regularly to address challenges, provide additional training, and encourage innovation.
- 2. **Fostering Innovation:**
 - **Encouraging Creativity:**
 - Community members were encouraged to experiment with different soap formulas, incorporating local herbs and essential oils to create unique products. This not only fostered creativity but also added value to the products.
 - **Cooperative Model:**
 - The project promoted the formation of a cooperative, where members could share resources, ideas, and profits. This model enhanced collaboration and innovation, as members worked together to improve production techniques and market their products.
- 3. **Economic Impact:**
 - **New Source of Income:**
 - The production and sale of soap provided a new source of income for the community. Local markets and nearby towns became primary sales points, with some community members exploring online sales.
 - **Diversification of Income Streams:**
 - Inspired by the success of soap production, community members began exploring other related ventures, such as producing candles and natural cleaning products, further diversifying their income streams.

Conclusion

The quality of life for indigenous communities can be substantially enhanced through Corporate Social Responsibility (CSR) initiatives. Job creation, income generation, and community development have all been positively affected by corporate social responsibility (CSR) initiatives in the mining and hospitality sectors (González-de-la-Rosa et al., 2023; Shubita et al., 2022). Buen Vivir, an indigenous concept, can be used as a framework to reimagine

corporate social responsibility by integrating business within nature and emphasizing community (Husted, 2021). Government regulations are essential for the promotion of CSR adoption, which results in enhanced socio-economic and environmental outcomes (Jackson et al., 2023). In general, well-designed corporate social responsibility (CSR) strategies can improve the quality of work life, increase employee job satisfaction, and contribute to the sustainable development of indigenous communities (Pham et al., 2022; Zheng, 2022).

The CSR initiative in Kg Beswok showcases the successful utilization of knowledge transfer and community empowerment to stimulate innovation and enhance economic circumstances in neglected areas. The success of the initiative highlights the significance of customized training programs, ongoing assistance, and engagement with the community. The project offered a sustainable waste management system and created a realistic economic opportunity by providing community members with practical skills and promoting entrepreneurial ventures. The notable enhancements in the economic position of the community underscore the possibility of replicating such ventures in other indigenous and marginalized communities. The cooperative model demonstrated notable efficacy in promoting collaboration and innovation, indicating that comparable techniques could be advantageous in different situations.

Furthermore, the ecological advantages of repurposing used cooking oil into practical items such as soap are of utmost importance. This technique not only mitigates pollution but also fosters a circular economy, wherein waste materials are transformed into valuable commodities. The achievement of the Kg Beswok project exemplifies the advantageous outcomes of both environmental sustainability and economic empowerment, serving as a model for forthcoming corporate social responsibility (CSR) endeavours. Future research and initiatives should focus on broadening the scope of items that can be manufactured using recycled materials, as well as advancing the methods for oil filtration and soap production. Furthermore, conducting extensive research on the long-term economic effects of these projects can offer more profound understanding of their ability to be maintained and expanded.

Ultimately, the CSR project in Kg Beswok exemplifies how the exchange of knowledge and involvement of the community can stimulate innovation and foster economic growth. Through utilizing local resources and cultivating a culture of cooperation and innovation, these efforts have the potential to achieve long-lasting and equitable development. This project not only enhanced the quality of life for the Kg Beswok community, but also established a model for future initiatives focused on empowering communities economically and promoting environmental sustainability.

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