

Seashell Waste Craft as a Community Empowerment Strategy to Improve Creative Economy in Serangan Village, Bali

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Abstract.

Serangan Village in Denpasar, Bali, is widely recognized as a coastal tourism destination with abundant marine resources. However, seashell waste generated from seafood consumption and coastal activities is often discarded without proper utilization, contributing to environmental pollution. This community service activity aimed to empower local residents by introducing seashell waste as raw material for handicraft products with economic value. The program involved observation, interviews, practical workshops, mentoring, and evaluation involving local community members. Participants were trained to process seashell waste into decorative products such as keychains, photo frames, wall decorations, flower vases, and souvenirs suitable for tourism markets. The implementation showed significant improvement in participants' knowledge and practical skills regarding waste management and creative entrepreneurship. Community members demonstrated enthusiasm in adopting innovative production techniques and expressed interest in continuing the activity as a small-scale business opportunity. Besides reducing environmental waste, the program promoted sustainable tourism and supported local economic development aligned with Sustainable Development Goals (SDGs), particularly Responsible Consumption and Production, Decent Work and Economic Growth, and Sustainable Communities. The results indicate that transforming seashell waste into creative products can become an effective community empowerment strategy while encouraging environmental conservation and increasing household income.

Keywords: Sustainability; Community Empowerment; Creative Economy; Environmental Sustainability; Seashell Waste; Sustainable Tourism.

I. INTRODUCTION

Serangan Village is one of the coastal tourism villages in Denpasar City, Bali, known for its marine tourism attractions and seafood products. The increasing number of visitors and seafood businesses contributes to a significant amount of seashell waste every day. Unfortunately, much of this waste is disposed of without further processing, creating environmental problems and reducing the aesthetic quality of the surrounding coastal area.

Bali is one of Indonesia's leading tourism destinations, attracting millions of domestic and international visitors every year. As tourism activities continue to grow, coastal communities increasingly face environmental challenges related to waste generation. One type of waste that is frequently overlooked is seashell waste produced by seafood restaurants, local fish markets, and household consumption. Although seashells are biodegradable over a long period, large accumulations along coastal areas may reduce environmental cleanliness and negatively affect the visual attractiveness of tourism destinations. Therefore, innovative waste management strategies are required to transform this abundant material into products with environmental and economic value.

Waste management has become an important issue in achieving sustainable development. According to Brotosusilo et al. (2022), recycling and reusing waste materials can significantly reduce environmental pollution while creating additional economic opportunities for local communities. Similarly, Khaerani and Bulkis (2022) emphasized that community participation is one of the key factors in sustainable environmental management because environmental conservation requires collective responsibility. Seashells possess attractive natural textures, unique colors, and high durability, making them suitable materials for handicraft products with commercial value.

Community empowerment through creative industries has become one of the effective strategies for improving local economic welfare. By utilizing locally available resources, communities can produce environmentally friendly products that attract both domestic and international tourists. Previous studies also indicate that handicraft-based entrepreneurship can increase household income while preserving local culture and promoting sustainable tourism.

In addition to improving household income, the creative economy also strengthens local identity through the utilization of regional resources. Amali and Akib (2023) explained that seashell handicrafts provide opportunities for coastal communities, particularly women, to participate in productive economic activities without requiring large capital investments. Likewise, Fitria Husin (2024) found that shell-based handicrafts have promising market potential because tourists generally prefer authentic handmade products that reflect local culture and natural resources.

Although previous studies have discussed the utilization of seashell waste for handicrafts, limited community service activities have focused specifically on empowering residents of Serangan Village through integrated training that combines environmental education, entrepreneurship, and marketing strategies. Therefore, this program was designed not only to reduce environmental waste but also to encourage sustainable economic development through community participation.

Based on these conditions, this community service activity aimed to educate and assist the community of Serangan Village in transforming seashell waste into creative handicraft products. The program also encouraged entrepreneurship, environmental awareness, and sustainable economic development through practical training and continuous mentoring.

II. METHODS

This community service program was conducted in Serangan Village, South Denpasar District, Bali, during the 2026 Community Service Program (KKN). The participants consisted of local community members who were interested in learning how to utilize seashell waste as creative handicraft products. The program adopted a participatory approach, emphasizing active

involvement of community members throughout the implementation process. This approach enabled participants not only to receive information but also to directly practice every stage of product development.

The initial stage involved preliminary observation to identify the availability of seashell waste, environmental conditions, and community readiness to participate in the program. Direct observations were conducted around seafood businesses, coastal areas, and community settlements to determine the potential sources of raw materials. This activity also allowed the facilitators to understand the existing waste management practices implemented by local residents.

Semi-structured interviews were conducted with community leaders, seafood business owners, and residents to gather information regarding environmental problems, existing economic activities, and public perceptions of seashell waste. The interview results became the basis for designing appropriate training materials and determining product types that matched local market demand.

During the interview stage, one of the key informants, Mr. Kanan Jaya, the owner of Rumah Kerang King Saguna Jaya (Ayu & Bagus Collection), explained that seashell waste in Serangan Village had long been regarded as a by-product with limited economic value. He stated that although the availability of seashell waste is abundant, many local residents still lack the knowledge and skills to process it into marketable handicraft products. According to him, continuous training and mentoring are needed to encourage the community to utilize seashell waste creatively while creating additional sources of household income.

The information obtained from the interviews served as an important basis for designing the community service program. Based on the needs identified by the key informants, the activities were structured to include practical training on processing seashell waste, product design, packaging, branding, and simple digital marketing. This needs-based approach ensured that the program addressed the actual challenges faced by the community while supporting the development of sustainable creative economy initiatives. This interview-based approach also strengthened the relevance of the program by ensuring that the proposed activities were aligned with the community's actual needs and local potential.

III. RESULT AND DISCUSSION

Before the implementation, most seashell waste in Serangan Village was discarded or left unused around seafood restaurants and coastal areas. Community members generally viewed the shells as ordinary waste with little economic value.

Initial observations also showed that there was no structured effort to collect, classify, or process seashell waste into useful products. Most seafood business owners disposed of the shells together with other household waste because they were unaware of their economic potential. This situation indicated that although Serangan Village has abundant marine resources, the utilization of seashell waste had not yet become part of community-based economic activities. Therefore, the community service program was designed to introduce practical solutions that combine environmental conservation with income-generating opportunities.



Figure 1. Initial Observation of Seashell Waste around Seafood Businesses and Coastal Areas in Serangan Village

Following the training sessions, participants successfully produced a variety of handicraft products from seashell waste, including decorative photo frames, keychains, flower vases, wall decorations, table ornaments, and souvenirs designed for the tourism market. These products demonstrated the participants' ability to transform discarded seashells into attractive items with both aesthetic and commercial value. The diversity of products also reflected the creativity developed throughout the workshop and showed that seashell waste can be utilized as a sustainable resource for small-scale creative industries.

During the practical sessions, participants first learned how to separate seashells based on their size, shape, and quality. The shells were then washed thoroughly to remove dirt and odor before being dried naturally under sunlight. After the cleaning process, participants were introduced to basic design techniques, including arranging shell patterns, selecting supporting materials, and applying adhesives to create durable handicraft products. Facilitators provided direct demonstrations before participants practiced independently.

Throughout the workshop, participants actively interacted with facilitators by asking questions and sharing ideas regarding product design. Several participants suggested combining seashells with other natural materials such as coconut shells, wood, ropes, and dried leaves to create more attractive souvenirs. This collaborative learning atmosphere encouraged creativity and increased participants' confidence in developing products independently.



Figure 2. Community Members Participating in Seashell Handicraft Workshop

Participants showed high enthusiasm throughout the workshops and actively contributed ideas for product innovation. Their understanding of environmental sustainability improved significantly as they recognized the economic potential of recycling marine waste.

Besides improving technical skills, the activity also changed participants' perceptions regarding waste management. Before the training, seashell waste was generally considered useless and was disposed of immediately after seafood processing. After participating in the workshop, community members realized that the same material could be transformed into decorative products with commercial value. This shift in perception is important because it encourages long-term behavioral changes in waste utilization and environmental responsibility.

The program also introduced simple marketing strategies through social media, local exhibitions, and tourist souvenir shops. These initiatives encouraged participants to consider small business opportunities based on locally available resources.

In addition to conventional marketing through local souvenir shops, participants were introduced to digital marketing platforms such as Instagram, Facebook Marketplace, and WhatsApp Business. These platforms were selected because they are easy to use and require minimal promotional costs. Participants also learned simple photography techniques and product presentation to make their handicrafts more attractive to potential customers.

Branding was also introduced as an important aspect of product competitiveness. Facilitators encouraged participants to create simple product names, attractive packaging, and consistent product quality. These elements are expected to strengthen consumer trust while increasing the competitiveness of local handicrafts in Bali's tourism market.



Figure 3. Socialization and Marketing Discussion with Community Participants

From an environmental perspective, the activity reduced unmanaged seashell waste while promoting cleaner coastal areas. Economically, the handicraft products provided opportunities for additional household income and strengthened community participation in sustainable tourism development.

Economically, the activity demonstrated promising opportunities for household income generation because the primary raw materials were obtained from waste with almost no purchasing cost. By transforming discarded shells into decorative products, participants were able to increase the economic value of materials that were previously considered useless. This condition creates opportunities for developing small-scale creative businesses within the local community.

Environmentally, the utilization of seashell waste contributes to cleaner coastal areas by reducing unmanaged waste accumulation. This activity also supports the implementation of sustainable tourism principles, where environmental conservation and community welfare are developed simultaneously. The findings are consistent with previous studies highlighting that community participation is an important factor in sustainable waste management.



Figure 4. Handicraft Products Produced from Seashell Waste

The findings of this community service activity are consistent with previous studies regarding community-based waste management. Amali and Akib (2023) reported that seashell handicrafts can

improve household income while empowering coastal communities through creative entrepreneurship. Similarly, Tamyiz et al. (2024) emphasized that transforming shell waste into marketable products represents an effective implementation of the circular economy concept. These studies strengthen the present findings that environmental conservation and community empowerment can be achieved simultaneously through creative economic activities.

The results demonstrate that community-based handicraft production using seashell waste can effectively integrate environmental conservation with local economic empowerment. This activity also supports several Sustainable Development Goals (SDGs), including responsible consumption and production, decent work and economic growth, and sustainable cities and communities.

Although the program achieved encouraging results, several challenges remain, particularly in maintaining product quality, expanding market access, and ensuring business continuity after the completion of the community service program. Continuous mentoring from universities, local governments, and tourism stakeholders is therefore necessary to strengthen participants' entrepreneurial capacity. With sustained support, seashell handicrafts have the potential to become one of the distinctive creative products of Serangan Village that contribute to both environmental sustainability and local economic development.



Figure 5. Group Photo with Community Members after the Completion of the Program

IV. CONCLUSION

The community empowerment program in Serangan Village successfully demonstrated that seashell waste can be transformed into valuable handicraft products with economic potential. Participants gained practical skills in waste management, product design, entrepreneurship, and marketing.

The activity contributed to environmental conservation by reducing marine waste while creating opportunities for sustainable income generation. Strong community participation indicated the feasibility of continuing the program as a local creative industry initiative.

This community service program not only introduced practical skills in transforming seashell waste into handicraft products but also strengthened community awareness regarding environmental sustainability and creative entrepreneurship. By integrating environmental education with hands-on training, participants developed a better understanding of how locally available resources can be transformed into products with economic value. The program therefore demonstrates that community empowerment can serve as an effective strategy for simultaneously addressing environmental issues and improving local livelihoods.

Future community service programs are expected to focus on product diversification, quality improvement, digital marketing capacity, and collaboration with local governments, tourism businesses, and educational institutions. Continuous mentoring and regular business development activities will be essential to ensure that seashell handicrafts become sustainable creative products capable of competing in wider tourism markets. Through long-term collaboration, Serangan Village has the potential to become a model for community-based creative economy development utilizing coastal resources.

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The authors hope that this community service initiative will inspire further collaboration between universities, local communities, and tourism stakeholders in promoting sustainable environmental management and creative economic development in coastal areas.

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