


**COMMUNITY EMPOWERMENT THROUGH EDU-ENVIRONMENT APPLICATION IN
KEBUN BUNGA VILLAGE, SUKARAMI SUB-DISTRICT, PALEMBANG**

**Henny Helmi^A, Achmad Hufad^B, Oong Komar^C, Elih Sudiapermana^D, Dadang Yunus^E,
Cucu Sukmana^F**



ARTICLE INFO	ABSTRACT
<p>Article history:</p> <p>Received 31 January 2023</p> <p>Accepted 27 March 2023</p>	<p>Purpose: The aim of this research is to carry out an empowerment process in the Kebun Bunga village through the Edu-Environment application to increase public awareness of waste.</p> <p>Theoretical Framework: The theory applied or used in this article is empowerment, training and use of the Edu-Environment application.</p>
<p>Keywords:</p> <p>Empowerment; Edu-Environment; Waste Management.</p> <div data-bbox="172 958 480 1205" style="text-align: center;">  </div>	<p>Design/Methodology/Approaches: This service activity is carried out using a mixed method or mix methods. Explains that mixed methods research is a research method that collects, analyzes and integrates both quantitative and qualitative research approaches.</p> <p>Findings: This research shows a form of community empowerment, especially for people in Kebun Bunga who run a waste management program through the Edu-Environment application. This activity includes training and utilization of unused goods into items of sale value and can be utilized by the local community.</p> <p>Research, Practical & Social Implications: In this study, the community can feel the benefits of having an edu-environment application to be able to manage waste and be able to make advantage of the information provided in the application and it is hoped that the community can use and apply it in their daily lives.</p> <p>Implications/Originality/Values: For this study the implications that can be accepted by the community are being able to take advantage of the facilities of this edi-environment application to be able to obtain information about waste cleanliness and manage waste into goods with economic selling value.</p> <p>Doi: https://doi.org/10.26668/businessreview/2023.v8i4.1200</p>

^ADoctorate student. Community Education Department. Indonesian Education University. Indonesia.

E-mail: hennyhelmi@upi.edu Orcid: <https://orcid.org/0000-0003-0318-5752>

^BProfessor Community Education Department. Indonesian Education University. Indonesia.

E-mail: achmadhufad@upi.edu Orcid: <https://orcid.org/0000-0002-9905-3094>

^CProfessor Community Education Department. Indonesian Education University. Indonesia.

E-mail prof.oongkomar@upi.edu Orcid: <https://orcid.org/0000-0003-0536-915X>

^DAssociate Professor. Community Education Department. Indonesian Education University. Indonesia.

E-mail: el.sudia@upi.edu Orcid: <https://orcid.org/0000-0002-2317-173X>

^EAssociate Professor. Community Education Department. Universitas Pendidikan Indonesia. Indonesia.

E-mail: dadangyunus@upi.edu Orcid: <https://orcid.org/0000-0003-0708-3614>

^FAssociate Professor. Community Education Department. Universitas Pendidikan Indonesia. Indonesia.

E-mail: cucusukmana@upi.edu Orcid: <https://orcid.org/0000-0003-3888-0835>

CAPACITAÇÃO DA COMUNIDADE ATRAVÉS DA APLICAÇÃO EDU-ENVIRONMENT EM KEBUN BUNGA VILLAGE, SUKARAMI SUB-DISTRICT, PALEMBANG

RESUMO

Objetivo: O objetivo desta pesquisa é realizar um processo de empoderamento na aldeia Kebun Bunga através da aplicação Edu-Environment para aumentar a conscientização pública sobre resíduos.

Estrutura teórica: A teoria aplicada ou utilizada neste artigo é o empoderamento, treinamento e uso da aplicação Edu-Environment.

Design/Metodologia/Aplicações: Esta atividade de serviço é realizada utilizando um método misto ou métodos mistos. Explica que a pesquisa com métodos mistos é um método de pesquisa que coleta, analisa e integra tanto abordagens de pesquisa quantitativa como qualitativa.

Conclusões: Esta pesquisa mostra uma forma de capacitação da comunidade, especialmente para as pessoas do Kebun Bunga que executam um programa de gerenciamento de resíduos através da aplicação Edu-Environment. Esta atividade inclui treinamento e utilização de bens não utilizados em itens de valor de venda e pode ser utilizada pela comunidade local.

Pesquisa, Implicações Práticas e Sociais: Neste estudo, a comunidade pode sentir os benefícios de ter uma aplicação edu-ambiental para ser capaz de gerenciar os resíduos e poder aproveitar as informações fornecidas na aplicação e espera-se que a comunidade possa utilizá-la e aplicá-la em sua vida diária.

Implicações/Originalidade/Valores: Para este estudo, as implicações que podem ser aceitas pela comunidade estão sendo capazes de tirar proveito das facilidades desta aplicação edu-ambiental para poder obter informações sobre limpeza de resíduos e gerenciar resíduos em mercadorias com valor econômico de venda.

Palavras-chave: Capacitação, Edu-Ambiente, Gestão de Resíduos.

CAPACITACIÓN DE LA COMUNIDAD MEDIANTE LA APLICACIÓN DE LA EDUCACIÓN MEDIOAMBIENTAL EN EL PUEBLO DE KEBUN BUNGA, SUBDISTRITO DE SUKARAMI, PALEMBANG

RESUMEN

Propósito: El objetivo de esta investigación es llevar a cabo un proceso de empoderamiento en la aldea de Kebun Bunga a través de la aplicación Edu-Environment para aumentar la conciencia pública sobre los residuos.

Marco teórico: La teoría aplicada o utilizada en este artículo es el empoderamiento, la formación y el uso de la aplicación Edu-Environment.

Diseño/Metodología/Enfoques: Esta actividad de servicio se lleva a cabo utilizando un método mixto o métodos mixtos. Explica que la investigación con métodos mixtos es un método de investigación que recoge, analiza e integra enfoques de investigación cuantitativos y cualitativos.

Conclusiones: Esta investigación muestra una forma de empoderamiento de la comunidad, especialmente para los habitantes de Kebun Bunga que llevan a cabo un programa de gestión de residuos a través de la aplicación Edu-Environment. Esta actividad incluye la formación y la utilización de los bienes no utilizados en artículos de valor de venta y pueden ser utilizados por la comunidad local.

Investigación, implicaciones prácticas y sociales: En este estudio, la comunidad puede sentir los beneficios de tener una aplicación edu-ambiente para poder gestionar los residuos y poder aprovechar la información proporcionada en la aplicación y se espera que la comunidad pueda utilizarla y aplicarla en su vida cotidiana.

Implicaciones/Originalidad/Valores: Para este estudio las implicaciones que pueden ser aceptadas por la comunidad son poder aprovechar las facilidades de esta aplicación ediambiental para poder obtener información sobre la limpieza de residuos y gestionar los residuos en bienes con valor económico de venta.

Palabras clave: Empoderamiento, Edu-ambiente, Gestión de Resíduos.

INTRODUCTION

Investment in community development starts with a healthy community life, because it will build a productive and competitive life. Every individual who wants a healthy life pays attention to the cleanliness and health of the environment where he lives and resides. If the

environment is clean then environmental health can also be realized. Therefore, it is absolutely necessary to pay attention to health problems and environmental sustainability. Environmental issues have always been a concern of the world, because the sustainability and continuity of life on earth depends on environmental management. In Indonesia, based on data obtained from a scientific study of the natural environment or UNS science and technology, it shows that the 10 major environmental problems in Indonesia that are most prominent are the waste problem by 40%,

Based on environmental issues in the context of community empowerment, Palembang City is the largest waste producer in South Sumatra. At least, Palembang City contributes 1,400 tons of waste every day (www.sripoku.com, 2020). Most of the waste in Palembang is donated from households, traditional markets, shops, offices and other activities of city residents. Tribunnews.com, (2015) meanwhile, amidst the volume of waste in Palembang City, now the waste capacity at the Sukawinatan Final Disposal Site (TPA) has reached its limit. Of the 25 hectares, in mid-2019 there were only three hectares left.

Even though it is the largest waste-producing city in the South Sumatra region, unfortunately the efforts made by the local government in tackling the overflow of waste have not been seen. Based on the observational studies conducted by the researchers, there has been no counseling or educating the public regarding waste management properly and also regarding the importance of maintaining health and environmental sustainability. Han et al., (2020) said the efforts made by the local government were only limited to written threats (threats of imprisonment and fines) and were placed in inappropriate landfills. But often these efforts are not effective.

Based on some of the things mentioned above, researchers have developed an android-based edu-environment application to make it easier for facilitators or extension workers to educate the public so they have awareness and concern for the environment. The application was tested in Kelurahan Kebun Bunga, Sukarami District, Palembang City, South Sumatra. This application contains several features that users can choose from, such as features in the form of text, pictures and videos that explain the impact or consequences of wise or unwise behavior on the environment. Apart from that, in this edu-environment application there will also be tutorials on wise waste management, one of which is by using the 3R system. The hope is that this application can not only be used by housewives, This empirical condition shows that efforts to educate the public are still needed, so that the waste problem in Kebun Bunga Village can be resolved immediately. Van Corven et al., (2021) said the problem of waste cannot only

be solved by one party, but requires cooperation from various parties and awareness of the community itself through education.

The education designed by the researchers is by applying Information Technology as a means of publicizing massively conducted socialization to the public. The edu-environment application will provide easy information for residents to always comply with waste management properly and correctly. Referring to the academic reasons described above and based on the theoretical studies and empirical conditions above, research was carried out as an effort to answer the community's needs regarding digital literacy. The purpose of this research is to study the application of the edu-environment application developed by researchers, so that people can understand and experience the benefits of this application in managing waste. Researchers will apply this application based on the objective conditions of the community, first explore the digital literacy capabilities of the community, so that the application is relevant and functional to the needs of the community.

MATERIAL AND METHODOLOGY

This service activity is carried out using a mixed method or mix methods. Creswell (2007) explains that mixed methods research is a research method that collects, analyzes and integrates both quantitative and qualitative research approaches. The aim of combining the two approaches is to comprehensively describe the research question from the perspective of different research approaches. A mixed methods approach is used to solve research problems, the first and second problem formulations are solved with a qualitative approach. While the third problem formulation is solved by a quantitative approach, namely testing the hypothesis that the edu-environment application can be accepted by the community or not. This is done to get a better understanding in solving the proposed research problem. Participants in this research included residents of Kelurahan Kebun Bunga, local government and cleaning service workers. Qualitative research methods require researchers to act as human instruments. That is, researchers need to interact with data sources. The researcher is required to know the people providing the information. So, in terms of selecting these informants, they have been selected based on the consideration that these informants are data sources who have the data needed for research.

RESULTS AND DISCUSSION

Matthews & Small (2022) defines community-based waste management as an approach to waste management based on the active participation of the community. The government and

other institutions are only a motivator and facilitator. Rayyan et al., (2022) argues that environmental management requires the facilitation and implementation of community-based efforts as a strategy to empower and increase their access to important environmental resources, especially land, infrastructure and services. Community-based waste management is important because the activities are carried out by the community members themselves. They make decisions related to their own lives. Thi et al., (2022) said this will be more effective if it is adapted to local needs and their priorities and capacities. Saeidi-Mobarakeh et al., (2020) also found that a felt need is deemed necessary as a starting point for the successful implementation of a community-based waste management system. Shammi et al., (2022) explains the community participation in waste management is the willingness of the community to help the success of the waste management development program in accordance with everyone's abilities without meaning to sacrifice their own interests. One of the community approaches to helping government programs succeed is to familiarize the community with behavior that is in line with the solid waste program, namely changing people's attitudes towards waste management in an orderly, smooth and equitable manner. Beside that Nedi et al., (2022) said that service quality is used to measure and see the role of service in ensuring the system runs well. Ukil, (2016) said changing people's behavior in poor waste management and social, structural, local cultural factors. The role of the community concerns the form of participation, coaching methods in the field of cleanliness, as well as evaluating and maintaining the condition of existing solid waste infrastructure (Yahiaoui, n.d.).

Prasetya et al., (2021) argues that conceptually, empowerment or empowerment comes from the word 'power' (power or empowerment). The main idea of empowerment is related to the concept of power. Power is often associated with our ability to get others to do what we want them to do. Empowerment has two approaches, namely empowerment as a process and as a goal (Irmayanti, n.d.). As a process, empowerment is a series of activities to strengthen the power or empowerment of weak groups in society, including individuals who experience poverty problems. As a goal, empowerment refers to the circumstances or results to be achieved by a social change; namely people who are empowered, have power, have knowledge and ability to meet their needs both physically, economically, and social aspects such as self-confidence, being able to convey aspirations, and being independent in carrying out life tasks. Yan, (2022) explain as a process that empowerment involves several components, namely:

- a. Personal empowerment
- b. Small group empowerment

- c. Community organizing
- d. Partnership
- e. Social and political action

In addition to the form of empowerment according to the previous explanation, the form of empowerment includes two main activities, namely:

- a. Fostering the opportunity, willingness, and ability of the community to participate. Participation here is not limited to involvement in giving sacrifices and or implementing activities, but voluntary involvement of the community from decision making, planning, implementation of activities, monitoring and evaluation as well as utilization of development results.
- b. Capacity building of individuals, organizations and institutional networks. What is meant by capacity is the ability of individuals and or organizations to demonstrate the effectiveness, efficiency, and sustainability of their functions in accordance with their respective status and roles. Capacity is not something passive, but is part of an ongoing process. Capacity concerns the quality of human resources and their utilization. Elihami (2020) argue that because of that individual functions in the organization become keywords that must be considered.

The development of this application is an effort to develop the potential as well as to improve the welfare and improve the economy of the community. Besides the positive impact in improving the economy, there are also negative impacts from the designation of the flower garden village as a place to be able to manage waste. Prasetya et al., (2021) said that one of them is the increasing volume of waste produced by the village. By relying on the potential of human resources in Kebun Bunga Village, community-based waste management is carried out to overcome this waste problem. Synthesis, (2021) explain by empowering this community, a waste management program based on the Edu-Environment application technology is launched. This form of empowerment is by mobilizing PKK women and Karang Taruna groups. The activity of processing waste or unused items into handicrafts or items of sale value. Ismail & Sidjabat, (2019) said that one of the efforts to advance the industry is by utilizing used goods such as newspapers around the village to reduce waste in the village by inviting the surrounding community, especially teenagers to participate in these activities. The Edu-Environment application technology also collaborates with youth organizations in training activities to develop the handicraft industry from newspapers. Besterfield, (2003) explain also by collaborating with PKK which invites PKK members, namely mothers - mothers to be able to

do entrepreneurship by providing training on making household products from awi (bamboo) and making handicrafts from newspapers.

In addition, Li et al., (2014) and Nia (2022) said the village government conducts outreach or socialization to the community with the aim that the community understands the existing tourism potential and is encouraged to participate in every activity related to tourism villages in particular and generally by involve all workshop activities through the application of the principle of collaboration between parties (pentahelix) in entrepreneurship management that goes according to the planned goals and expectations. Mongkolnchaiarunya, (2005) argue this activity is carried out by the village government to provide understanding to the community in developing a tourist village, one of which is by providing counseling on waste management into handicrafts so that the community understands and can experience the benefits of waste processing based on the Edu-Environment application technology. Zaenudin M, (2013) said the socialization activity is expected to provide an understanding to the public regarding the importance of the benefits of the tourism function itself for the welfare of the community by managing waste into crafts. The waste management process is related to the concept of empowerment which involves several components, namely:

- a. Personal empowerment, that in this waste management process is by providing training to each personal member of the community with the aim of providing new understanding and knowledge.
- b. Small group empowerment, that empowerment is aimed at PKK mothers and Karang Taruna based on Edu-Environment application technology, or also from the local government.
- c. Community organizing, that the community plays a major role in the implementation of this waste management. This is also related to community development programs carried out by the local government.
- d. Partnership, that this partnership is carried out by seeking networks such as CSR companies as well as with ministries related to the field of waste management.
- e. Social and political action, that by carrying out the waste management process starting from planning, implementation, to evaluation together by relying on local human resources in Kebun Bunga Village.

CONCLUSION

The concept of empowerment is contained in waste management, especially community-based waste management. In this case positioning the community as the main role

in each of its activities. The researcher took the concept from Ataöv et al., (2021) which stated that empowerment involves several components, namely:

- a. Personal empowerment, that in the waste management process in Kebun Bunga sub-district, is by providing training to each personal member of the community with the aim of providing new understanding and knowledge based on the Edu-Environment application technology.
- b. Small group empowerment, that empowerment is aimed at PKK and Youth Organizations, or also from the local government.
- c. Community organizing, that the community plays a major role in the implementation of this waste management. This is also related to community development programs carried out by the local government.

Limitations and future research of this study is focused on rural communities in Kebun Bunga Palembang. In the future, the researcher will be able to expand the study to cover rural and urban areas. In addition, the data consists of a limited sample of participants. As a result, a larger sample size or participants from rural and urban areas will provide a more accurate view of the results of this study. Therefore, future studies may try to include more participants representing villages and cities in an effort to explore and analyze important aspects of the application being developed. Only qualitative methods were used to collect data for this investigation. Therefore, it would be very beneficial if future studies could integrate both quantitative and qualitative data collection procedures.

ACKNOWLEDGEMENTS

Thank you to the University of Education Indonesia's Community Education Study Program for supporting this research.

REFERENCES

- Ataöv, A., Kahraman, Z. E. H., & Osmay, S. (2021). Empowering the community through participation and action in historic neighbourhood conservation planning. *Frontiers of Architectural Research*, xxx. <https://doi.org/10.1016/j.foar.2021.12.001>
- Besterfield, D. H. (2003). *Total Quality Management*. Pearson Education.
- Elihami. (2020). Developing The Nonformal Education Of Learning In Muhammadiyah University Of Enrekang 1 Program Studi Pendidikan Nonformal Universitas Muhammadiyah Enrekang □ Corresponding email : eliamid72@gmail.com ARTICLE INFO Article History PENDAHULUAN Indonesia is. *EdukasiNonformal*, 1(2), 32–40.

Han, T. M., Gandenberger, J., Flynn, E., Sharma, J., & Morris, K. N. (2020). Empowerment theory and prison-based dog training programs. *Journal of Social Work*. <https://doi.org/10.1177/1468017320954350>

Irmayanti, V. A. (n.d.). *Mobile-Based Garbage Bank Empowerment Education in Jambi City*. 31263–31270.

Ismail, Y., & Sidjabat, F. M. (2019). *Community Empowerment In Household Waste*. 24–29.

Li, L., Wang, S., Lin, Y., Liu, W., & Chi, T. (2014). management based on integer program method. *Ecological Indicators*, 1–7. <https://doi.org/10.1016/j.ecolind.2014.05.001>

Matthews, S., & Small, M. J. (2022). *Global knowledge base for municipal solid waste management : Framework development and application in waste generation prediction*. 377(July). <https://doi.org/10.1016/j.jclepro.2022.134501>

Mongkolnchaiarunya, J. (2005). *Promoting a community-based solid-waste management initiative in local government : Yala municipality , Thailand*. 29, 27–40. [https://doi.org/10.1016/S0197-3975\(03\)00060-2](https://doi.org/10.1016/S0197-3975(03)00060-2)

Nia Hoerniasih, Achmad Hufad, Uyu Wahyudin, Elih Sudiapermana, Dadang Yunus, Cucu Sukmana. (2022). Pentahelix Base entrepreneurship Management at PKBM Asholahiyah. *International Journal of Professionals Bussiness Review*. v.7.n 3. p.01-15. <https://www.openaccessojcs.com/JBReview/article/view/616/276>

Nedi Hendri, Ari Irawan, Kamila Sa'diah, I Wayan Gede Antok Setiawan Jodi, Arif Hidayat, Siti Wardah Pratidina Nasution, Sari Mujiani (2022). *Evaluation of Financial Management Information System Using Modification Of The Delone & Mclean Model During The Covid-19 Pandemic*. *International Journal of Professionals Bussiness Review*. v.7.n. 5| p. 01-20. <https://www.openaccessojcs.com/JBReview/article/view/732/320>

Prasetya, D. A., Sanusi, A., Chandrarin, G., Adi, P. D. P., Mujahidin, I., Arifuddin, R., & Sari, A. P. (2021). *Waste Management System using Information Technology for the Improvement of Structured Environmental Ecosystem*. 37–41.

Rayyan, A., Elomri, A., Khalifa, B., Bin, H., Khalifa, B., Khalifa, B., Khalifa, B., Khalifa, B., & Rayyan, A. (2022). ScienceDirect Applications : Applications : Applications : of the Applications : of the Region the Applications : of the Region. *IFAC PapersOnLine*, 55(10), 830–835. <https://doi.org/10.1016/j.ifacol.2022.09.515>

Saeidi-mobarakeh, Z., Tavakkoli-moghaddam, R., & Navabakhsh, M. (2020). A bi-level and robust optimization-based framework for a hazardous waste management problem : A real-world application. *Journal of Cleaner Production*, 252, 119830. <https://doi.org/10.1016/j.jclepro.2019.119830>

Shammi, M., Rahman, M., & Ali, L. (2022). Case Studies in Chemical and Environmental Engineering Application of short and rapid strategic environmental assessment (SEA) for biomedical waste management in Bangladesh. *Case Studies in Chemical and Environmental Engineering*, 5(October 2021), 100177. <https://doi.org/10.1016/j.cscee.2021.100177>

Synthesis, A. M. (2021). *Community Empowerment in Waste Management : A Meta Synthesis*.

548(Traced 2020), 78–83.

Thi, L., Loan, T., & Balanay, R. M. (2022). Towards reinforcing the waste separation at source for Vietnam's waste management: Insights from the Nudge Theory. *Environmental Challenges*, 10(May 2022), 100660. <https://doi.org/10.1016/j.envc.2022.100660>

Ukil, M. I. (2016). The impact of employee empowerment on employee satisfaction and service quality: Empirical evidence from financial enterprises in Bangladesh. *Business: Theory and Practice*, 17(2), 178–189. <https://doi.org/10.3846/btp.2016.651>

Van Corven, C. T. M., Bielderma, A., Wijnen, M., Leontjevas, R., Lucassen, P. L. B. J., Graff, M. J. L., & Gerritsen, D. L. (2021). Empowerment for people living with dementia: An integrative literature review. *International Journal of Nursing Studies*, 124, 104098. <https://doi.org/10.1016/j.ijnurstu.2021.104098>

Yahiaoui, A. (n.d.). *Design of a distributed simulation environment for building control applications based on systems engineering methodology*. <https://doi.org/10.1007/s12273-017-0370-3>

Yan, C. (2022). *Construction and application of medical waste management system in operating room based on Six Sigma theory*. xxx, 1015–1017. <https://doi.org/10.1016/j.asjsur.2022.12.015>

Zaenudin M, A. (2013). Journal of Non Formal Education and Community Empowerment sasaran program Desa Vokasi adalah Desa Wonosari , karena dianggap memiliki potensi. *Journal of Non Formal Education and Community Empowerment*, 2(2), 1–9.