

Unlocking Kudu-Laos: Transforming Indonesia's Ethnic Herbal Drink with SME Development Support

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Abstract

This community service set out to improve the sustainability of Mr. Lamiran's *Jamu* Kudu-Laos SME through improved product quality, diversification, and marketing strategies. This study uses the Participatory Action Research (PAR) method to address key challenges by training on hygiene and measuring tools for consistent production, developing powdered *jamu* to extend shelf life, and redesigning packaging for better market appeal. An Increase in understanding of product diversification showed a 50% increase and a 16.7% increase in production techniques. Interestingly, hygiene practices and the use of measuring instruments were consistently applied. 30% of sales increase within three months of the training further demonstrated the program's impact. SWOT analysis highlighted product diversification as a key strength, while low public trust in herbal products remains challenging. Further research on evidence-based marketing, such as antioxidant activity testing, is recommended to increase consumer confidence. The finding indicates that community service supports the sustainability of Mr. Lamiran's *Jamu* Kudu-Laos SME.

Keywords

Community service; Cultural heritage; *Jamu* diversification; SMEs development



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1. INTRODUCTION

Intangible cultural heritage represents a significant aspect of a community's collective identity, transmitted across generations. An example of Indonesia's cultural heritage is *jamu*, a traditional drink that has been practiced since the eighth century and holds historical and functional value (Andini, Luh Gede Rahma WiraKassapa & Dewi, 2023; Setyowati et al., 2023; UNESCO, 2024). *Jamu*, which is prepared from natural ingredients such as herbs, spices, and minerals, is not only recognized as a traditional medicine but is also regarded as a cultural and economic asset of the nation (Andini, Luh Gede Rahma WiraKassapa & Dewi, 2023; Bhagawan et al., 2024; Kementerian Kesehatan Republik Indonesia, 2010). The affordability of *jamu* has positioned it as an integral aspect of everyday life, reflecting a growing awareness of the benefits of reverting to natural remedies (Andini, Luh Gede Rahma WiraKassapa & Dewi, 2023; E. R. Putri & Cahyono, 2022; Setyowati et al., 2024). Nonetheless, the culture of drinking *jamu* is starting to fade among the millennial generation, demanding an effective preservation strategy. We must prioritize the development and protection of this tradition, especially since *jamu* has been acknowledged as an intangible cultural heritage by UNESCO in 2023 and has greatly impacted health and Indonesia's cultural identity worldwide (Andini, Luh Gede Rahma WiraKassapa & Dewi, 2023; UNESCO, 2024).

Jamu, a traditional drink, provides significant benefits in various aspects of life (Adriani & Pritasari, 2024; Estiasih et al., 2025). These drinks offer health benefits that support overall well-being and are commonly used to enhance immunity and complement traditional medicine (Keskin & Güneş, 2021; Setyowati et al., 2023). Additionally, the production of *jamu* supports food security by utilizing locally sourced ingredients and preserving traditional methods, thereby reinforcing economic resilience within communities (Suharti & Kartika, 2021). *Jamu* plays a vital role in upholding the cultural heritage of communities, passing down traditions and recipes through the ages (Hung, 2020; Zakariya et al., 2024). Community empowerment initiatives are crucial for promoting the continued use and production of *jamu*, benefiting local populations economically and socially (Keskin & Güneş, 2021; Setyowati et al., 2024).

Several small and medium enterprises (SMEs) in Surabaya are actively involved in the production of *jamu* and need guidance and support. Mr. Lamiran's *jamu* SME in Gunung Anyar Tambak, Surabaya, is one of SMEs started in 2018 with affordable functional drinks packaged in plastic bags for 2,000 rupiah each. Mr. Lamiran's wife, Mrs. Sum, worked at an employee cooperative where these products were originally

sold through a consignment arrangement. They had daily sales of approximately 30 to 50 bags. In 2019, the business introduced bottled packaging, significantly improving and increasing prices to 5,000 rupiah per bottle. Several *jamu* were exhibited, including *Sambiloto jamu* (*Andrographis paniculata*), *Jasreh* (ginger-lemongrass) *jamu*, *Sinom jamu*, *Beras-Kencur jamu*, and one of the popular *jamu* products was “Kudu-Laos”. The local community acknowledged Kudu-Laos of Mr. Lamiran’s *jamu* as efficacious in enhancing the immune system amidst the COVID-19 pandemic.

Noni (also known as *Morinda citrifolia* L.), a tropical plant, has been used for thousands of years. The oval fruit that is 12 cm in length has a strong smell when ripe and full of seeds (Almeida et al., 2019). Noni is well-known for its many health benefits, such as its potent antioxidants. The active ingredient scopoletin in Noni is a coumarin derivative that acts as an antioxidant and helps regulate blood pressure by dilating blood vessels (Almeida et al., 2019; Nugroho et al., 2022). Research On Pal 2011, has reported on the antioxidant potential of Noni because it is rich in phenolics and flavonoids (Pal et al., 2011). Not only does Noni fruit have antioxidant properties, but it also exhibits antibacterial, antitumor, anti-helminthic, analgesic, and immunomodulatory activities (Chanthira Kumar et al., 2022). In addition to galangal rhizome, the Zingiberaceae family is known for its valuable medicinal properties. This is a thick, fleshy, and aromatic underground stem that ranges between 3.5 to 7.5 cm long with up to 2cm in diameter (Chouni & Paul, 2017; Khairullah et al., 2020). Acetoxychavicol Acetate and myricetin are the bioactive compounds responsible for valuable medicinal properties. Acetoxychavicol Acetate is found in ethanol extract to be a powerful antioxidant that helps to scavenge free radicals and lower oxidative stress against toxicity produced by them on a cellular level (Chouni & Paul, 2017). The presence of myricetin in galangal water extracts increases their antioxidant activity and contributes to their health benefits (Mahae & Chaiseri, 2009).

Jamu sales of Mr Lamiran’s *jamu* SMEs declined in the post-pandemic phase 2022. Currently, *jamu* can be sold by pre-ordered and consignment system in employee cooperative. Many challenges have contributed to this decline. The primary hurdle is the limited time to produce Mr Lamiran’s principal work as factory security, making a fixed production schedule unattainable. Stability is a major concern for the *jamu*, which is sold as a preservative-free liquid. It must be consumed at room temperature within two days or refrigerated within one week. The product label design is extremely minimal and needs improvement. The challenges highlighted the need for applied solutions to enhance processing efficiencies, address active ingredient content issues, create appealing packaging designs, and implement effective marketing

strategies. These steps are crucial for the sustainable improvement of Mr Lamiran's jamu SMEs. This community service aims to provide guidance and development to sustainably improve Mr. Lamiran's jamu SMEs by helping to enhance the quality of product standards by ensuring more consistent and hygienic production, as well as encouraging product diversification to create innovative *jamu* variants that offer greater economic value and improved packaging for increased marketing.

2. METHODS

Our community service activities, conducted between March and July 2024, focus on assistance and quality development for Lamiran products, particularly Kudu-Laos, to support Mr Lamiran's jamu SMEs in addressing its challenges. The community service team consisted of pharmacy lecturers, business and economics lecturers, laboratory education staff, and pharmacy students from the University of Surabaya, all playing a crucial role in the program's success. The partner in this Community Service programme is Mr Lamiran's jamu SMEs, in Gunung Anyar, Surabaya, Indonesia. The methodological design used in this program adopts a Participatory Action Research (PAR) approach, where researchers and SMEs who are the research subjects work collaboratively. This method enables Mr Lamiran's jamu SMEs to engage in problem-solving actively (Rusli et al., 2024; Setiawan et al., 2023, 2024). In March 2024, the implementation of mentoring activities began with identifying challenges, conducting direct interviews with SME owners, and creating an integrated plan. The next stage will support *Jamu* Kudu-Laos production. This stage focuses on improving product quality, measuring raw materials consistently, and maintaining hygiene standards. After training, the team conducted product diversification to introduce a powdered herbal product as an alternative. When product diversification was training, packaging and labels were improved to enhance product attractiveness. In the follow-up phase of the study, participants were asked following pretest and post-test questionnaires to assess the understanding and Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis to develop business development strategies considering internal and external factors.

3. FINDINGS AND DISCUSSION

The community service activity started with obtaining permission from the Gunung Anyar regional board for a mentoring and development program for Mr Lamiran's small and medium enterprises. Mr. Lamiran's Jamu SME is a small home-

based business in Surabaya that produces *jamu*, which is managed by Mr. Lamiran, his wife, and his daughter. During the COVID-19 pandemic, Mr. Lamiran tried herbs around his house with simple kitchen utensils. Mr. Lamiran's *jamu* received great attention because Mr Lamiran's *jamu* was helping COVID-19 recovery. However, after the pandemic, the business faced challenges with declining sales, their business was constantly on the losing side.

Three primary plans for activities were proposed to address the issue of mapping: assistance in the production of *jamu* Kudu-Laos with a focus on ensuring the right measure and good hygiene processes; training to process *jamu* Kudu-Laos in powder form to increase product diversity and extend shelf life and stability compared to liquid products; assistance in improving packaging and labeling, including packaging design that aims to maintain product quality and attract customers with clear information.

Ensuring product quality and safety relies on critical aspects of equipment and hygiene (Nurwidodo et al., 2021; Sunardi et al., 2023). In the equipment aspect, it is important to use production equipment that does not cause contamination, such as equipment that is free of debris and does not contain hazardous materials such as asbestos—additionally, precise weighing equipment and measuring cups are used to gauge ingredient volume. Hygiene practices for production include hand-washing procedures and using safe water sources like the Regional Drinking Water Company. Moreover, to avoid contamination, cleaning rooms must be kept separate from production rooms, and proper waste disposal facilities should be available to maintain a clean and safe production environment (Anggraeni & Rofida, 2021; W. D. Putri et al., 2023). The evaluation of equipment and hygiene aspects shows that Mr. Lamiran's *Jamu* SME has largely met the required standards. Nevertheless, some areas require improvement, particularly in the utilization of scales. Currently, *jamu* production is still done manually by estimation, such as counting the amount of fruit such as noni or using segments of rhizomes ingredients. Moreover, using only a dipper or glass, water is incorporated into the production process without accurate measuring tools. This community service program enhanced the production facilities for Mr. Lamiran's *Jamu* SME. This improvement aims to assist them in achieving higher quality standards by producing more consistent and hygienic products.

Product diversification is developing existing products into new products that have never existed before to increase added value, especially from an economic perspective. This effort aims to create innovative products and provide more significant economic benefits (Krisnawan et al., 2022; Rubiyanto et al., 2024). This was

demonstrated by the team's success in 2022 through diversification activities in functional food products in the Rungkut area, which improved the welfare of residents (Setiawan et al., 2023). The diversification in this community service activity involves transforming liquid *jamu* into powder form. The diversification of the training activity was the subject of an article in the popular magazine *Tribun News* on 19 June 2024 (figure 1).

Jamu Kudu Laos, Lestarikan Warisan Nusantara

Tayang: Rabu, 19 Juni 2024 18:15 WIB

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Universitas Surabaya (Ubaya) mendampingi UMKM Jamu Gunung Anyar dalam diversifikasi produk jamu Kudu-Laos untuk melestarikan warisan budaya Nusantara, Sabtu (15/6/2024).

TRIBUNJATIM.COM, SURABAYA - Universitas Surabaya (Ubaya) mendampingi UMKM Jamu Gunung Anyar dalam diversifikasi produk jamu Kudu-Laos untuk melestarikan warisan budaya Nusantara, Sabtu (15/6/2024).

Figure 1. Diversification of *jamu* from liquid to powder (Kudu-Laos): Featured in Tribune News Magazine, 19 June 2024.

Diversification allows *jamu* Kudu-Laos products to become longer-lasting, more convenient to carry and can be enjoyed hot or cold (Yusransyah et al., 2023). Moreover, with an extended shelf life, Mr. Lamiran can manufacture greater amounts of *jamu* Kudu-Laos in a single production cycle. The procedure involved changing the form of *jamu* from liquid to powder, as well as the important steps explained during the training to improve participants' understanding of manufacturing techniques and product diversification (figure 2).



Figure 2. Step-by-step process in the diversified production of Kudu-Laos.

This improved understanding was measured using a pre-test and post-test (Setiawan et al., 2024). The survey included 10 questions, split into two sections: 5 questions on diversification knowledge and five about powdered beverage manufacturing techniques and critical points during production. The diversification knowledge pre-test and post-test scores averaged 60 and 90 out of 100, showing a 50% improvement in understanding after the training. Mr. Lamiran and his staff achieved a 16.67% increase in technical understanding, scoring 60 on the pre-test and 70 on the post-test out of 100.

The appeal of packaging plays a major role in capturing buyer interest. Packaging with modern and up-to-date designs tends to make products more attractive to consumers. Producers must consider both price and packaging for maintaining product quality. Packaging has the potential to become the product's identity or personal branding. Eye-catching packaging and label designs can enhance product recognition and encourage repeat purchase (Setiawan et al., 2023). The diversified product of Kudu-Laos powder is packaged using a standing pouch model. Figure 3 showcases the transformation of packaging and label design. The inside of the packaging is aluminum, while the outside is coated in paper and features a ziplock lid. This packaging keeps the product safe from moisture, ensuring its quality, and allows consumers to avoid spills.



Figure 3. Transformation of packaging and label design (left: before; right: after).

Jamu sales were analyzed to assess the impact of Mr. Lamiran's *Jamu* SME mentoring activities. August and September 2024 saw a recorded increase in turnover of around 30% each month after the intervention. This service activity has a good impact on daily production practices and the sustainability of partner businesses, such as the use of scales and measuring cups so that product quality is more consistent; the partner is also increasingly concerned about the cleanliness of the production site by

separating the day area from the production site. The *jamu* business and its interventions were evaluated through a SWOT analysis to identify strengths, weaknesses, opportunities, and threats. The analysis revealed that product diversification is a significant strength that enhances shelf life and enables flexible distribution and sales strategies. On the other hand, the analysis found that many SMEs in the region lack collaboration, which hampers potential synergies. The public is still unaware of *jamu* Kudu-Laos, making it a great opportunity for unique marketing and product introduction. On the other hand, a major threat is the low public trust in herbal products, which may hinder market acceptance. Evidence-based marketing strategies, like antioxidant analysis, can address this threat by providing scientific proof of the product's health advantages (Gondokesumo & Muthmainnah, 2024). Implementing this approach builds consumer confidence and gives the product a competitive edge in the market.

4. CONCLUSION

Community service activities that aid in the sustainability of SMEs, like Mr. Lamiran's *Jamu* Kudu-Laos. This activity effectively enhanced the capacity of SMEs in product diversification and marketing, which supports the sustainability of the *Jamu* Kudu-Laos business. The community service team utilized a Participatory Action Research (PAR) method to enhance product quality, expand into powdered form, and enhance packaging and label design. The activity resulted in a 50% increase in understanding of diversification and a 16.67% increase in production techniques while enhancing product diversification for longer shelf life and more appealing packaging. Due to this intervention, sales experienced a 30% boost in August and September 2024.

The SWOT analysis showed that product diversification is a major strength in expanding distribution opportunities. Still, the low public trust in herbal products and lack of collaboration among SMEs are major challenges. The service team will assist SMEs in applying scientific analysis, such as antioxidant activity tests, to enhance consumer confidence. Training on digital marketing strategies and certification for herbal products should be conducted to enhance the program's effectiveness.

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