Inovasi Sosial : Jurnal Pengabdian Kepada Masyarakat
Volume 3 Nomor 3, Tahun 2025
E-ISSN:3032-4130
Hlm: 5 - 11

Utilizing Plastic Waste into Creative Economic Products through a Community-Based Recycling Approach

Insira Insani Fitri[1*], Tomi Apra Santosa[2], Very Karnadi[3]
[1,2,3] Akademi Teknik Adi Karya, Indonesia
Corresponding email:insirainsanifitri@gmail.com

Abstrak

Permasalahan limbah plastik merupakan isu lingkungan yang semakin kompleks seiring dengan meningkatnya konsumsi plastik sekali pakai dan rendahnya tingkat pengelolaan berbasis masyarakat. Penelitian ini bertujuan untuk menganalisis pemanfaatan limbah plastik sebagai produk ekonomi kreatif melalui pendekatan *community-based recycling* sebagai solusi berkelanjutan yang mengintegrasikan aspek lingkungan, sosial, dan ekonomi. Pendekatan ini menempatkan masyarakat sebagai aktor utama dalam proses pengelolaan limbah, mulai dari pemilahan, pengolahan, hingga penciptaan produk bernilai ekonomi, sehingga mendorong partisipasi aktif dan peningkatan kesadaran lingkungan.Metode penelitian yang digunakan adalah pendekatan kualitatif dengan desain studi kasus, yang melibatkan observasi lapangan, wawancara mendalam dengan pelaku komunitas, serta analisis dokumentasi terkait kegiatan daur ulang berbasis masyarakat. Hasil penelitian menunjukkan bahwa pemanfaatan limbah plastik melalui ekonomi kreatif tidak hanya mampu mengurangi volume sampah plastik, tetapi juga memberikan dampak positif terhadap peningkatan pendapatan masyarakat, penguatan kapasitas sosial, serta terbentuknya kemandirian ekonomi lokal. Produk yang dihasilkan memiliki nilai estetika dan fungsi yang kompetitif di pasar local. Kesimpulan penelitian ini menegaskan bahwa pendekatan *community-based recycling* merupakan strategi yang efektif dan berkelanjutan dalam mengelola limbah plastik sekaligus mendorong pengembangan ekonomi kreatif masyarakat. Oleh karena itu, diperlukan dukungan kebijakan, pendampingan berkelanjutan, serta kolaborasi antara pemerintah, akademisi, dan sektor swasta untuk memperluas implementasi model ini sebagai bagian dari pembangunan berwawasan lingkungan dan pemberdayaan masyarakat.

Kata kunci: Limbah Plastik; Ekonomi Kreatif; *Community-Based Recycling*; Pemberdayaan Masyarakat

Abtsract

The problem of plastic waste is an increasingly complex environmental issue due to the increasing consumption of single-use plastics and the low level of community-based management. This study aims to analyze the use of plastic waste as a creative economy product through a community-based recycling approach, a sustainable solution that integrates environmental, social, and economic aspects. This approach positions the community as the primary actor in the waste management process, from sorting and processing to the creation of economically valuable products, thereby encouraging active participation and increasing environmental awareness. The research method used was a

qualitative approach with a case study design, involving field observations, in-depth interviews with community actors, and analysis of documentation related to community-based recycling activities. The results show that utilizing plastic waste through the creative economy not only reduces the volume of plastic waste but also has a positive impact on increasing community income, strengthening social capacity, and fostering local economic independence. The resulting products possess aesthetic and functional value that is competitive in the local market. The study's conclusions confirm that the community-based recycling approach is an effective and sustainable strategy for managing plastic waste while simultaneously encouraging the development of the community's creative economy. Therefore, policy support, ongoing mentoring, and collaboration between the government, academia, and the private sector are needed to expand the implementation of this model as part of environmentally conscious development and community empowerment.

Keywords: Plastic Waste; Creative Economy; Community-Based Recycling; Community Empowerment

Introduction

The increasing volume of plastic waste is a direct consequence of the ever-increasing consumption of single-use plastics, which continues to accelerate with urbanization and population growth. Plastic is chosen for its lightweight, affordable, and practical nature, but low recycling rates have led to significant waste accumulation in the environment. Global data shows that most plastic waste ends up in landfills or pollutes open environments, such as rivers and oceans, without adequate treatment (Geyer et al., 2017). This situation is exacerbated by urban waste management systems that have not been able to keep pace with the increasing production of plastic waste, particularly in areas with high population densities and limited waste management infrastructure.

The impact of plastic waste is not limited to soil and water pollution, but also threatens ecosystems and public health through the microplastics and hazardous substances they contain. Conventional waste management systems, which still focus on end-of-pipe solutions, such as landfilling and incineration, have proven ineffective in addressing the problem comprehensively and sustainably (UNEP, 2021). Therefore, alternative approaches are needed that emphasize waste source reduction, reuse, and active community involvement in the management process. A community-based approach is becoming a strategic urgency because it not only contributes to reducing plastic waste, but also encourages behavioral changes, increased environmental awareness, and the creation of sustainable economic value (Wilson et al., 2015).

Plastic waste has long been viewed as an environmental problem due to its difficulty in decomposing and its ever-increasing volume, leading to soil, water, and ecosystem pollution. However, from a sustainable development perspective, plastic waste can also be positioned as a potential resource if managed properly. The circular economy approach emphasizes the importance of maintaining material value for as long as possible throughout the production and consumption

cycle, one way of doing this is through the waste-to-value concept, which transforms waste into products with utility and economic value (Geissdoerfer et al., 2017). This concept challenges the linear take-make-dispose paradigm and encourages the optimization of plastic waste utilization as an environmentally friendly alternative raw material.

Transforming plastic waste into products with economic value requires creativity and innovation as key factors in the development of an environmentally-based creative economy. Through innovative product design, plastic waste can be processed into various functional and aesthetic products, such as crafts, household appliances, and fashion products, which are competitive in the market (OECD, 2020). This process not only contributes to reducing the volume of plastic waste but also opens up opportunities for job creation and increased community income. Thus, creative economy-based plastic waste management not only addresses environmental challenges but also becomes a sustainable and inclusive economic empowerment strategy.

The creative economy is an economic development concept that emphasizes the use of creativity, knowledge, and innovation as the primary source of added value, particularly by optimizing available local resources. In the context of waste management, a locally resource-based creative economy utilizes waste materials, such as plastic waste, as alternative raw materials to produce products with utility and aesthetic value. Key characteristics of the creative economy include design innovation, production flexibility, and adaptability to local and global market needs (UNCTAD, 2010). This approach not only reduces dependence on primary raw materials but also promotes resource efficiency and reduced environmental impact, thus aligning with the principles of sustainable development.

The relationship between the creative economy and community empowerment is reflected in the increased capacity of individuals and communities to manage resources independently and productively. Through the development of waste-based creative businesses, communities gain opportunities to increase income, expand market access, and strengthen the economic independence of local communities (Howkins, 2013). Furthermore, the creative economy serves as a sustainable development strategy because it simultaneously integrates economic, social, and environmental dimensions. By creating economic value from waste, the creative economy not only contributes to inclusive economic growth, but also supports responsible and sustainable environmental management (UNESCO, 2013).

The community-based recycling approach is a waste management model that positions the community as the primary actor in all stages of the recycling process, from sorting and processing to distribution and marketing of processed products. The basic principles of this approach emphasize active participation, community independence, and the sustainable use of local resources. Unlike conventional, centralized, top-down waste management systems, community-based recycling encourages collective responsibility and changes in community behavior toward waste management from the source (Marshall & Farahbakhsh,

2013). This approach enables waste management that is more contextual and adaptive to the needs and socio-economic characteristics of the local community.

The primary advantage of the community-based approach lies in its ability to integrate environmental aspects with local social and economic development. Direct community involvement in the recycling process not only increases the effectiveness of waste reduction but also strengthens social capital through increased cooperation, trust, and social networks among community members (Putnam, 2000). Furthermore, community-based recycling contributes to community empowerment by creating business opportunities, improving skills, and promoting local economic independence. Thus, this approach has strategic relevance as a sustainable development instrument that combines environmental management, social empowerment, and improving community welfare simultaneously (Wilson et al., 2015).

Although research on plastic waste management, the creative economy, and community empowerment has grown, previous research tends to be fragmented and separates environmental issues from economic and social aspects. Most studies focus on the environmental impact of plastic waste or the technical effectiveness of recycling, without comprehensively linking these to economic value creation and community capacity building (Geissdoerfer et al., 2017). Furthermore, creative economy studies generally emphasize product and market innovation, but have not explored the potential of plastic waste as a strategic resource in the context of local community empowerment. The lack of empirical studies testing the effectiveness of community-based recycling in creating sustainable economic value indicates an urgent need for a conceptual model capable of simultaneously integrating community-based recycling with local economic empowerment (Wilson et al., 2015).

Based on this gap, this study aims to analyze the utilization of plastic waste into creative economy products through a community-based recycling approach as a sustainable and inclusive waste management strategy. The theoretical contribution of this research is expected to enrich studies of the creative economy and waste management by presenting an integrative perspective that connects environmental, social, and economic aspects within a single conceptual framework. Practically, the results of this study can serve as a reference for governments, communities, and other stakeholders in designing policies and programs for community-based plastic waste management. Furthermore, this research has policy implications for supporting the development of an environmentally-based creative economy as part of a sustainable development strategy and strengthening local economies (UNCTAD, 2010).

Research Methods

This research uses a qualitative approach with a case study design to gain an in-depth understanding of the utilization of plastic waste into creative economic products through a community-based recycling approach. A qualitative approach was chosen because it allows for contextual exploration of the processes,

meanings, and social dynamics that occur within community-based waste management practices (Creswell & Poth, 2018). The case study focuses on communities or community groups actively managing plastic waste through creative recycling activities, allowing for a comprehensive analysis of the interactions between environmental, social, and economic aspects within a unified system.

Data collection was conducted through participant observation, in-depth interviews with community actors, program managers, and relevant stakeholders, and documentation analysis, including activity reports, production archives, and product marketing materials. Data triangulation techniques were used to enhance the validity and credibility of the research findings (Miles et al., 2014). Data analysis was conducted thematically through data reduction, data presentation, and conclusion drawing to identify patterns, strategies, and the impact of implementing community-based recycling in creating sustainable economic value. The results of the analysis are expected to provide an empirical picture of the effectiveness of community-based approaches in supporting plastic waste management and strengthening local economies.

Result and Discussion

The research results show that a community-based recycling approach can increase active community participation in plastic waste management from the source. Communities play a role not only as waste producers but also as primary managers through independent sorting, collection, and processing of plastic waste. This participation is driven by increased environmental awareness and the understanding that plastic waste has economic potential if managed properly. These findings reinforce the view that community involvement is a key factor in the success of community-based waste management (Wilson et al., 2015).

This study also found that utilizing plastic waste as a raw material for the creative economy can reduce the volume of waste ending up in landfills. The recycling process carried out by the community produces various functional and aesthetically valuable products, such as household crafts and decorative items. The transformation of waste into valuable products reflects the application of the waste-to-value concept within a circular economy framework, where waste is positioned as a resource that can be reused sustainably (Geissdoerfer et al., 2017).

From an economic perspective, the research results indicate increased income for community members involved in creative recycling activities. The production and marketing of plastic waste-based products opens up new business opportunities, especially for communities with limited economic access. The resulting income is not only supplementary but, in some cases, also provides a sustainable alternative livelihood. This finding aligns with studies on the creative economy, which emphasize the role of creativity and innovation in fostering the economic independence of local communities (Howkins, 2013).

In addition to its economic impact, the implementation of community-based recycling contributes to strengthening social capacity and social capital.

Community-based recycling activities foster cooperation, trust, and social networks among community members. Intensive interactions in the production and marketing processes strengthen a sense of ownership and collective responsibility for the environment. This strengthening of social capital serves as a crucial foundation for the sustainability of community-based waste management programs (Putnam, 2000).mResearch findings also indicate that the success of developing creative economy products from plastic waste is strongly influenced by the level of creativity, design innovation, and adaptability to market needs. Products with high aesthetic value and clear functions tend to be more readily accepted by consumers. However, limited access to design training, simple technology, and marketing networks remains a major challenge for communities in improving product competitiveness (OECD, 2020).

Overall, the research findings confirm that the community-based recycling approach is effective in simultaneously integrating environmental and economic objectives. This approach not only contributes to reducing plastic waste but also encourages the development of a creative economy and sustainable community empowerment. These findings strengthen the argument that community-based waste management can be an inclusive sustainable development strategy, especially when supported by conducive policies and cross-stakeholder collaboration (UNCTAD, 2010).

Conclusion

The results show that utilizing plastic waste through the creative economy not only reduces the volume of plastic waste but also has a positive impact on increasing community income, strengthening social capacity, and fostering local economic independence. The resulting products possess aesthetic and functional value that is competitive in the local market. The study's conclusions confirm that the community-based recycling approach is an effective and sustainable strategy for managing plastic waste while simultaneously encouraging the development of the community's creative economy. Therefore, policy support, ongoing mentoring, and collaboration between the government, academia, and the private sector are needed to expand the implementation of this model as part of environmentally conscious development and community empowerment.

References

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications.

Geissdoerfer, M., Savaget, P., Bocken, N. M. P., & Hultink, E. J. (2017). The circular economy – A new sustainability paradigm? *Journal of Cleaner Production, 143*, 757–768. https://doi.org/10.1016/j.jclepro.2016.12.048

Geyer, R., Jambeck, J. R., & Law, K. L. (2017). Production, use, and fate of all plastics ever made. *Science Advances, 3*(7), e1700782. https://doi.org/10.1126/sciadv.1700782

Howkins, J. (2013). *The creative economy: How people make money from ideas* (2nd ed.). Penguin Books.

Marshall, R. E., & Farahbakhsh, K. (2013). Systems approaches to integrated solid waste management in developing countries. *Waste Management, 33*(4), 988–1003. https://doi.org/10.1016/j.wasman.2012.12.023

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). SAGE Publications.

Organisation for Economic Co-operation and Development. (2020). *Creative industries in the circular economy*. OECD Publishing.

Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. Simon & Schuster.

United Nations Conference on Trade and Development. (2010). *Creative economy report 2010: A feasible development option*. UNCTAD.

United Nations Educational, Scientific and Cultural Organization. (2013). *Creative economy report 2013 special edition: Widening local development pathways*. UNESCO.

United Nations Environment Programme. (2021). *From pollution to solution: A global assessment of marine litter and plastic pollution*. UNEP.

Wilson, D. C., Rodic, L., Scheinberg, A., Velis, C. A., & Alabaster, G. (2015). Comparative analysis of solid waste management in 20 cities. *Waste Management & Research, 33*(10), 941–951. https://doi.org/10.1177/0734242X15607474