

Diversification and Branding of Water Hyacinth Products in Wotgalih Village, Lumajang Regency

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ABSTRACT

The Beginner Community Service Program (PMP) was carried out in Wotgalih Village, Lumajang, with a focus on empowering water hyacinth artisans to improve the creative economy based on local resources. Water hyacinth, which has been considered an aquatic weed, is used to produce handicraft products such as bags, sandals, hats, and household accessories, adding economic value. However, artisan businesses still face significant obstacles, including limited product diversification, reliance on traditional production technologies, and limited marketing strategies. The solutions offered include product design innovation training, the procurement of appropriate technology, such as zigzag sewing machines, to improve production efficiency, and branding and digital marketing assistance through social media. The implementation method includes socialization, training, technology application, intensive mentoring, and sustainability evaluation. The expected results include creating at least 5 new product types with modern designs, strengthening artisans' skills, and forming brand identities and digital marketing networks capable of penetrating local, national, and international markets. This program not only contributes to improving people's welfare but also supports the achievement of the SDGs, especially in poverty alleviation, decent work and economic growth, sustainable consumption and production, and the preservation of aquatic ecosystems. Thus, using water hyacinth as an innovative craft can be a strategic solution to reduce environmental impact while strengthening the village's creative economy.

Keywords: Community Empowerment, Water Hyacinth, Handicrafts, Product Innovation, Digital Marketing.



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INTRODUCTION

In the midst of rapid industrial and trade development, the importance of preserving the environment and improving people's welfare cannot be separated. One initiative that bridges the gap between environmental conservation and local economic empowerment is the use of water hyacinth as a raw material for micro, small, and medium enterprises (MSMEs). Basically, water hyacinths are weed

plants and can develop quickly around rivers, so that they can interfere with the flow of river water, and where bacteria grow, water hyacinths have a negative impact because they shallow the water system, causing ecosystems to be hampered, which in turn harms the community (Industry et al., 2022). Due to their water-covering nature, many water hyacinths growing in swamps block sunlight from entering the water. As a result, the water's oxygen content is reduced. In addition, the rapid growth of water hyacinths can also disrupt the swamp ecosystem.

In analyzing this situation, water hyacinth, which is usually considered waste, can be processed into high-value products for the creative economy, such as bags, sandals, and furniture (Rustam et al., 2025). The abundance of water hyacinths in Wotgalih village has a positive impact on some people, as they provide a livelihood. Some people take advantage of the opportunity to sell water hyacinths by harvesting them from swamps or canals and selling them raw. Some communities sell water hyacinths raw, still wet, in logs to collectors, while others sell them dry. Dried hyacinths are dried in the sun for one to two weeks, depending on the weather, and then sold by the kilo.



Figure 1. Existing Conditions of Raw Material Collection Locations
Source: Primary Documentation

Wotgalih Village, Lumajang, has excellent potential for using water hyacinth, which thrives in local waters. Water hyacinth is an abundant natural resource and is easily accessible to the public. Some already have basic skills in processing water hyacinths into handicrafts. In addition, local government supports community empowerment and environmental conservation programs that promote initiatives to process water hyacinths into products of economic value. One of the main problems is the lack of product diversification, leading to monotonous products with low market appeal (Maharani Virginoni Zafitri & Diana Juni Mulyati, 2023).

In addition, the technology used in the production process remains traditional and shows minimal innovation, resulting in suboptimal product quality (Mukhlisiana & Setiawati, 2025). Human resource skills are also not enough to develop high-value-added products. Regionally, Wotgalih Village is located in a coastal area with wetlands that support the growth of water hyacinths. The existence of lakes or swamps around the village is the primary habitat of this plant. However, water hyacinths are often considered weeds that disrupt aquatic ecosystems, so efforts are needed to use them appropriately and in an environmentally friendly way. Under upstream conditions, the process of collecting and processing water hyacinths is still carried out traditionally, using simple drying methods. On the downstream side, the products are mostly basic woven materials, such as placemats, garbage cans, and vases, but with quality that is not yet uniform and has not adopted modern technologies to improve product quality and aesthetics (Sugiarto, 2020). The development of existing technology must be maximized by MSME actors who have experienced changes in

marketing communication methods from initially conventional to digital marketing where to realize maximum digital marketing is needed product branding to build an identity that includes names, terms, symbols, signs, or designs or a combination of these factors to distinguish the goods/services to differentiate the goods/services (Achmad et al., 2023).



Figure 2. Handicraft Products from Water Hyacinth

Source: Primary Documentation

The abundant water hyacinth in Wotgalih Village is used as the primary ingredient in crafting items. Some water hyacinth artisans, such as Lily Craft, use water hyacinths to make crafts. The products produced include bags, tissue holders, tablecloths, and other accessories. The process of making lily craft water hyacinths in Wotgalih Village is relatively fast, taking about 2-3 hours to produce products such as bags, tissue holders, or tablecloths. The products produced include bags, tissue holders, tablecloths, and other accessories. The production quantity per day can produce 2-5 products. Lily craft products from Wotgalih Village are renowned for their high quality and make excellent souvenirs for tourists. The distribution channel for water hyacinth handicraft products from Wotgalih Village usually involves several orders, both local and outside the region. The management structure or organization of water hyacinth handicraft MSMEs in Wotgalih Village consists solely of owners and production units. Marketing techniques for water hyacinth handicraft products in Wotgalih Village are still carried out manually and through exhibitions held by various parties. The price of the product varies by type and size. For example, a bag costs around IDR 25,000, while a set of chairs with a table can reach IDR 5,000,000. Consumers, this handicraft is very suitable as a souvenir for tourists visiting Wotgalih Village. Overall, water hyacinth crafts in Wotgalih Village have great potential for further development, primarily through the use of information technology for marketing and the development of more varied product designs (Sembiring et al., 2024).

The purpose of implementing community service activities on water hyacinth crafts in Wotgalih Village is to improve community skills in processing water hyacinth into handicraft products with high economic value, encourage economic improvement of the Wotgalih Village community through optimizing handicraft products with high selling value, providing assistance in digital marketing strategies and business management so that products can be marketed more widely, Utilizing water hyacinths, which are generally considered weeds, is a creative economic product, thus helping to control this invasive plant. The implementation of this activity is related to several goals in the SDGs, namely SDG 1: No poverty, specifically improving community welfare by increasing income from handicrafts. SDG 8: decent work and economic growth, namely creating jobs and encouraging a creative economy based on local resources. SDG 12: Consumption and production, which encourages the sustainable use of local raw materials. SDG 15: Sustainable living,

which is to reduce the negative impact of water hyacinths as weeds by processing them into handicraft products. In relation to the KPI (Main Performance Indicator) of Higher Education, it is related to KPI 2: Students Gain Experience Outside the Campus by involving students in community service and craft business development, KPI 5: Lecturer Activities Outside the Campus by involving lecturers in conducting community service, as well as training and mentoring.

METHODS

This community service program is carried out using a participatory action research (PAR) approach that emphasizes the active involvement of artisan partners in each stage of the activities (Ignacia et al., 2025). Community service implementation began on Saturday, August 6, 2025, offline at the Village Hall, Wotgalih, Lumajang, and was presented to several surrounding communities (Juliyanti et al., 2024). This method was chosen so that the solutions applied were not only top-down but also aligned with the community's real needs and local potential. Activities are carried out in several stages as follows:

1. Observation and Identification of Problems

The implementation team conducted field surveys and interviews with water hyacinth artisans to identify the main problems. Based on the findings, the obstacles include limitations in design innovation, reliance on traditional production technology, weak marketing strategies, and a lack of branding and legal compliance (Industri et al., 2022).

2. Socialization and Equalization of Perceptions

An initial meeting was held with artisans and village officials to convey the objectives of the activity, the achievement targets, and the program's benefits. This socialization aims to build a shared commitment and foster awareness of the importance of product diversification and branding (Rustam et al., 2025).

3. Training and Capacity Building

- Product Innovation Training: Introduction to modern design by blending elements of local culture and global market trends.
- Branding Strategy Training: Brand name/logo recognition to create product brand image and consumer trust.
- Production Technology Training: The use of zigzag sewing machines, pressing techniques, and drying of raw materials to improve product quality.
- Business Management Training: Raw material management, simple financial bookkeeping, and stock and production management strategies (Hadiwijaya & Prasetya, 2023).

Problem Identification and Community-Based Solutions for Water Hyacinth MSMEs

The priority problems identified through agreements with partners include limitations in product innovation, production processes, and marketing performance. MSMEs experience a lack of product innovation, resulting in limited product variety due to insufficient skills in product design and finishing techniques, a lack of references to innovative products from other regions, and a weak understanding of MSME development strategies (Triwidatin et al., 2022). These conditions reduce product competitiveness and hinder business growth. In the production sector, MSMEs still apply traditional and unstandardized production processes, leading to low efficiency and inconsistent product quality. Limited knowledge of effective finishing techniques further affects the final output, while the continued use of simple and conventional tools makes it difficult to improve productivity and efficiency (Nuraini et al., 2023). As a result, production capacity remains low and is unable to optimally meet market demand.

Marketing issues also pose significant challenges, as products are marketed only locally and have not reached wider markets. There is no cooperation with distributors or collectors, and digital marketing platforms are not utilized optimally due to weak promotion strategies and inadequate branding. In addition, the absence of a strong brand identity causes products to be less recognizable and less competitive outside the region (Sularsih et al., 2023). To overcome these challenges, this community service program offers integrated solutions focusing on product innovation, production

improvement, and marketing development. Product innovation solutions include training in creative product design and finishing techniques, as well as the introduction of the Bukukas application for automatic bookkeeping to improve efficiency and time management for MSME actors (Azzahra et al., 2023). Product diversification is emphasized as a strategic effort closely related to marketing performance, especially for businesses experiencing declining or stagnant demand (Rustam et al., 2025; Industri et al., 2022).

In the production and marketing fields, appropriate technology is implemented through the procurement of modern zigzag sewing machines to accelerate production, improve efficiency, and enable the creation of diverse products such as mats and prayer mats made from water hyacinth (Fauziah et al., 2023; Rustam et al., 2025; La & Anwar, 2023). Marketing solutions focus on strengthening branding through logo creation, packaging design, and brand identity development, as well as training artisans to utilize digital marketing platforms such as Instagram, Facebook, and TikTok for promotion (Arista et al., 2024; Industry et al., 2022; Hutajulu et al., 2024). These integrated efforts are expected to improve economic welfare, empower local communities, expand market access, and contribute to environmental conservation by transforming water hyacinths into high-value products.

RESULT & DISCUSSION

The results and discussion of this answer the method used in this service activity. The implementation of the activity is divided into several stages: observation and identification of problems; socialization and equalization of perceptions; training and capacity building; and product diversification and branding strategy training. The following is a description of the results of each stage, along with the discussion:

1. Observation and Identification of Problems

In this first phase of activities, the service implementation team conducted field surveys and interviews with water hyacinth artisans to identify the main problems. Based on the findings, the obstacles include limitations in design innovation, reliance on traditional production technology, weak marketing strategies, and a lack of branding and legal compliance. The following is the documentation of field survey and interview activities:



Figure 3. Field Surveys
Source: Primary Documentation



Figure 4. Interview Activities

Source: Primary Documentation

2. Socialization and Equalization of Perceptions

The service activity in this second stage is socialization with artisans and village officials to convey the objectives of the activity, its achievement targets, and the program's benefits. The goal is for the activities carried out to align with the service's purpose and to establish a commitment to cooperation. The following are the socialization activities between the service team, artisans, and Wotgalih Village:



Figure 5. Socialization Activities

Source: Primary Documentation

3. Training and Capacity Building

The third stage of service activities is the service team providing training related to the problems faced. Some of the training carried out by the service team is as follows:

a. Product Innovation Training

The service team provided materials on innovation and the importance of product diversification. This training aims to provide water hyacinth artisans with knowledge of the importance of product innovation for business sustainability. In this training, it is hoped that future artisans will learn modern design and be able to produce other types of products or

crafts by following trends in the global handicraft market. For example, the innovations produced are prayer mats, sandals, and others.



Figure 6. Product Innovation Training

Source: Primary Documentation

b. Branding Strategy Training

In this activity, the service team provided material on brand strategy. The goal is for artisans to understand the importance of a brand. Products with a brand will be easier to remember, and consumers will trust them more. The service team also gives craftsmen a brand label called "Lily Craft" to give the handicraft products made from water hyacinth a name and make them easily recognizable to consumers.



Figure 7. Branding Strategy Training

Source: Primary Documentation

c. Production Technology Training

The service activity at this stage is to provide training for artisans on the use of production technology or new tools, such as sewing machines. This sewing machine is specifically designed for sewing thick materials and zigzagging to improve the quality of water hyacinth craft products.



Figure 8. Production Technology Training

Source: Primary Documentation

d. Business Management Training

Business management training activities focus on basic financial bookkeeping. The purpose of this training is for artisans to understand the financial records of the production of water hyacinth crafts, so that the profit and loss can be calculated.



Figure 9. Simple Financial Bookkeeping Training

Source: Primary Documentation

The following is the difference between the progress of artisans before and after the mentoring and training activities carried out by the community service team:

Table 1. Differences Before and After Community Service Activities

Yes	Before		After
1	The variety of water hyacinth handicraft products remains limited to bags, vases, and hats.		Handicraft products made from water hyacinth come in a wide variety, including prayer mats, tissue holders, slippers, and more.

2	Water hyacinth craft products do not yet have a name/brand	Water hyacinth craft products already have a name/brand, namely "Lily Craft".
3	Water hyacinth artisans have not promoted digitally	Water hyacinth artisans use digital platforms such as Instagram, YouTube, and TikTok to market their products.
3	Water hyacinth artisans do not yet have an innovation in production tools	Water hyacinth artisans use a zigzag sewing machine to support the sewing process of their products.

Source: Primary data, processed by the authors (2025).

CONCLUSION

The Beginner Community Service Program (PMP) in Wotgalih Village, Lumajang Regency, has had a positive impact on strengthening the capacity of water hyacinth artisans. Activities such as product innovation training, production technology assistance, and digital branding and marketing can improve artisans' skills, enhance product quality, and expand market access. As a result, the variety of handicraft products is more diverse, designs are more modern, production processes are more efficient, and brand image is stronger. In addition, artisans gain an understanding of the importance of product identity and digital marketing strategies, so that water hyacinth handicraft products are becoming better known, not only at the local level but also with the potential to penetrate the national market. The socio-economic impact is increased motivation, confidence, and opportunities to increase people's incomes. Thus, this program proves that water hyacinths, which have been considered aquatic weeds, can be transformed into sustainable creative economic resources. In the future, the program's sustainability needs to be supported by joint business institutions, collaboration with various stakeholders, and sustainable innovation, so that Wotgalih Village can develop into a competitive water hyacinth craft center.

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