

**ADVANCING COMMUNITY AWARENESS THROUGH INTEGRATED HEALTH SCREENING,
ENVIRONMENTAL ACTION, AND CULTURAL LEARNING ACTIVITIES IN RAWA BANTENG
VILLAGE, BEKASI REGENCY**

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ABSTRACT

The objective of this Community Service (PKM) initiative is to provide education to the community through various activities conducted by lecturers and students each semester. To realize this plan, we initiated a preliminary survey. After surveying three potential locations—the Gema Foundation Orphanage, the SAPA Indonesia Foundation, a street school in a waste-picker community, and Rawa Banteng Village—the team selected Rawa Banteng Village. This choice aligned with the university's community service objectives of creating value for the community and addressed local needs regarding waste management education and the village's lack of organic waste management practices. The initiative, titled "Advancing Knowledge, Solidarity, and Responsible Action" (AKSARA), was implemented in Rawa Banteng Village, Bekasi Regency. It employed three approaches realized through integrated activities designed to reach all age groups: health screenings for mothers, a biopore demonstration for men (41 adult participants), and educational games for children (32 participants). At the program's conclusion, an evaluation was conducted through interviews with village officials and resident representatives. The findings indicate that both village officials and residents hope for periodic follow-up activities to further raise community awareness regarding organic waste management and the maintenance of good health.

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INTRODUCTION

Did you know that, according to the World Health Organization (WHO), nearly 1,3 billion adults worldwide suffer from hypertension? As many people know, public welfare is closely linked to three fundamental aspects of life: health, environment, and education. These three aspects not only affect an individual's quality of life but also affect long-term development for society. Unfortunately, many developing countries, including Indonesia, still face interrelated challenges in these areas, such as poor household waste management and limited access to engaging educational experiences. As a result, community-based health screening and preventive health education have become increasingly important strategies for early detection and disease prevention. On the other hand, environmental issues such as improper disposal of household waste and open-air burning of trash continue to threaten public health and environmental sustainability. In addition, educational approaches that actively engage children through interactive and game-based learning have been widely recognized as effective methods for fostering knowledge, communication skills, and positive behavioral development (Asror et al., 2024).

This challenge is also found in Indonesia. According to the 2023 Indonesian Health Survey (SKI), hypertension remains one of the most common noncommunicable diseases (NCDs) among Indonesian adults and is closely linked to unhealthy eating habits, excessive salt intake, lack of physical activity, and being overweight or obese (Survei Kesehatan Indonesia, 2023). Environmental issues are also a serious problem in Indonesia, as reported by the Sistem Informasi Pengelolaan Sampah Nasional (SIPSN), which states that Indonesia generated approximately 37,3 million metric tons of waste in 2024, with food waste accounting for 41,4% of that total, highlighting the need for organic waste management solutions such as the biopore system (BRIN, 2024). Furthermore, although educational reform is underway through the "Kurikulum Merdeka", many learning activities still rely on conventional teaching methods that have not significantly increased student engagement in understanding the learning material (Sugianto, 2023).

Based on the survey results conducted at several candidate PKM locations—namely the GEMA Foundation Orphanage, KAMI School in the waste-pickers' settlement, Bintara Jaya, and Rawa Banteng Village—it was concluded that Rawa Banteng Village has the greatest need for PKM from us, the students and faculty, especially in connection with waste processing. Based on initial field observations, the community in this village consists largely of factory workers, so they do not pay much attention to organic waste. Furthermore, due to a lack of adequate waste disposal facilities, many residents still burn household waste in open fires, including food scraps and other organic materials, which contributes to air pollution and environmental contamination. Furthermore, many adults demonstrate limited health awareness, as unhealthy eating habits are frequently observed within the community. The nutritional status of some children also appears to require greater attention, underscoring the importance of promoting a healthy lifestyle from an early age. Furthermore, educational activities for children were found to still rely on conventional theoretical approaches, particularly in subjects such as citizenship and religion, which often reduce student interest and participation.

To address these challenges, an integrated community service program titled "Advancing Knowledge, Solidarity, and Responsible Action" (AKSARA) was designed, with the theme "Together We Learn, Together We Grow". Rather than addressing health, environmental, and educational issues separately, this program adopts an approach consisting of three interrelated activities: free basic health screenings, biopore demonstrations, and interactive educational games. The three activities were offered at once because the community included people of different ages: 32 children who would receive interactive educational material, while the 41 adults were divided into two groups, with the men receiving the biopore demonstration and the women receiving basic health screenings. The basic health screenings aim to raise public awareness of basic health conditions through body mass index (BMI) and blood

pressure measurements, along with health education on healthy lifestyles. The biopore demonstrations introduce a method for managing organic waste while improving water infiltration, which reduces the risk of flooding and reduces open waste burning practices. Meanwhile, the educational games were designed to improve children's understanding of positive and negative behaviors, Indonesia's cultural diversity, and communication skills through active and participatory learning.

METHODS

This community service project adopts a Community-Based Participatory Approach, which means that community members are actively involved throughout the implementation of the activities. The program is designed to encourage collaboration between students and local villagers. Community members are encouraged to be directly involved in health screenings, biopore demonstrations, and educational games to enhance their understanding. The project was implemented under the title of "Advancing Knowledge, Solidarity, and Responsible Action (AKSARA)" with the theme "Together We Learn, Together We Grow." After the committee arrived at the village, the organizing committee set up the activity area, arranged the health screening stations, and organized the materials needed for the biopore demonstration and educational games. The program officially began with an opening ceremony by the MC (Master of Ceremonies), followed by health screenings that took place concurrently throughout the event. Participants then took part in a biopore demonstration, during which residents were encouraged to practice digging biopore infiltration holes under the guidance of the committee. The educational session continued with three learning stations consisting of determining positive and negative behavior, Indonesian cultural mapping, and group presentations to strengthen communication skills and cultural understanding. The activity ended with prize distribution (door prize) and a closing ceremony to appreciate participants' active involvement. After the event ended, interviews were conducted with village officials and community representatives to learn about the benefits and the community's response to the activity.

Participation Targets

The community service program targeted residents of Rawa Banteng Village, particularly children and adults living around Masjid Jami Al Mujahidin, RT 002 RW 003, Sertajaya Village, East Cikarang District, Bekasi Regency. The program involved 32 children and 41 adult residents and was organized by 11 President University students and 4 lecturers.

Context and Setting (Logistical Considerations)

Logistics refers to the process of planning, organizing, and managing the flow of materials, equipment, and information required to ensure the successful implementation of an activity. In this community service project, the logistics team was responsible for coordinating the distribution of materials. Various logistical aspects, including facilities, accessibility, community support, and specific community needs, were carefully considered during the planning process, as presented in Table 1.

Table 1. Context and Setting (Logistical Considerations) in Rawa Banteng Village

Facilities	Mosque courtyard, open area for educational activities, and adequate space for health screening and bio-pore demonstration.
Accessibility	Easily accessible by motorcycles and vehicles through local village roads.
Community Support	Village leaders and residents actively supported the implementation of the community service activities.
Special Needs	The community required greater awareness regarding healthcare, sustainable organic waste management, and interactive educational activities for children.

The implementation of the AKSARA community service program followed a structured procedure to ensure that all activities were effectively executed. The procedure consisted of seven stages: planning, preparation, implementation, data collection, analysis, evaluation, and reporting. Each stage employed specific strategies to support the successful delivery of the health screening, biopore demonstration, and educational games.

The activity

The community service program “Advancing Knowledge, Solidarity, and Responsible Action” (AKSARA) is designed to apply the values learned in General Education Courses (MKDU) to practical, community-based activities. Rather than focusing fully on theoretical learning, this program encourages us to apply academic knowledge while addressing real community needs through health awareness, environmental conservation, and engagement in education. The program’s implementation reflects the learning outcomes of four MKDU courses, which are: 1) Citizenship: by promoting social responsibility, active participation in the community, cooperation, and environmental awareness through direct involvement in health checkups and biopore construction, while encouraging responsible citizenship among students and community members. Recent studies emphasize that citizenship plays a vital role in shaping responsible citizens with strong character who actively participate in society (Saputri et al., 2025), 2) Pancasila: by applying the values of cooperation, humanity, social justice, and shared responsibility in all community service activities. These values are reflected in collaborative problem solving, concern for the environment, and community involvement, which are essential components of Pancasila based character education (Mulyana, 2024), 3) Religion: by growing compassion, empathy, sincerity, respect, and mutual assistance through volunteer activities for the community, regardless of the participants’ backgrounds. These values are put into practice through free health screenings, environmental conservation activities, and educational support for children, which reflect the ethical principles emphasized in religious education and community service (Taisir et al., 2025). 4) Indonesian Language: by strengthening participants’ communication skills through interactive discussions, educational games, and presentation activities that encourage children to express their ideas with confidence, communicate effectively, and collaborate with their peers. The use of communicative learning activities also supports the development of self confidence and active participation in the learning process (Rusdayanti & Suranata, 2023).

The event opened with a welcome speech from the Ketua RT of Rawa Banteng and the AKSARA Project Manager, followed by a series of activities that were prepared by the committee. The program began with an opening ceremony attended by the organizing committee and residents. The event opened with an introduction of the organizing committee to create a friendly atmosphere and strengthen relationships with the participants. Next, an overview of the AKSARA community service program was presented, during which the committee explained the project’s objectives, including raising health awareness (Mbuthia et al., 2022), promoting environmental sustainability through the implementation of biopores (Lolo et al.,

2023), and fostering cultural learning through educational games. Participants were then briefed on the schedule of activities, including health screenings, a biopore demonstration, educational game stations, a prize giveaway, and a closing ceremony. Throughout the session, both children and adults showed great enthusiasm and engagement (Figure 1).



Figure 1. Opening Ceremony

Health screenings were conducted throughout the program. Basic health assessments included Body Mass Index (BMI) measurements and blood pressure checks, followed by individual feedback on the results and recommendations for adopting a healthier lifestyle (Israfil, 2022), such as maintaining a balanced diet and doing physical activity (Figure 2) (Nyame et al., 2024). Based on the examination results, approximately 80% of adult participants were classified as overweight, while the majority of participants had blood pressure readings above the normal range, with the average around 150/100 mmHg (Management screening,2023)



Figure 2. Basic Health Check and Consultation Session

This biopore demonstration aims to introduce a simple and sustainable method for managing household organic waste while raising environmental awareness among community members (Yulia, 2024; Darnah et al., 2026). During the event, the organizing committee demonstrated the proper installation of eight biopore infiltration holes using 4-inch diameter PVC pipes, each about 30 cm deep, filled with organic materials such as food scraps and dry leaves (Figure 3)(Fahturrohman et al., 2023; Fitria et al., 2023). After

the demonstration, community members were invited to create their own biopore holes under the guidance of the organizing committee, so they could gain firsthand experience with the installation process (Lestari et al., 2020).



Figure 3. Biopore Installation Session

This educational game was created to enhance children's character development, cultural knowledge, and communication skills (Global Education Monitoring Report, 2024). The activity consists of three interactive stations. At the first station, participants identify examples of positive and negative behaviors to strengthen their understanding of good character and everyday values (Rahardjo et al., 2024). The second station introduces Indonesia's cultural diversity through a map-based activity, in which children match various regional icons with their respective provinces. At the final station, participants presented the results of the previous activities, allowing them to express their ideas and practice public speaking. Throughout the session, the children showed great enthusiasm and actively participated in every activity (Figure 4) (Karakoç et al., 2020).



Figure 4. Educational Games Session

The program concluded with the announcement of the winning groups from the educational games, followed by the door prize as a form of appreciation for the participants' enthusiasm and active participation throughout the activities. The closing ceremony continued with closing remarks from the organizing committee, expressing gratitude to the community members, local partners, and volunteers

for their valuable support in the successful implementation of the AKSARA program. The event ended with a group photo session involving the organizing committee and participants (Figure 5).



Figure 5. Prize Distribution and Closing Ceremony Session

CONCLUSION

At the end of the program implementation, an evaluation was conducted through interviews with 4 village administrators and 4 community representatives. A total of 87.5% said they were satisfied with the program's implementation because it provided education on processing organic waste using a biopore system, helped them learn the results of basic health checks so they could adopt a healthy lifestyle, and benefited children through interactive learning about positive behavior (Wang et al., 2022) and an understanding of Indonesian culture. The program was carried out by 11 students and 4 lecturers from President University and involved 73 village participants, including 32 children and 41 adults. To maximize the AKSARA program's long-term impact, future activities should include follow-up health monitoring to assess changes in participants' health conditions and encourage the adoption of healthier lifestyles. Environmental initiatives could also be expanded by increasing the number of biopore absorption holes and providing ongoing assistance to residents in applying organic waste management practices at the household level. In addition, educational activities should be held regularly to maintain children's enthusiasm.

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DAFTAR PUSTAKA

- Asror, M., Zainiyati, H. S., & Suryani, S. (2024). The Gusjigang model for strengthening local wisdom-based character education in digital era. *Journal of Education and Learning (EduLearn)*, 18(4), 1125-1133. <https://doi.org/10.11591/edulearn.v18i4.21039>
- Survei Kesehatan Indonesia (SKI) 2023 - Badan Kebijakan Pembangunan Kesehatan | BPKP Kemenkes. Badan Kebijakan Pembangunan Kesehatan|BPKP Kemenkes. <https://www.badankebijakan.kemkes.go.id/hasil-ski-2023/>
- BRIN - Badan Riset dan Inovasi Nasional. (2024). BRIN - Badan Riset Dan Inovasi Nasional. <https://brin.go.id/en/news/125994/sipsn-2024-32-of-waste-officially-processed-the-rest-still-threatens-the-environment>

- Darnah, D., Purwanto, H., Mulawarman, R. A., Nugraha, A., & Sudirman. (2026). Construction of biopore holes in the KTH Office environment Mahakam Delta, Muara Jawa Ulu. *ANDIL Mulawarman Journal of Community Engagement*, 3(2), 84-89. <https://doi.org/10.30872/andil.v3i2.3927>
- Fathurrohman, M. I., Erinasari, F. D., Hawa, U. M., & Farisa, D. T. (2023). Inovasi Lubang Resapan Biopori Menggunakan Pipa Paralon sebagai Upaya Mengurangi Penumpukan Sampah Organik di Desa Margasari. *Jurnal Pusat Inovasi Masyarakat (PIM)*, 5(1), 61-67. <https://doi.org/10.29244/jpim.5.1.61-67>
- Fitria, L., Wicaksono, K. S., & Soemarno, S. (2023). Application of compost and manure in the biopore infiltration hole to improve saturated hydraulic conductivity (SHC) of soil in the coffee root zone. *Jurnal Ilmu Lingkungan*, 22(1), 163-174. <https://doi.org/10.14710/jil.22.1.163-174>
- Global Education Monitoring Report, 2024/5, Leadership in education: Lead for learning. (2024). <https://doi.org/10.54676/eflh5184>
- Israfil, I.; Kusnanto, I.; Ah Yusuf; F. Efendi, (2022). The effect of health education intervention through mobile phone on hypertension patients : A systematic review. PubMed. <https://pubmed.ncbi.nlm.nih.gov/35338632/>
- Karakoç, B., Eryılmaz, K., Özpolat, E. T., & Yıldırım, İ. (2020). The Effect of Game-Based Learning on Student Achievement: A Meta-Analysis Study. *Technology Knowledge and Learning*, 27(1), 207-222. <https://doi.org/10.1007/s10758-020-09471-5>
- Lestari, R. S. D., Lestari, D. K., Barleany, D. R., Suhendi, E., & Jayanudin, J. (2023). Training on making composters and biopore holes as a solution to the organic waste problem. *Journal of Community Service in Science and Engineering (JoCSE)*, 2(2), 45. <https://doi.org/10.36055/jocse.v2i2.21031>
- Lolo, E. U., Gunawan, R. I., Krismani, A. Y., Pambudi, Y. S., Sudaryantingsih, C., Widiyanto, & Ripi. (2023). Processing of organic waste using biopori infiltration holes (Case Study: Organic Waste at Christian University of Technology Solo). *East Asian Journal of Multidisciplinary Research*, 2(4), 1675-1688. <https://doi.org/10.55927/eajmr.v2i4.3903>
- Management-Screening, Diagnosis and Treatment (MND). (2023, September 19). Global report on hypertension: the race against a silent killer. <https://www.who.int/publications/i/item/9789240081062>
- Mbuthia, G. W., Magutah, K., & Pellowski, J. (2022). Approaches and outcomes of community health worker's interventions for hypertension management and control in low-income and middle-income countries: systematic review. *BMJ Open*, 12(4), e053455. <https://doi.org/10.1136/bmjopen-2021-053455>
- Mulyana, D. (2024). The role of Pancasila and Citizenship Education Management in developing student character. *Jurnal Pendidikan Indonesia*, 2(02), 152-158. <https://doi.org/10.58471/ju-pendi.v2i02.535>
- Nyame, S., Boateng, D., Heeres, P., Gyamfi, J., Gafane-Mateman, L. F., Amoah, J., Iwelunmor, J., Ogedegbe, G., Grobbee, D., Asante, K. P., & Klipstein-Grobusch, K. (2024). Community-Based Strategies to Improve Health-Related Outcomes in People Living with Hypertension in Low- and Middle-Income Countries: A Systematic Review and Meta-Analysis. *Global Heart*, 19(1), 51. <https://doi.org/10.5334/gh.1329>
- Raharjo, A. D., Putri, A. A., & Budi, H. R. (2024). The use of game-based learning to increase student engagement. *Hipkin Journal of Educational Research*, 1(3), 299-310. <https://doi.org/10.64014/hipkin-jer.v1i3.30>
- Rusdayanti, I. G. a. D., & Suranata, K. (2023). Pelatihan keterampilan komunikasi interpersonal untuk pengembangan bakat verbal anak cerdas dan berbakat. *Jurnal EDUCATIO Jurnal Pendidikan Indonesia*, 9(1), 573. <https://doi.org/10.29210/1202323000>

- Saputri, R. K., Abdulkarim, A., & Anggraeni, L. (2025). Peran pendidikan kewarganegaraan dalam membentuk karakter siswa sebagai warga negara muda. *CIVICS Jurnal Pendidikan Pancasila Dan Kewarganegaraan*, 10(01), 637-642. <https://doi.org/10.36805/civics.v10i01.7580>
- Sugianto, H. (2023). Game-Based learning in enhancing learning motivation. *International Journal of Instructional Technology*, 2(1), 22-33. <https://doi.org/10.33650/ijit.v2i1.9324>
- Taisir, M., Sanusi, A., & Aprillah, A. (2025). Integrating Khidmah and Tarbiyah: A Service-Learning Model in Indonesia's Islamic Boarding School Education. *AL-HAYAT Journal of Islamic Education*, 9(2), 347–368. <https://doi.org/10.35723/ajie.v9i2.151>
- Wang, L., Chen, B., Hwang, G., Guan, J., & Wang, Y. (2022). Effects of digital game-based STEM education on students' learning achievement: a meta-analysis. *International Journal of STEM Education*, 9(1). <https://doi.org/10.1186/s40594-022-00344-0>
- Yulia, Nurzal, E., Yeni, M., & Hanim, N. (2024). Sosialisasi lubang biopori dalam pengelolaan sampah organik. *JKA*, 1(1). <https://doi.org/10.26811/jka.1.2.00013>

