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Utilization Of Used Materials Into Handicrafts To Enhance Community Creativity

Evi Herlyaminda [1], Hesti Riski Rahayu [2], Paldi Ahwan Saputra [3], Dina Kurnia [4], Ahmad Juanda Fauzan Azimi [5], Prendi [6,] IswidanaUtama Putra 7, Tita Septi Handayani [8]
[1-8] Universitas Dehasen Bengkulu, Indonesia
*Corresponding author :evi.herlyaminda@unived.ac.id

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ABSTRACT
Household waste, such as plastic bottles and used cans, remains an environmental concern due to limited public awareness of proper waste management. This community service activity aimed to improve the knowledge, skills, and creativity of community members in transforming recyclable waste into useful handicrafts. The methods employed included educational sessions, demonstrations, hands-on practice, and direct mentoring. The activity involved nine participants, consisting of two adults and seven school-aged children. The results showed that participants successfully produced various handicrafts, including flower pots, flower vases, piggy banks, and pencil holders from used plastic bottles and cans. In addition to improving participants' practical skills, the program also increased environmental awareness and encouraged the utilization of recyclable materials as useful products. Therefore, this community service activity contributed positively to enhancing community creativity while supporting environmental conservation through community-based waste management

Keywords: Community Service, Recyclable Materials, Handicrafts, Creativity, Waste Management.

INTRODUCTION

Waste remains one of the environmental problems that is difficult to manage in Indonesia. Transforming used materials into reusable products can help reduce environmental pollution. This community service activity provides training to community members, especially children, to creatively utilize discarded materials as handicrafts, offering a practical solution for converting waste into useful products (Di & Sarae, 2022).

The increasing volume of non-organic waste, particularly plastic bottles and beverage cans, is a logical consequence of the high consumption patterns of modern society. In densely populated residential areas, these materials are often discarded without prior sorting. Pratama (2022) states that the accumulation of small-scale commercial waste is associated with limited local initiative to view waste as an asset that can be managed and reused.

As a concrete step, active intervention by academic groups or creative communities is needed to stimulate public awareness. Through direct handicraft-making activities in residential areas, the reuse of discarded materials is no longer only theoretical but becomes a tangible working practice. Processing plastic bottles and cans into functional items such as vases or stationery holders has been shown to immediately reduce the quantity of waste (Lestari & Wijaya, 2023). The use of discarded materials as

learning media aims to educate children about the importance of recycling and develop creativity in producing functional products from household waste (Bupudaa et al., 2025).

Creativity is important in daily life because it enables individuals to produce something new, either in the form of ideas or tangible works. Through this training, children were also taught the importance of recycling plastic waste as a step toward reducing environmental pollution and developing responsibility for the environment. Children were encouraged to become agents of change who care for the earth (Hasbi et al., 2025). The creative utilization of plastic waste as handicrafts is therefore a practical solution for transforming used materials into useful products with aesthetic value. Creativity can be fostered in many ways, one of which is through handicraft production (No, 2018).

At present, recycling activities can also create products with economic value and potential market value. Reused materials may serve as learning media and creative resources for various age groups, while also creating employment opportunities for communities (Hadi et al., 2017).

COMMUNITY-SERVICE METHODS

This activity used a descriptive qualitative approach with Field Research as the principal method. In its implementation, a team consisting of five researchers directly visited a residential area to collect discarded materials from the surrounding environment and process them into useful handicraft products. Participant observation was conducted throughout the activity.

During the handicraft-making process, the team also conducted two-way communication using semi-structured or informal interviews. Questions were asked naturally to local residents around the activity site to explore their views on waste management. The activity involved the active participation of nine local residents, consisting of two adults and seven school-aged children.

RESULTS AND DISCUSSION

Through direct field action, the five-member team successfully collected specific waste materials in the form of plastic bottles and used cans from residents' yards and the surrounding environment. During the handicraft-making process, dynamic social interactions occurred with local residents. Nine residents participated informally, including two adults who were interested in the functional and economic aspects of the products and seven school-aged children who were particularly attracted to the aesthetic coloring process.

To facilitate the mapping of field achievements and their relationship with environmental management and community involvement, the activity results are presented in Table 1.

Table 1. Utilization of Plastic Bottle and Can Waste into Handicraft Products

Research Aspect	Number of Products (Units)	Percentage (%)
Environmental Aspect (Reduction of Plastic Bottles & Cans)	15	100
Functional Products (Flower Pots & Pencil Holders)	9	60
Aesthetic & Savings Products (Flower Vases & Piggy Banks)	6	40
Community Participation (2 Adults & 7 Schoolchildren)	9	60
Overall (Average Product Completion Rate)	15	100

Source: Primary data processed, 2026

As shown in Table 1, the environmental indicator reached 15 units or 100%. This indicates that all plastic bottles and cans collected during the field activity were successfully transformed into handicrafts without generating additional waste at the site. Functional products represented 60% (9 units), including hanging flower pots and desktop pencil holders. This category was made dominant because the team observed the practical daily needs of local residents. The remaining 40% (6 units) consisted of aesthetic and savings products, including decorative flower vases and character piggy banks made from used cans.

Figure 2. Handicraft Products Produced During The Activity



Source: Primary data processed, 2026

In terms of community participation, nine residents took part, equivalent to 60% when compared with the total number of finished products. The number of residents who responded to and participated in the activity shows that direct field engagement created an informal learning space and stimulated creativity among both adults and school-aged children. Overall, the handicraft production success rate reached 100% (15 units), meaning that all planned products were completed successfully and were considered suitable as examples of simple home-based business products.

CONCLUSION AND RECOMMENDATIONS

The direct field action carried out by the team demonstrated to the community that waste materials such as plastic bottles and cans can be transformed into useful assets. Through field research and semi-structured interviews, both adults and school-aged children responded positively to the production of flower pots, vases, piggy banks, and pencil holders. The activity also showed that discarded materials can be processed into products with practical and aesthetic value while strengthening environmental awareness and community creativity.

For program sustainability, village officials or community leaders are encouraged to develop environmentally based micro-enterprise groups using this activity as an initial model. Future activities may further examine integrated marketing management so that recycled products produced by community members can reach broader markets.

DECLARATIONS

1. **Statement on the Use of Artificial Intelligence.** [If used: identify the tool/version, purpose, and affected sections; explain author verification and responsibility. If not used: state that no AI tools were used to prepare the manuscript. AI cannot be listed as an author. Do not fabricate data or references.]

2. **Author Contribution.** [Map each full author name to actual roles, preferably CRediT, e.g., Conceptualization, Methodology, Investigation, Formal analysis, Writing – original draft, and Writing – review & editing. State that all authors approved the final manuscript. Do not assign honorary authorship.]
3. **Funding Statement.** [Full funder name], grant number [number], [year]; [funder's role]. If none, explicitly state no external funding; disclose self-funding or in-kind institutional/partner support if applicable. Do not invent grant details.
4. **Conflict of Interest.** [Declare relevant financial or nonfinancial relationships. If none: "The authors declare no conflict of interest."]
5. **Ethics and Participant Consent.** [State the relevant ethics committee, institution, approval number/year and consent procedures when required. For low/negligible-risk work, provide a reasoned ethical-compliance statement for reviewer/editor approval, consistent with applicable institutional rules. Describe partner permission, voluntary participation, privacy, and publication consent; obtain parent/guardian consent and appropriate child assent where relevant. Never invent or backdate approval.]

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