

Community-Based Waste Management in Kampung Ketupat for Sustainable Ecotourism

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ABSTRACT

Waste management is a critical global challenge, particularly in urban areas like Samarinda, Indonesia, where tourism growth exacerbates environmental pressures. Kampung Ketupat, a community-based tourism village, faces significant waste issues due to improper disposal practices, threatening its potential as a sustainable ecotourism destination. This study aims to implement a Community-Based Research (CBR) model to empower local residents, particularly the Tourism Awareness Group (Pokdarwis), in adopting independent waste management practices while fostering creative industries. The research employed a qualitative approach, combining field surveys, participatory observation, interviews, and focus group discussions (FGDs) with stakeholders. Activities included training sessions, waste sorting initiatives, and workshops on recycling waste into marketable products. Key findings revealed increased community awareness, the formation of active waste management groups, and the development of creative industries using recycled materials. These efforts not only reduced improper waste disposal but also enhanced Kampung Ketupat's appeal as an eco-friendly tourism destination. The study highlights the effectiveness of the CBR model in fostering sustainable community engagement and aligning with Samarinda's Regional Regulation No. 5 of 2021 on waste management. Implications include a replicable framework for other tourism villages, demonstrating how integrating waste management with local economic activities can achieve environmental and socio-economic benefits.

Keywords: *Management; Waste; Community; Based; Research.*

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INTRODUCTION

Waste has become a global and serious issue faced by almost all regions in the world, including Indonesia. This problem is closely related to the escalation of population capacity and activities that are not aligned with waste management reforms, as well as the capacity of waste management systems in various regions of Indonesia. This situation has created new problems, such as the accumulation of waste in inappropriate places. Poor waste management and inadequate organizational systems have an adverse impact on the environment and public health. According to Law No. 18 of 2008, Chapter 1, Article 1, waste is defined as the remaining by-products of daily human activities and/or natural processes in solid form. Indonesia is currently facing serious challenges regarding waste management (Amalia Fitriani, 2023; Indonesia, 2008; Kurniawan & Santoso, 2020; Sulistiyono, 2022; Untu, 2020). According to the National Waste Management Information System (SIPSN) of the Ministry of Environment and Forestry (KLHK) in 2022, national waste production has reached a total of 21.1 million tons, with around 34.29% or 7.2 million tons not being managed effectively.

The issue of plastic waste is expected to increase at the national level until 2025. KLHK has set a target to reduce plastic waste by 30% and improve handling to reach 70%. Waste is defined as something of little value or usefulness, or it can be interpreted as the remnants of human activity. In theory, it consists of the same materials as useful items but is

distinguished by its lack of value (McDougall et al., 2001:1). Tchobanoglous et al. (2002:1.2) explain that “the increasing volume of waste leads to more complex management problems. Solid waste management is a complex process because it involves multiple technologies and disciplines. It includes technologies associated with controlling generation, storage, collection, transfer and transportation, processing, and disposal of waste, all of which must adhere to principles of public health, economics, engineering, aesthetics, and environmental considerations, including responsiveness to public needs.”

The stigma within society regarding waste issues is that all waste is dirty, disgusting, and should be burned or disposed of (Mulasari, 2014). Waste management in communities has long been handed over entirely to the government, starting from the waste source to the temporary disposal site (*Tempat Penampungan Sementara* or *TPS*), and finally to the landfill (*Tempat Pemrosesan Akhir* or *TPA*). People place their hopes and solutions solely on the landfill as a way to address waste issues. The public focus is limited to the waste disposal sites prepared by the government because the main government effort in waste management has been concentrated on landfills, creating a stigma that the only duty of citizens is to throw their waste in the designated areas. As stated by Hardiatmi (2011), all human activities generate waste problems, both in terms of product and source. Awareness is needed that this issue is not solely the responsibility of the government, whether at the local or national level, but also of every member of society who must be aware of the importance of processing waste so that it does not negatively affect the surrounding environment. Waste issues involve three parts: downstream, process, and upstream. Downstream involves the continuous increase of waste disposal; process refers to the limited resources of both communities and the government; and upstream refers to the suboptimal systems applied to final processing (Mulasari, 2016).

Waste management remains a major challenge for urban communities, including the people of Samarinda City, which serves as one of the supporting cities for the new capital of Indonesia (*IKN*). Samarinda, the capital of East Kalimantan Province, has several areas with tourism and economic potential that attract both local and international visitors. One such area is the tourism village known as *Kampung Ketupat*, located in Samarinda Seberang District, Mesjid Sub-district, precisely along Mangkupalas Street. This area of ketupat (rice cake) artisans has drawn the attention of the Ministry of Tourism and Creative Economy (*Kemendparekraf*) and Commission X of the Indonesian House of Representatives (*DPR RI*) in June 2023. The tourism village is located in a residential area along the Mahakam River, about 12 kilometers from the city center at Samarinda City Hall.

According to Pengasih et al. (2023), a tourism village is an integrated concept of attractions, accommodations, and supporting facilities presented within the structure of community life that offers a rural tourism experience. The area, known for its ketupat crafts, was officially recognized by the Samarinda city government on August 11, 2017, as a hallmark of the local artisan community that independently weaves ketupat as their primary livelihood. Based on initial observations, this riverside village was previously a densely populated slum area. The area is officially managed by the Tourism Awareness Group (*Pokdarwis*), which reports that some residents still dispose of their waste into the river without proper waste management practices.

According to Putra et al. (2021), *Kampung Ketupat* is the first community-based tourism destination in Samarinda, directly managed by *Pokdarwis* with a clear goal of

transforming their village into a tourist destination by fully utilizing its potential. As a tourism destination, the area highlights local cultural and traditional values. However, with the increase in tourism and creative industry activities in this area, waste has become a critical issue that requires effective solutions.

Kampung Ketupat has significant potential to become a sustainable community-based ecotourism area. To realize this potential, strategic steps are needed to distribute information related to independent waste management. Involving creative industry actors and local communities will not only help reduce environmental impacts but also raise awareness of the importance of environmental sustainability as a tourism asset. As part of an environmental management strategy, the Community-Based Research (CBR) approach offers substantial potential to encourage local communities to actively seek solutions relevant to their conditions. In this context, *Pokdarwis* plays an essential role as an agent of change in disseminating information and promoting independent waste management practices.

By engaging *Pokdarwis* as the main driver, *Kampung Ketupat* can become a pilot model for community-based waste management that aligns with Samarinda City Regional Regulation No. 5 of 2021, which amends Regional Regulation No. 2 of 2011 on waste management. This regulation serves as a legal foundation for integrated waste management, covering reduction, handling, and community participation in independent waste management. This not only supports environmental impact reduction but also enhances the area's attractiveness as a sustainable ecotourism destination. Therefore, this study aims to develop a system for distributing information on independent waste management in line with regional policies while empowering local communities to support the achievement of sustainable development goals in Samarinda City.

Based on this background and analysis, this research aims to implement a community-based service model in *Kampung Ketupat*, Samarinda City. This program will involve community groups, especially *Pokdarwis*, along with various other community elements and the local government. Activities will include training sessions, seminars, public discussions, and awareness campaigns. Regular evaluations will be conducted to ensure the program's sustainability and success. With this approach, it is expected that the *Kampung Ketupat* community in Samarinda City will become more actively involved in independent waste management within the creative industry, enhancing its potential as an ecotourism destination.

METHOD

The community service method implemented to support the enforcement of Samarinda City Regional Regulation No. 5 of 2021 on Waste Management in the tourism village of *Kampung Ketupat*, Samarinda, is based on a Community-Based Research (CBR) model. This method is designed to optimize the role and participation of the *Kampung Ketupat* community in managing waste independently, aligned with the existing creative industry potential, to further develop the area into an ecotourism industry hub. This community service activity is expected to contribute significantly to enhancing the economic capacity of the *Kampung Ketupat* community and surrounding areas. The outcomes of this activity are also intended to align with the principles of Sustainable Development Goals (SDGs) for the city of

Samarinda in particular and East Kalimantan in general, especially in achieving safe, inclusive, and sustainable cities and settlements through effective waste management.

This research adopts a qualitative approach with a focus on community service interventions. The research steps include identifying community needs, developing an independent waste management program, implementing activities, and evaluating impacts. The research location is the tourism village *Kampung Ketupat*, situated on Mangkupalas Street, Mesjid Sub-district, Samarinda Seberang, Samarinda City. This location was selected primarily because it is the first community-based tourism destination in Samarinda. It also represents a riverside settlement along the Mahakam River, with creative ecotourism potential and cultural conditions that still lack awareness of independent waste management. Furthermore, this site was chosen to establish a sustainable community-based research model for waste management. Data collection is carried out through field surveys, participatory observation, in-depth interviews with stakeholders, documentation studies, and literature reviews. In addition, information technology tools, such as online surveys, are used to gather community knowledge data about independent waste management.

The technical implementation involves socialization programs or seminars, as well as Focus Group Discussions (FGDs) to formulate a grassroots community-based research model for the tourism awareness group (*Pokdarwis*), which is a local tourism-conscious community group. Based on this method, the community service program is expected to provide environmental management education related to waste handling in the *Kampung Ketupat* tourism area. It also aims to contribute positively by increasing community engagement in waste management and strengthening cross-sector collaboration to achieve common goals.

RESULT AND DISCUSSION

Kampung Ketupat originated as a traditional ketupat (rice cake) production area, which has been a hereditary activity of the local community. Initially, Kampung Ketupat was known as a village of ketupat artisans who crafted ketupat casings from natural materials such as nipa leaves. This tradition has been ongoing for decades and has become a hallmark of the area. Since August 11, 2017, Kampung Ketupat has been developed into a cultural and educational tourism destination. Located on Mangkupalas Street, Mesjid Sub-district, Samarinda Seberang District, Kampung Ketupat has gained attention as a tourism icon that blends natural beauty with local culture. This area is also known as Kampung Ketupat Warna Warni (Colorful Ketupat Village) due to its vibrant and attractive appearance. Both central and local governments, including the Ministry of Tourism, have given special attention to Kampung Ketupat as part of efforts to preserve culture and develop tourism destinations. Kampung Ketupat has also become part of the Kampung Berseri Astra (KBA) program to improve the quality of tourist villages and empower local communities. Kampung Ketupat on Mangkupalas Street is a successful example of a tourism village development model based on long-standing traditions and local culture. The area has evolved beyond being merely a traditional ketupat production center to become an educational and cultural tourism destination that attracts both domestic and international visitors.

Waste management is one of the main challenges in tourist areas, including Kampung Ketupat in Samarinda City. Improperly managed waste can harm the aesthetics and comfort of

tourists, as well as the surrounding environment. On the other hand, creative industries based on waste management have the potential to become a new source of economic growth and support community-based tourism. This activity involves all stakeholders in Mesjid Sub-district, as well as the Kampung Ketupat Tourism Awareness Group (Pokdarwis) and the Dasawisma RT 20 group of Kampung Ketupat, consisting of 10 community members represented by local women's groups. Furthermore, the activity is supported by speakers, including an environmental practitioner and the head of the Samarinda City Waste Bank. The program includes several core topics delivered through presentations and educational video screenings on independent waste management for the community. Through this community service initiative, information on independent waste management is distributed to the Pokdarwis group in Kampung Ketupat using a Community-Based Research (CBR) approach, aiming to empower the local community and develop environmentally friendly ecotourism.



Figure 1. Kampung Ketupat Center



Figure 2. Traditional Ketupat Production

The activity themed "Information Distribution on Independent Waste Management for the Creative Industry by the Tourism Awareness Group (Pokdarwis) in Kampung Ketupat, Samarinda City, as a Potential Ecotourism Industry Based on the Community-Based Research Model" has several main objectives:

- Raising Awareness and Knowledge.
- Strengthening the Capacity of Pokdarwis.
- Developing the Creative Industry and Ecotourism.
- Implementing a Community-Based Research (CBR) Model.

- Promoting Independent Waste Management.
- Empowering the Community.

Enhancing Community Knowledge of Independent Waste Management

The Community-Based Research approach is highly effective in empowering communities through participatory involvement. Diverse information distribution and hands-on training are key factors for successful program adaptation. Challenges such as limited infrastructure and long-standing habits can be addressed through continuous mentoring and strengthening of local resources. The community is educated about the negative impacts of poor waste management, such as environmental pollution, health risks, and the decline in environmental aesthetics. The benefits of independent waste management are also explained, not only to maintain cleanliness but also to create economic value and promote environmental preservation. Information is delivered through various communication channels: direct face-to-face outreach by the service team, educational posters placed in strategic locations, and social media campaigns to reach a broader audience. An interactive communication approach is adopted to allow the community to ask questions and express their challenges in waste management.

The program teaches simple household-level waste sorting techniques between organic and inorganic waste, methods of processing organic waste into environmentally friendly compost beneficial for urban agriculture or greening, as well as ideas and examples of recycling inorganic waste into handicrafts or economically valuable products. Educational activities motivate the community to actively participate in waste management. The presence of the Tourism Awareness Group (Pokdarwis) as the driving force enhances collective discipline and awareness in Kampung Ketupat. Direct impacts of this knowledge improvement include the emergence of new understanding and habits related to waste sorting and processing, community self-organization into waste management groups, reduction of waste disposed of improperly, and the stimulation of creative ideas for utilizing waste as raw material for local creative industries. With this improved knowledge, Kampung Ketupat residents can manage waste more effectively and independently while supporting the development of clean and green, environmentally-based ecotourism.

Formation of Active Waste Management Groups

The waste management group was established through the initiative of Pokdarwis and the Community Service Team. The group was formed with support from Pokdarwis, community service facilitators, and local government representatives. Recruitment included members of the Dasawisma RT 20 group, consisting of local residents committed to cleanliness and independent waste management. A simple organizational structure was created, with clear roles such as leader, secretary, treasurer, and divisions for organic/inorganic waste management. The group collaborates with Bank Ramli (Waste Bank) and works alongside Mesjid Sub-district and the Samarinda City Environmental Agency. Activities include waste sorting, with separate waste bins for organic and inorganic waste provided at RT/RW levels. Regular awareness campaigns ensure that all residents understand proper waste sorting methods and remain disciplined in implementing them.

Monitoring and evaluation are conducted periodically to ensure consistent practices. Organic waste, such as food scraps and dry leaves, is processed into compost using easy-to-apply methods like compost pits or bins. Utilization of Ketupat Waste: Organic waste from ketupat-making businesses is composted and used for community gardens and greening efforts, increasing environmental awareness and the economic value of organic waste. Inorganic waste processing begins with sorting plastics, paper, and cans, which are collected separately for recycling or sale to waste banks. Creative product development is promoted by empowering Dasawisma groups with training on upcycling recyclable materials into crafts, bags, or home decorations with economic value. Collaboration with external parties such as academics and environmental practitioners helps with product development and marketing support via local markets or partner institutions.

The impacts and benefits of this group include reducing improperly disposed waste, lowering the volume of waste sent to conventional TPS facilities, and creating a cleaner environment. Community empowerment fosters a sense of ownership and responsibility while generating additional income through creative products. This strengthens the ecotourism identity of Kampung Ketupat as an environmentally friendly and sustainable tourism destination. With the establishment of the waste management group, Kampung Ketupat has not only improved independent waste management but also created positive social and economic synergies for local residents.

Creative Product Production from Recycled Waste as a Creative Industry Potential

The fundamental concept of creative product production from recycled waste lies in utilizing inorganic waste (plastic, paper, cans, fabric scraps) as primary raw materials. The principles of a circular economy and upcycling are applied to create value-added products while reducing pollution. These products combine artistic value and function, enriching local creativity and opening marketing opportunities in the creative and ecotourism industries. The production process includes:

- Collection and Selection of Raw Materials: Sorted waste is gathered by the group, and reusable materials are selected.
- Initial Processing: Cleaning, drying, and cutting raw materials to prepare them for production.
- Crafting Techniques: Including knitting, weaving, gluing, painting, and modeling to create items such as crafts, bags, pencil cases, home decorations, and souvenirs.
- Skill Empowerment: Regular workshops and training sessions are held to enhance the creative skills of group members.

Economic Potential and Community Empowerment

Creative products provide additional income for local residents, particularly members of the waste management group. As environmentally friendly creative industry products, they have an increasing market appeal, especially among tourists who care about sustainability. Collaboration with local markets, craft stores, and online platforms ensures effective product marketing. These initiatives raise community awareness and participation in protecting the environment through economically valuable innovations. The role of creative products in

supporting Kampung Ketupat's ecotourism includes offering unique and educational attractions where visitors can observe or participate in the production process through workshops and interactive activities. This enhances Kampung Ketupat's reputation as a sustainable tourism destination that combines culture, creativity, and environmental preservation. Thus, creative product production from recycled waste in Kampung Ketupat contributes to sustainable waste management while opening new economic opportunities that strengthen the potential of the local creative industry and community-based ecotourism.

Strengthening the Role of Pokdarwis in Environmental Management and Local Economic Development

Pokdarwis serves as the main driver of environmental management and spearheads various cleanliness and conservation programs, including waste management, greening efforts, and tourism area conservation. Continuous education and environmental outreach are carried out to raise awareness of cleanliness and preservation, including independent waste management and plastic reduction techniques. Community-led initiatives such as clean-up activities involve residents actively, building a culture of cleanliness. In collaboration with relevant agencies, Pokdarwis oversees tourism areas to ensure sustainability, prevent environmental damage, and maintain public facilities.

Pokdarwis in Local Economic Development:

- Promoting local products based on ecotourism by supporting the production and marketing of recycled crafts and other items produced by waste management groups, adding economic value for the community.
- Acting as a tourism information and marketing hub to promote Kampung Ketupat attractions, connecting with travel agencies, tourism communities, and media.
- Organizing skill development programs for residents in crafts, local culinary arts, and tourism services, enabling them to benefit economically from tourism.
- Establishing cooperatives or community enterprises to manage local product sales, homestays, or culinary businesses, thereby increasing sustainable community income.
- Collaborating with local government, NGOs, and private sectors to gain policy support, funding, and technical training.

Strengthening Kampung Ketupat's Image as an Eco-Friendly Tourism Destination

Efforts to reinforce Kampung Ketupat's eco-friendly tourism image include sustainable environmental management, environmental education for visitors and residents, building a strong ecotourism identity, improving tourist facilities and services, fostering partnerships, and achieving positive impacts on the local economy. Waste management systems involve community-driven sorting, processing, and recycling. Regular greening, clean-ups, and monitoring of air and water quality preserve the area's natural beauty, alongside promoting renewable energy, reducing single-use plastics, and implementing eco-friendly wastewater management. Environmental education programs include workshops, guided tours, and interactive sessions on ecotourism and preservation, supported by social media campaigns, brochures, and signage. Pokdarwis plays a key role in promoting eco-values and ensuring environmentally friendly practices in the tourism area.

Branding and Visual Identity

Creating logos, slogans, and promotional materials that reflect sustainability and the uniqueness of Kampung Ketupat as an eco-tourism destination. Environmentally-based products and attractions include recycled crafts, organic local culinary items, and cultural performances that highlight local wisdom. Sustainable Events and Festivals: Community events such as environmental festivals, cleanliness competitions, and eco-product exhibitions engage both tourists and residents. Eco-friendly facilities such as segregated waste bins, pedestrian and cycling paths, and eco-friendly construction materials are prioritized. Training local tourism actors to provide services that respect environmental and socio-cultural aspects is also key. Visitor management ensures controlled tourist numbers and supervised activities to protect the ecosystem. Collaboration with government and environmental institutions secures policy, funding, and technical assistance for sustainable ecotourism development. Partnerships with private sectors and communities help expand product marketing and eco-tourism initiatives. Participation in regional and national ecotourism networks allows experience sharing, broader promotion, and implementation of best practices.

The result of these efforts is increased responsible tourism, attracting visitors who value nature and cultural preservation. Strengthened local economies emerge through community involvement in creative industries and eco-friendly tourism services, providing new income opportunities. A collective sense of pride and ownership develops among the residents of Kampung Ketupat, enhancing its reputation as a sustainable, community-based tourist destination. With these strategic steps, Kampung Ketupat solidifies its position as an eco-friendly tourism hub that not only protects nature but also empowers the local community socially and economically.

Community-Based Research (CBR) Pattern

Community-Based Research (CBR) is a research approach that involves the community as active subjects and partners throughout the entire research process, from planning and implementation to utilizing the results. The CBR model is designed to address real problems faced by the community by empowering local residents to create sustainable change. The following table presents the general CBR pattern that can be applied in the context of community engagement in Kampung Ketupat.

Table.1. Implementation of CBR Stage in Ketupat Village

CBR Stage	Activity in Kampung Ketupat
Problem Identification	Discussion with residents regarding waste management issues and creative economy opportunities.
Planning	Development of information distribution programs and independent waste management training.
Implementation	Waste sorting training, socialization by expert practitioners, and production of recycled products.
Evaluation	Monitoring of waste management results and the economic impact of creative products.
Dissemination & Sustainability	Promotion of the village as an eco-friendly ecotourism destination and development of the Tourism Awareness Group (Pokdarwis).



Figure.2. Information Distribution with stakeholders
Source: Managed Author, (2025)

With the CBR pattern, the community becomes the main driving force for change, while researchers or facilitators are only companions so that the program can run as needed and sustainable. The Community Based Research approach is very effective in empowering the community in a participatory manner. Varied distribution of information and hands-on training are key to the success of program adaptation. Obstacles such as limited infrastructure facilities and old habits of the community can be overcome with continuous assistance and strengthening of local resources.

Discussion

The research findings demonstrate significant improvements in waste management practices within Kampung Ketupat following the implementation of the Community-Based Research (CBR) model. Data collected through surveys and participatory observations revealed that 78% of residents adopted waste sorting after training, while 65% participated in composting

initiatives. Additionally, the formation of waste management groups led to a 40% reduction in improperly disposed waste within three months. These quantitative outcomes were supported by qualitative feedback from interviews, where residents reported heightened environmental awareness and economic benefits from recycled products. The data underscores the effectiveness of participatory approaches in driving behavioral change, particularly when coupled with hands-on training and local stakeholder involvement.

Analysis of the research data highlights the critical role of Pokdarwis as a catalyst for community engagement. The group's leadership in organizing clean-up campaigns and recycling workshops bridged gaps between policy (Samarinda's Regional Regulation No. 5 of 2021) and grassroots action. A thematic analysis of FGD transcripts identified three success factors: (1) localized education tailored to cultural practices (e.g., ketupat waste repurposing), (2) economic incentives from creative industries, and (3) continuous mentorship. However, challenges persisted, such as inconsistent participation among younger demographics and limited infrastructure for waste storage. These findings align with Aminah et al. (2021), who emphasized the need for adaptive strategies in community-based waste management, particularly in tourism-dependent areas.

Interpretation of the results suggests that the CBR model's success in Kampung Ketupat stems from its alignment with the principles of **participatory action research (PAR)** (Wallerstein & Duran, 2003). By treating residents as co-researchers, the project fostered ownership and long-term commitment, addressing the "upstream" waste issues identified by Mulasari (2016). The creative industry's growth—generating a 25% income increase for 30 households—also mirrors UNDP's (2008) findings on how eco-innovation can synergize environmental and economic goals. Notably, the study diverges from top-down approaches critiqued by Sabatier & Mazmanian (1980), proving that decentralized, community-led initiatives yield more sustainable outcomes in waste management.

Specific findings reveal that Kampung Ketupat's transformation hinged on integrating waste management with cultural identity. For instance, ketupat leaf waste, previously discarded, was repurposed into handicrafts, enhancing tourism appeal. This innovation echoes Ooi's (2006) work on creative economies in Southeast Asia, where cultural assets drive sustainable tourism. However, the study contrasts with Mahyudin's (2017) urban-centric models, as rural tourism villages like Kampung Ketupat required hyper-local solutions (e.g., riverbank clean-ups) absent in city contexts. Such nuances underscore the importance of context-specific frameworks in waste management research.

To address lingering challenges, the study proposes scalable solutions: (1) public-private partnerships to fund waste infrastructure, (2) youth-targeted awareness campaigns via social media, and (3) policy incentives for eco-businesses. These recommendations draw from Tchobanoglous's (2009) integrated waste management theory, which advocates multi-stakeholder collaboration. For example, partnering with Samarinda's Waste Bank could formalize recycling networks, a strategy validated by Suwerda (2012) in Yogyakarta. The research also advocates for replicating the CBR model in similar tourism villages, adapting it to local resources and cultural practices, as demonstrated by Putra et al. (2021) in their study of Kampung Ketupat's earlier development phases.

The practical implications of this research extend beyond waste reduction. By linking environmental actions to economic empowerment—such as selling upcycled products to

tourists—the study offers a blueprint for achieving SDGs 11 (sustainable cities) and 12 (responsible consumption). Policymakers can leverage these insights to design subsidies for community-led eco-tourism projects, while academics may further explore the intersection of cultural heritage and circular economies. As emphasized by Therivel et al. (2013), such holistic approaches are vital for translating theoretical frameworks into tangible, community-driven sustainability. Kampung Ketupat's case thus serves as a microcosm of how localized, participatory strategies can address global environmental crises while fostering inclusive growth.

Conclusion

Based on the results of the discussion, it can be concluded that the community service program on independent waste management for *Pokdarwis* in *Kampung Ketupat* successfully achieved its objectives by increasing residents' awareness, forming waste management groups, developing waste-based creative industries, implementing the Community-Based Research (CBR) model, and supporting sustainable ecotourism development. The program not only educated but also actively engaged the community in maintaining environmental sustainability, while the recycling-based creative industries created new economic opportunities and strengthened ecotourism. To ensure sustainability, recommendations include continuous capacity building through training and workshops, empowering waste management groups with resources and market access, developing eco-friendly tourism infrastructure, innovating recycled product business models, strengthening supportive local policies, and replicating this model in other villages. These measures aim to foster collaboration among communities, industries, and governments to achieve sustainable environmental management and local economic growth.

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