

Strengthening Indonesian Unity Through the Spirit of Mutual Cooperation in the Plastic Waste Craft Center in Semarang City

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Abstract: *This study focuses on the implementation of an educational program on inorganic waste management in RW 08 Bojongsalaman, Kecamatan Semarang Barat. The program aims not only to enhance environmental awareness but also to foster a spirit of gotong royong (mutual cooperation) and reinforce unity within the community. Using a qualitative approach through observations and interviews, the research captures the initial environmental conditions, relatively clean yet lacking in rainwater infiltration areas, and evaluates community engagement in the program activities. The core activity involved children in creating handicrafts from plastic waste, which they are encouraged to continue at home with their families. Results indicate increased knowledge, positive attitudes, and active participation from both children and parents in managing waste creatively and responsibly. In addition to supporting Sustainable Development Goal (SDG) 12 on responsible consumption and production, the program also strengthens the core values of Pancasila, particularly collective solidarity, social responsibility, and love for the homeland through community-based action. Time constraints and limited participant scope suggest the need for periodic implementation with broader coverage and quantitative impact measurement to enhance the program's contribution to sustainable social and environmental change.*

Keywords: *Mutual cooperation, unity value, plastic waste management, community education, community empowerment.*

Abstrak: Penelitian ini berfokus pada implementasi program edukasi pengelolaan limbah anorganik di RW 08 Bojongsalaman, Kecamatan Semarang Barat, yang bertujuan tidak hanya untuk meningkatkan kesadaran lingkungan, tetapi juga menumbuhkan semangat gotong royong dan memperkuat nilai persatuan dalam masyarakat. Melalui pendekatan kualitatif berupa observasi dan wawancara, penelitian ini menggambarkan kondisi awal lingkungan yang cukup bersih namun masih memiliki keterbatasan daerah resapan air, serta menilai keterlibatan masyarakat dalam kegiatan program. Kegiatan utama melibatkan anak-anak dalam pembuatan kerajinan tangan dari limbah plastik, yang diharapkan dapat dilanjutkan di lingkungan keluarga. Hasil menunjukkan peningkatan pengetahuan, sikap, serta partisipasi anak-anak dan orang tua dalam pengelolaan limbah secara kreatif dan bertanggung jawab. Selain mendukung Tujuan Pembangunan Berkelanjutan (SDG) 12 tentang konsumsi dan produksi yang bertanggung jawab, program ini juga memperkuat nilai-nilai Pancasila, khususnya semangat kebersamaan, tanggung jawab sosial, dan cinta

tanah air melalui aksi kolektif berbasis komunitas. Keterbatasan waktu dan cakupan peserta mendorong perlunya pelaksanaan program secara berkala dengan cakupan yang lebih luas dan pengukuran dampak kuantitatif untuk memperkuat kontribusi terhadap perubahan sosial dan lingkungan yang berkelanjutan.

Kata kunci: Gotong royong, nilai persatuan, pengelolaan limbah plastik, edukasi masyarakat, pemberdayaan komunitas.

Introduction

In Indonesia, environmental issues are still a crucial issue, especially related to the accumulation of plastic waste. This waste is very difficult to decompose and can last for years in soil and water. This problem is exacerbated by the low level of public awareness and knowledge about the importance of proper waste management, which is a major obstacle to environmental conservation. The negative impacts of plastic waste have raised increasing concerns. This inorganic waste has a significant impact on the quality of the environment and public health. Therefore, as a real contribution to the Sustainable Development Goals (SDG 12), an education program and implementation of inorganic waste management was carried out in Bojongsalaman Village, West Semarang District.

This program focuses on educating the public about plastic waste management and training in making handicrafts from inorganic waste. The goal is to increase environmental awareness and empower the community in creative, productive, and sustainable waste management. Using a participatory approach, the program encourages collaboration between BINUS University students and the local community. This approach not only increases community awareness and capacity, but also encourages the birth of innovative and sustainable community-based solutions.

This collaborative model reflects the spirit of mutual cooperation, which is a characteristic of Indonesian society and in line with the values of Pancasila. Pancasila acts as a moral compass in protecting the environment and realizing social justice. The design and goals of the program are also based on strong theoretical frameworks, such as the Theory of Planned Behavior and Social Learning Theory. These two theories help explain how behavioral change and community engagement can occur in the context of the environment. Integrating Pancasila values into this program provides a deeper dimension than simply meeting international standards. Pancasila offers an ethical framework that encourages people to act pro-environmentally with more sincere and sustainable motivations. The value of mutual cooperation, although not explicit in Pancasila, is closely related to the *Kemanusiaan yang Adil dan Beradab*. This value strengthens the participatory approach in the program, making solutions more acceptable and sustainable to the community. Thus, Pancasila is not only a philosophical background, but also plays an active role in encouraging sustainable behavior. It strengthens collective action and environmental awareness, making the impact of the program more profound and long-lasting.

The problem of plastic waste is widespread and long-term, and disrupts the ecological balance. Plastic is difficult to decompose naturally, so it pollutes the soil,

water, and air and disrupts the ecosystem. Globally, the average person produces 0.74 kg of waste per day, and more than 90% of waste in low-income countries is disposed of improperly. This fact is relevant to areas like Bojongsalaman Village, which face similar challenges. Waste that is not managed properly has serious impacts such as the spread of disease, air pollution due to burning, and global warming. Even waste that is considered harmless can be a threat if not handled properly.

The program is in line with SDG 12 on responsible consumption and production patterns. It places local efforts as part of a global movement to combat environmental degradation. Poor waste management has a direct impact on public health and environmental conditions. In Bojongsalaman, waste issues are part of the challenges of development and public health. Community participation in waste management supports public health and economic stability. A clean environment reduces health costs and improves community well-being.

The main focus of this program is education on plastic waste management and training in handicrafts from inorganic waste. This approach combines knowledge and practical skills to create behavioral change. The involvement of BINUS female students builds a sense of ownership and shared responsibility. Direct community involvement makes the program relevant and appropriate to local conditions. This program is also in line with the principles of Community-Based Waste Management (PLBK), which emphasizes inclusive campaigns and training to increase public awareness.

Handicraft training provides real skills and transforms waste into valuable resources. This creates economic and social impact, and supports the principles of a circular economy. The role of the academic world as an agent of social change is evident from the involvement of BINUS female students. This reflects the university's commitment to community development and the implementation of Pancasila values. The design of this program demonstrates the synergy between education and practice. Education alone is often not enough to create sustainable behavioral change without the support of other factors such as incentives and emotional values.

The program creates a strong incentive system through direct economic benefits. The process of making crafts fosters self-confidence and continued motivation in the community. The dual approach of education and economic skills creates an effective synergistic effect. This program changes the public's perception of waste into an opportunity to create, learn, and achieve economic empowerment. In its implementation, this program uses two main theories: Theory of Planned Behavior (TPB) and Social Learning Theory, which are the basis for the approach and strategy in changing community behavior.

The program in Bojongsalaman is based on Ajzen's Theory of Planned Behavior (TPB) (1991), which explains that individual actions are shaped by behavioral intentions through attitudes, subjective norms, and perceived behavioral control. In the context of waste management, TPB becomes the foundation for fostering pro-environmental intentions, in line with the values of Belief in Ketuhanan Yang Maha Esa (protecting God's creation) and *Kemanusiaan yang Adil dan Beradab* (common welfare). The educational program is designed to foster positive attitudes towards waste management, utilizing the environmental

awareness that already exists in RW 08 Bojongsalaman, although there are still challenges such as limited water absorption.

Through a participatory approach, BINUS University students have successfully built and strengthened “green subjective norms” in the community. This means that the community increasingly understands that pro-environmental behavior is a social expectation, in line with the Third Principle, Persatuan Indonesia, and the Fourth Principle, Kerakyatan yang Dipimpin oleh Hikmat Kebijaksanaan dalam Permusyawaratan Perwakilan, where norms are formed from agreement and togetherness. Craft training also increases perceived behavioral control, empowering the community with skills and confidence in managing waste, reflecting the values of *Kemanusiaan yang Adil dan Beradab* and *Keadilan Sosial Bagi Seluruh Rakyat Indonesia*. The importance of environmental awareness is also integrated into the SDGs, catalyzing intentional behavior.

On the other hand, Albert Bandura's Social Learning Theory emphasizes learning through observation, social interaction, and shared experiences. This theory is the main driver in transforming intentions into concrete actions in Bojongsalaman, especially through the practice of mutual cooperation which is the essence of the Third Principle, Persatuan Indonesia, and the Fourth Principle. BINUS University students serve as models of pro-environmental behavior, involving children and the community in craft training sessions, where they observe and imitate effective waste management methods, optimizing participation and fostering a sense of collective responsibility in maintaining environmental cleanliness.

The program activities specifically combine “dialogue-based and practice-based learning”, a crucial element of Social Learning Theory, which significantly influences sustainable waste management behavior. Through shared learning experiences and collaborative activities, the program fosters a strong sense of collective ownership and responsibility. The affective factor, which involves caring attitudes and emotional connections to environmental issues, is also utilized through creative handicrafts, making waste management a more engaging and rewarding activity.

Broadly speaking, TPB provides a framework for understanding behavioral intentions (cognitive and social), while Social Learning Theory complements it by providing the practical mechanisms, experiences, and affective reinforcement needed to translate these intentions into consistent and sustainable behavior. The synergy of these two theories, manifested through the spirit of mutual cooperation and the values of Pancasila, is a strong foundation for the success of the plastic waste management program in Bojongsalaman, forming positive habits from an early age and encouraging unity for a developed nation.

Research Methods

This study uses a qualitative approach with the use of participatory observation methods with sampling of activity participants and in-depth interviews as the main techniques in data collection to determine their understanding before and after the socialization of inorganic waste processing and handicraft making. The selection of qualitative methods is based on the main objective of the program, namely to explore in depth the perception, awareness, and response of the

community to environmental issues, especially inorganic waste management and flood mitigation. This approach allows researchers to contextually and holistically understand the social dynamics and potential of the community in creating sustainable environmental solutions.

Observations were conducted directly in the Bojongsalaman Village environment, West Semarang District. This observation was conducted to identify actual conditions related to inorganic waste management and community behavior patterns. This observation was participatory, where the BINUS University student team was involved in community activities in order to gain a deeper understanding and build closer relationships with the local community. To complement the observation results, in-depth interviews were conducted with selected informants purposive, namely representatives of local residents who are actively involved in environmental activities, RT/RW heads or village officials, and community leaders or environmental cadres. The interview aims to explore community knowledge, attitudes, and practices related to waste management and the flood problems faced. Data obtained from this interview are used to identify needs, challenges, and opportunities in program implementation.

The project to be implemented is a socialization project regarding inorganic waste processing, especially plastic waste which will later be continued with the practice of making handicrafts from plastic waste for children. From this project, it is expected that children can learn the importance of inorganic waste management and its simple application. The success of this project is measured using qualitative methods, where several samples of students will be interviewed and observed to determine their understanding before and after the socialization of inorganic waste processing and making handicrafts.

Results and Discussion

In depth, this section will describe the conceptual approach and implementation of the program to establish a plastic waste craft center in Bojongsalaman, Semarang City. By referring to the framework of the Theory of Planned Behavior (TPB) and Social Learning Theory, this discussion not only highlights the effectiveness of behavioral interventions, but also how this program fundamentally brings to life the noble values of Pancasila, especially the spirit of mutual cooperation as a pillar of Indonesian Unity. We will explain how planned education and active community participation synergistically encourage sustainable pro-environmental behavioral changes. Based on the Theory of Planned Behavior or TPB, developed by Ajzen (1991) as an extension of the Theory of Reasoned Action (Fishbein and Ajzen, 1975), it mentions a positive attitude towards waste management and environmental protection. We state that residents of RW 08 Bojongsalaman have a generally clean environmental condition, with several recycled goods that have been utilized by local residents. This indicates a fairly good environmental awareness, although there are still points with garbage

accumulation that require further attention. One of the main problems identified is the limited area of rainwater catchment, which has the potential to cause flooding during the rainy season due to the poor drainage system in the area. Therefore, we, BINUS University students, took a participatory approach to help build and strengthen "subjective green norms" within the community according to TPB.

Our participatory approach in Bojongsalaman, particularly through the inorganic waste management education program, has proven effective in raising public awareness, especially children, about the importance of managing waste responsibly. In line with the Theory of Planned Behavior (TPB), this education significantly strengthens perceived behavioral control, where people feel more capable and confident to implement environmentally friendly practices. This is in line with the TPB finding that positive perceived behavioral control towards green consumption will shape green purchasing intentions, which in this context is extended to the intention to manage waste. More than just a transfer of knowledge, this program is a real vehicle for practicing gotong royong, a noble value that is at the heart of the 3rd Principle of Pancasila, "Persatuan Indonesia". Through the application of Albert Bandura's Social Learning Theory, this spirit is closely woven into every interaction. BINUS University students act not only as facilitators, but also as real models for pro-environmental behavior, demonstrating how caring for the environment is a shared responsibility. By involving children of RW 08 Bojongsalaman residents in the creative process of making handicrafts from plastic waste, we plant the seeds of togetherness and collaboration from an early age. They not only enjoy the process, but also feel satisfaction from the results of collective work, foster a strong interest in continuing recycling practices at home, and gradually become small agents of change that will strengthen community unity in maintaining a clean and sustainable environment.

In the context of mutual cooperation, public education about plastic waste management becomes a concrete bridge towards implementing the values of Unity of Indonesia. Every step from waste sorting, cleaning, to the creative process of turning waste into crafts is a real manifestation of collaboration and shared responsibility. Children and adults work together, share ideas, and help each other in creating valuable products. This is a mutual cooperation practice that not only produces work, but also builds close social ties.

Through this direct interaction, they learn to appreciate each other's roles and understand that environmental cleanliness and resource sustainability are the result of collective efforts. Plastic waste, which was previously considered a problem, has now become a unifying medium, where each piece of plastic that is processed symbolizes the contribution of individuals who come together to form something bigger and beneficial to the community.

The program activities are specifically designed to combine "Dialogue-based Learning and Practice", a crucial element of Social Learning Theory, which has been proven to significantly influence sustainable waste management behavior.

Mutual cooperation is clearly seen when small and adult hands come together to sort, clean, and shape waste into works of art. This is not only about producing crafts, but also about building social bonds and a sense of shared ownership of the environment and the results of collective hard work. Parents who participate in this program also feel the positive impact of reducing the use of single-use products, in line with the achievement of the Sustainable Development Goals related to responsible consumption and production. Most fundamentally, through this plastic waste handicraft activity, the values of mutual cooperation and togetherness are deeply instilled at an early age.

Children learn that maintaining cleanliness and creating something useful is a shared task, not just an individual one. This is how we grow the seeds of strong unity, starting from small things in the RW 08 Bojongsalaman environment, becoming a real example of how the spirit of togetherness can bring about big changes for the progress of the nation. The program successfully engaged a number of children and parents in educational activities, through shared learning experiences and collaborative activities, social learning fostered a strong "sense of collective ownership and responsibility" among community members in maintaining the cleanliness of their environment by focusing on increasing understanding of inorganic waste management and increasing the value of mutual cooperation that can unite the community from the environment where they live. This directly supports the program's goal of encouraging "sustainable, community-based innovative solutions."

The Social Learning Theory also discusses the affective factor which explains the participatory nature of the program and its emphasis on direct handicraft training discussing "practice-based" learning and "affective factors" highlighted by social learning, thus significantly strengthening the "perceived behavioral control" and "attitude" components in the TPB framework. The synergy between the Theory of Planned Behavior and the Social Learning Theory is the key to the success of the program in Bojongsalaman. TPB provides a deep understanding of why individuals intend to change their behavior, while the Social Learning Theory provides practical and social mechanisms to translate these intentions into habits that stick. The result of this combination is not only increased environmental awareness, but also the formation of a more solid community, where each member feels an integral part of the solution. Thus, this plastic waste management activity is transformed into a platform for fostering a character of mutual cooperation, social awareness, and a closer sense of unity at the local level. The sustainability of this program depends not only on technical support, but also on the strength of social ties and collective awareness that has grown.

The educational program on inorganic waste management for residents of RW 08 Bojongsalaman by BINUS University students has succeeded in increasing the understanding and awareness of residents, especially children, regarding the importance of creative and responsible plastic waste management based on the

Theory of Planned Behavior (TPB) and Social Learning Theory. Although the environmental conditions are relatively clean and there are recycling practices, problems such as limited water catchment areas and poor drainage systems are still found. Through a participatory approach, students build green subjective norms by educating the community about responsible waste management. The participatory approach involving residents through children in making handicrafts from plastic waste shows the effectiveness of practice-based learning methods in encouraging pro-environmental behavior from an early age.

The results show an increase in interest and active participation, both from children and parents, in recycling practices in the household environment. This program is not only about BINUS University students sharing knowledge with residents, but also shaping behavior through direct practice according to the principles of social learning. Creative activities making crafts from plastic waste involving children are one of the initial ways to foster perceived behavior, positive attitudes, and intentions to take pro-environmental actions, as explained in the TPB. In addition to having an impact on increasing environmental understanding and awareness, the program that we have designed and implemented also strengthens the values of mutual cooperation and togetherness that are in line with the values of Pancasila and the Sustainable Development Goals. By instilling positive habits from an early age, it is hoped that in the future it can continue to expand the impact of awareness to maintain the cleanliness of the environment to families and the wider community so that it can encourage the creation of a more united and environmentally conscious community.

More than just technical education, this program creates a cross-generational social learning space that strengthens the collective spirit in the community. BINUS University students are present not only as information providers, but as learning partners who build reciprocal relationships with residents. Joint activities involving children and parents foster a sense of ownership of the environment and the work they create together. This is a concrete form of practicing the third principle of Pancasila, namely Persatuan Indonesia, which is realized through togetherness, equality, and the spirit of mutual cooperation in caring for the earth. Waste management education that is carried out in an applicative and fun way has proven to be effective in fostering environmental awareness. The learning process that prioritizes direct experience, such as making crafts from plastic waste, changes the paradigm of waste from mere trash to creative materials and sources of economic value. In this context, the community not only learns to manage waste, but also understands the importance of small, sustainable contributions. They begin to realize that protecting the environment is not just the task of one party, but a shared responsibility that can start from home.

This program also has a significant psycho-social impact. The collaborative activities and tangible results of handicrafts provide a sense of achievement, increase residents' self-confidence, and strengthen solidarity between residents.

Mutual cooperation in this activity is not only a value that is preached, but is truly practiced through real action. Children who are involved from an early age act as agents of change who spread the spirit of caring for the environment to their families and peers.

Although the program has produced positive results, limitations in terms of time, resources, and number of participants remain a challenge. In order for its impact to continue and reach more people, it is recommended that such educational programs be run periodically and continuously. Quantitative and qualitative evaluations also need to be carried out comprehensively to measure changes in behavior and environmental perceptions in the long term. The involvement of local governments, schools, and local communities can also strengthen the effectiveness and reach of this program. Overall, this activity shows that environmental-based community education rooted in local values and a culture of mutual cooperation can form good habits and sustainable pro-environmental behavior. By making children the starting point for change and integrating Pancasila values in every aspect of the activity, this program is a real example of how small movements from the community can have a big impact on the future of a united, just, and sustainable nation.

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